

GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT AND HIGHWAYS

RAJYA SABHA
UNSTARRED QUESTION NO - 2023
ANSWERED ON – 05/08/2026

HYDROGEN FUEL TRIALS ON NATIONAL HIGHWAY CORRIDORS

2023. Dr. Medha Vishram Kulkarni:

Will the Minister of ROAD TRANSPORT AND HIGHWAYS be pleased to state:

- (a) whether Government has initiated pilot projects for hydrogen-powered transport on ten selected highway corridors across the country, including the Pune–Mumbai route in Maharashtra;
- (b) the details of the routes selected, objectives, implementing agencies and timelines for completion of the trials;
- (c) whether any assessment has been made regarding the potential reduction in carbon emissions, fuel imports and operating costs through adoption of hydrogen-based mobility solutions; and
- (d) the steps taken and funds allocated for developing hydrogen refuelling infrastructure and promoting green hydrogen transportation in Maharashtra and across the country?

ANSWER

THE MINISTER OF ROAD TRANSPORT AND HIGHWAYS

(SHRI NITIN JAIRAM GADKARI)

(a) and (b) The Government in the Ministry of New and Renewable Energy and Ministry of Road Transport and Highways has finalised the 10 routes for phase I of pilot project for use of Green Hydrogen in the Transport Sector under National Green Hydrogen Mission .The details of the routes selected is as under:

1. Greater Noida - Delhi – Agra
2. Bhubaneshwar - Konark - Puri
3. Ahmedabad - Vadodara - Surat
4. Sahibabad - Faridabad - Delhi
5. Pune - Mumbai
6. Jamshedpur - Kalinga Nagar

7. Thiruvananthapuram – Kochi
8. Kochi – Edappally
9. Jamnagar – Ahmedabad
10. NH-16 Visakhapatnam- Bayyavaram

Automotive Research Association of India (ARAI) has been designated as the Scheme Implementation Agency (SIA).

As per the scheme guidelines, the SIA shall make all necessary efforts to complete the pilot project, in all aspects, within 24 months from the date of awarding the project. Further, an extension of up to six months may be granted for completion of the project on the basis of adequate justification, with the approval of the Steering Committee, without any penalty. Any extension beyond six months shall only be granted with the approval of the Hon'ble Minister for New and Renewable Energy, with suitable penalties which shall be specified by SIA in the Call for Proposals issued.

The objectives of the scheme are as under:

- i. To support the deployment of Green Hydrogen as fuel in buses and trucks, in a phased manner on a pilot basis.
- ii. To validate the technical feasibility and performance of Green Hydrogen operated vehicles under real-world operational conditions
- iii. To evaluate the economic viability of hydrogen-based vehicles
- iv. To assess the effectiveness of hydrogen refueling station
- v. To evaluate the performance of hydrogen-based vehicles and identify the areas for improvement
- vi. To demonstrate safe and secure operations of hydrogen-based vehicles and hydrogen refueling stations.

(c) No such assessment has been carried out so far.

(d) The details are placed at ANNEXURE.

ANNEXURE REFERRED TO IN REPLY TO PART (d) OF THE RAJYA SABHA UNSTARRED QUESTION NO. 2023 FOR ANSWER ON 05th AUGUST, 2026 ASKED BY DR. MEDHA VISHRAM KULKARNI REGARDING HYDROGEN FUEL TRIALS ON NATIONAL HIGHWAY CORRIDORS.

Pilot Projects – Transport (Phase I)

S. No.	Routes with HRS locations	Executing Agencies	Total funds sanctioned (Rs. crores)	Scope of work	
				HRS	Buses & Trucks
1.	Routes: - Greater Noida - Delhi – Agra (NCT of Delhi and Uttar Pradesh) - Bhubaneswar - Konark – Puri (Odisha) HRS Location: - NTPC campus in Greater Noida - Bhubaneswar	NTPC Limited with buses manufactured by Ashok Leyland	39.05	2	6
2.	Routes: - Ahmedabad - Vadodara – Surat (Gujarat) - Sahibabad - Faridabad – Delhi (Uttar Pradesh, Haryana and NCT of Delhi) - Pune – Mumbai (Maharashtra)	Tata Motors + Indian Oil Corporation Limited (IOCL)	70.02	2	16

	4. Jamshedpur - Kalinga Nagar (Jharkhand and Odisha) HRS Location: 1. Balasore, Odisha 2. Mumbai Highway				
3.	Routes: 1. Thiruvananthapuram – Kochi (Kerala) 2. Kochi – Edappally (Kerala) HRS Locations: 1. Trivandrum, Kerala 2. Kochi, Kerala	Agency for New and Renewable Energy Research and Technology (ANERT) + Bharat Petroleum Corporation Limited (BPCL)	34.84	2	4
4.	Routes: 1. Jamnagar – Ahmedabad (Gujarat) HRS Locations: 1. Near Rajkot 2. Near Vadodara	Reliance Industries Limited + Ashok Leyland	46.87	2	10
5.	Routes: 1. NH – 16 Vasakhapatnam – Bayyavaram (Andhra Pradesh) HRS Locations: 1. Bayyavaram, Anakapalli	Hindustan Petroleum Corporation Limited – Volvo	17.13	1	1

Total	207.91	9	37
--------------	---------------	----------	-----------

Pilot Projects – Transport (Phase II)

S. No.	Routes with HRS locations	Executing Agencies	Amount as per administrative sanction	Vehicle Category	
				HRS	Buses & Trucks
1.	Routes: 1. Kandla – Gandhidham (Gujarat) HRS Location: Deendayal Port Authority, Kandla	NTPC Green Energy Limited (NGEL)	26.61	1	3
2.	Routes: 1. In and around Chamba, Himachal Pradesh HRS Location: Mohal Monkhri, Dharwala, Chamba <i>(Not funded under the scheme)</i>	NHPC Limited	1.77	0	1
3.	Routes: 1. Kochi- Kozhikode, NH 66 2. Kochi-Thrissur-Palakkad (Kerala) HRS Location: 1. Near Kozhikode 2. Near Kuzhalmannam, Palakkad	ANERT + Karnataka State Road Transport Corporation (KSRTC) + Tata Motors Limited (TML)	51.54	2	4
4.	Routes: 1. Bina - Guna – Bina (Madhya Pradesh)	VE Commercial Vehicles Limited (VECV) + BPCL	5.91	0	6

	HRS Location: 1. Installed along with EKA Mobility, will be shared with VECV.				
5.	Routes: 1. Surat-Chikhli-Tumb (Gujarat) HRS Location: 1. Near Valsad, Gujarat	WAAREE+ Indify Horizon Fuel Cell Technologies Pvt Ltd	28.77	1	3
6	Routes: 1. Bina-Bhopal-Bina 2. Bina-Jhansi-Bina 3. Bina-Sanchi Stupa-Bina (Madhya Pradesh) HRS Location: 1. BPCL Refinery, Bina, Madhya Pradesh	EKA Mobility + KPIT Technologies +BPCL + Super Spares & Services	44.84	1	10
7	Routes: 1. Vadodara-Ankleshwar-Vadodara 2. Vapi-Nashik-Vapi (Gujarat and Maharashtra) HRS Location: 1. Vadodara, Gujarat 2. Vapi, Gujarat	KPI Green Energy Limited (KPI GEL) + TML + AB Process Technologies	43.42	2	6
Total			202.86	7	33
