

Brief Note
24th Darbari Seth Memorial Lecture Theme

The theme for this year's lecture is **“Green Infrastructure: Building a Sustainable Transport Future for India”**. Given your Ministry's transformational initiatives in shaping green mobility policies in the transport sector under your dynamic leadership, we would be deeply privileged to have you share your vision at this platform.

The transport sector accounts for nearly 80% of high-speed diesel (HSD) and 99% of petrol consumption in the country. Approximately 98% of road transportation fuel in India came from fossil fuels in 2024.¹ India's transport sector is the third largest sector contributing to the greenhouse gas (GHG) emissions, so decarbonizing this sector is crucial to meet India's commitments in its Nationally Determined Contributions (NDC).² TERI's recent research³ highlights that the transport sector, under the business-as-usual scenario, is poised to become one of the largest contributors to greenhouse gas emissions (GHG) in India, with vehicle ownership and fuel consumption expected to surge significantly through 2047.

The green energy transition must be balanced with meeting the rapidly growing energy needs driven by the growth in the economy and population. Drawing lessons from successful strategies and deployment of different technologies towards decarbonization in the Global South, India can diversify its energy mix to incorporate greener technologies for its transport sector. In this context, it's important to consider the **Energy Trilemma**, which balances energy **affordability**, **energy security**, and **environmental sustainability**. Successfully addressing the energy trilemma will be key to a sustainable transport energy transition. At the same time, without decisive and timely interventions, these trends could pose serious challenges to India's climate commitments under the Paris Agreement and the *Panchamrit* Goals announced at COP26.

In this context, the Memorial Lecture will explore critical pathways for decarbonizing the transport sector while supporting economic growth and mobility access. The discussion will centre around:

- **Sustainable Transport Infrastructure:** Promotion of green and resilient transport systems, including materials with low embodied carbon and technologies for eco-friendly **construction and maintenance** of highways and expressways. **Green rating of our highways and roads** would go a long way towards sustainability, where TERI and GRIHA could play a critical role.
- **Green Fleets and Electric Vehicles (EVs):** Expanding the adoption of electric mobility in both private and public segments, supported by the **PM E-DRIVE** and **Scheme for Promotion of Manufacturing of Electric Passenger Cars in India** and strengthening the charging ecosystem across urban centres and highways.
- **CAFE Standards for Passenger Cars and Tightening of Fuel Economy Norms for the Commercial Vehicle** segments (L/M/HGVs).
- Preparing for a smooth and effective **shift to BS-VII emission standard**, supported by cleaner fuels, better emission monitoring, and industry readiness.
- Improving the **RON* or high-octane value** of the fuel available at Indian petrol pumps. Shifting to higher RON value fuel would significantly reduce emissions – currently the highest RON, i.e. premium fuel is at 95, this needs to shift up to 99 and above. The base fuel should increase from 91 to 95. (*RON: Research Octane Number)

¹<https://www.pib.gov.in/PressNoteDetails.aspx?NotelId=153363&ModuleId=3®=3&lang=1#:~:text=As%20of%20March%202024%2C%20around,currency%20outflow%2C%20and%20environmental%20impact>

² India. Biennial update report (BUR). BUR 4 (available here: <https://unfccc.int/documents/645149>)

³ https://teri.in/sites/default/files/2024-11/Roadmap%20for%20India%20Energy%20Transition_FINAL%20REPORT.pdf

- **Vehicle Scrapping Policy** and accelerating the removal of older, polluting vehicles from the roads through effective implementation of scrappage incentives, contributing to cleaner air and reduced emissions.
- **Adoption of Alternative Fuel Technologies** such as **Hydrogen Fuel Cell** vehicles and encouraging **Ethanol** blending and other biofuels to diversify India's clean fuel portfolio.
- In a major push towards clean transportation and **hydrogen as a transport fuel**, the Ministry of New and Renewable Energy (MNRE), Government of India launched five pioneering pilot projects aimed at **introducing hydrogen-powered buses and trucks on Indian roads**. The flag-off ceremony was held on March 4, 2025, where it was emphasized the importance of hydrogen in achieving a sustainable and low-carbon transport future.
- **Low-Carbon Freight and Logistics:** Innovating **Clean Freight Program** to reduce carbon intensity in freight movement, a significant part of India's road-based emissions.

** Entry by invite only*