

Exhaust of 3,000 Litres of Diesel Replaced with Just Water Vapours: The Story of India's Hydrogen Train

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The India's first Hydrogen Train was flagged off between Jind and Sonipat on 17th July, 2026 near Delhi area. So far, the train has travelled over 1200 kilometres seamlessly saving diesel consumption of more than 3200 litres.



The Hydrogen Train generates electricity onboard through a chemical reaction between hydrogen and oxygen. The process produces electricity to power the train while emitting only water vapour as a by-product. There is no smoke, and no tailpipe carbon emissions, making it the cleanest form of rail propulsion currently available.

The project is an indigenous effort led by Indian Railways. The 10-coach train has two Hydrogen Driving Power Cars deliver 2,400 kW total power, supported by lithium iron phosphate batteries and hydrogen cylinders.



Green hydrogen stored at pressure upto 500 bar, dispensed at 350 bar with a total storage facility of about 3,000 kg, creating Railway's first dedicated hydrogen storage facility at Jind.

Multiple independent safety systems detect leaks, heat, flames and smoke, backed by automatic shut-off systems, continuous ventilation, international standards and all mandatory validation. Following the successful operation between Jind and Sonipat, trial on the Delhi route will begin soon.



India's Hydrogen Fuel Cell Train is more than a technological achievement. It establishes an indigenous hydrogen rail ecosystem and demonstrates India's commitment to sustainable, zero-emission rail mobility, paving the way for future expansion and global leadership in clean transportation.

Dharmendra Tewari/ Dr. Nayan Solanki/ Ritu Raj/ Manik Sharma

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