

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
LOK SABHA
UNSTARRED QUESTION NO. 3982
TO BE ANSWERED ON 12.08.2026**

HYDROGEN POWERED TRAINS

3982. SHRI VIJAY KUMAR HANSDAK:

SHRI TANUJ PUNIA:

Will the Minister of RAILWAYS be pleased to state:

- (a) the details of the current status of the first hydrogen-powered passenger train in India;**
- (b) whether the Indian Railways has successfully completed the trial run of the country's first indigenous hydrogen fuel-cell train;**
- (c) if so, the details of the total budgetary cost of the said project along with the specific route on which it is being operated;**
- (d) the details of the specific environmental, operational and economic advantages of hydrogen fuel-cell trains compared to traditional diesel and electric locomotives;**
- (e) the details of the comprehensive safety protocols, technical standards and precautionary measures taken by the Government to mitigate risks associated with hydrogen storage, leakage and high-pressure refueling infrastructure;**
- (f) the details of the infrastructure set up for the production and storage of green hydrogen required for the operation of the said train; and**
- (g) the details of the domestic manufacturing capacity being developed for green hydrogen fuel and the financial allocation made for this project?**

ANSWER

**MINISTER OF RAILWAYS, INFORMATION & BROADCASTING AND
ELECTRONICS & INFORMATION TECHNOLOGY**

(SHRI ASHWINI VAISHNAW)

(a) to (g) The Hydrogen powered train was inaugurated on 17.07.2026. Till 06.08.2026, this train has covered 3026 km of commercial run in 89 km long Jind-Sonipat section. The hydrogen train has been developed by Indian

Railways on pilot basis to demonstrate the use of hydrogen powered train technology in Railways.

A dedicated Hydrogen Plant has been setup at Jind for providing hydrogen in this Trainset. The hydrogen storage facility of 3000 kg has been set up in accordance with the guidelines of the Petroleum and Explosives Safety Organization (PESO), ensuring adherence to prescribed safety standards and protocols.

The Hydrogen Trainset operation ensures zero CO₂ emissions with water vapour being the only emission. The Trainset works on fuel cell technology that does not have any moving part and conventional engine for traction power generation therefore the operation is much quieter thereby reducing noise pollution. This project establishes Indian Railways in hydrogen technology.

This pilot project has been developed at a total cost of Rs. 141 Cr. As the Hydrogen Trainset and its infrastructure have been developed on a pilot basis, direct comparison of the cost of hydrogen-fuelled trains with established traction systems at this stage would not present a fair cost comparison.

Prominent features and advantages of this technology include:

- Indigenously designed and developed in India demonstrating IR's commitment to Atmanirbhar Bharat.**
- Presently, it is the world's longest (10 coaches) and most powerful (2400 kW) Hydrogen Trainset on Broad Gauge platform.**
- The Trainset comprises of two Driving Power Cars (DPCs) of 1200 kW each, totalling 2400 kW along with eight passenger cars.**

- **It represents a major step in development of next generation fuel technology in Railways, inherently optimizing noise reduction and curtailing reliance on imported fossil fuels.**

Safety documents along with specific instructions for the operating staff has been developed to manage high-pressure hydrogen hazards which provides a framework for identifying and mitigating risks associated with hydrogen systems. The staff has been provided with relevant training for safe operation and maintenance.

At present, IR has taken up the running of hydrogen-powered train technology on a pilot basis on the Jind-Sonipat circuit. Decision to run hydrogen trains on other routes depends on availability of resources, operational and other requirements.
