

**GOVERNMENT OF INDIA
NEW AND RENEWABLE ENERGY
LOK SABHA**

UNSTARRED QUESTION NO:3000
ANSWERED ON:11.12.2014
USE OF HYDROGEN
Sreeramulu Shri B.

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

- (a) whether the Government has conducted any Research & Development on various aspects of use of Hydrogen as a fuel; and
(b) if so, the progress made so far in this regard?

Answer

THE MINISTER OF STATE FOR POWER, COAL & NEW AND RENEWABLE ENERGY (INDEPENDENT CHARGE) (SHRI PIYUSH GOYAL)

(a): Yes, Madam.

(b): The Ministry of New and Renewable Energy under its broad based Research and Development Programme has been supporting projects for development of hydrogen fuelled internal combustion engines for automotive and stationary power generation applications. Banaras Hindu University, Varanasi has successfully developed and demonstrated prototypes of hydrogen fuelled motorcycles and three wheelers, which make use of hydrogen stored in metal hydrides. Indian Institute of Technology, Delhi along with M/s Mahindra & Mahindra and M/s Air Products India Ltd. is currently engaged in field trials of 15 hydrogen fuelled three wheelers. These three wheelers use high pressure gaseous hydrogen stored in on-board cylinders. Work on development of hydrogen fuelled multi-cylinder engine for mini bus jointly by Indian Institute of Technology Delhi and M/s Mahindra & Mahindra is in progress. Efforts have been made for use of hydrogen blended Compressed Natural Gas as fuel in four types of vehicles developed by five manufacturers. Besides, efforts are underway for use of hydrogen with diesel for operating utility vehicles by M/s Mahindra & Mahindra. A project on development & demonstration of hydrogen fuelled multi- cylinder spark ignition engine generator set for stationary power generation is under implementation at Indian Institute of Technology Delhi.