

Transition to Alternative Fuels

Mains: GS III - Economy

Why in News?

Recently, for the first time in the market share of passenger vehicles (cars) running on alternative fuels (41.95%) surpassed those running purely on petrol (40.85%).

What is the recent 'historic fuel crossover' reported by FADA?

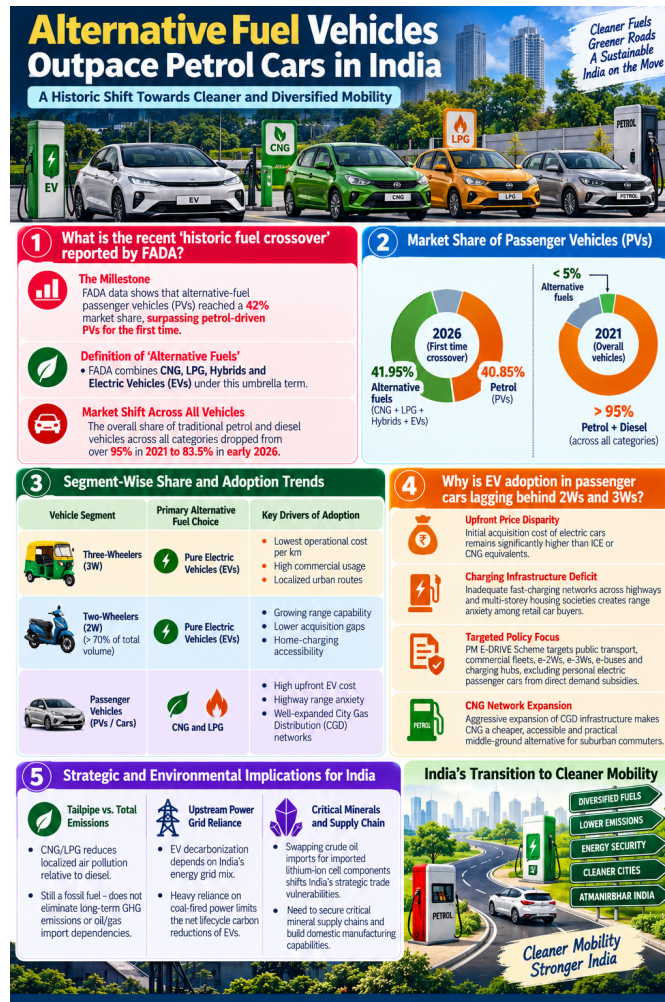
- **The Milestone** - Federation of Automobile Dealers Associations (FADA) data revealed that alternative-fuel passenger vehicles (PVs) reached a 42% market share, surpassing petrol-driven PVs for the first time.
- **Definition of 'Alternative Fuels'** - FADA combines Compressed Natural Gas (CNG), Liquefied Petroleum Gas (LPG), Hybrids, and Electric Vehicles (EVs) under this umbrella term.
- **Market Shift Across All Vehicles** - The overall share of traditional petrol and diesel vehicles across all categories dropped from over 95% in 2021 to 83.5% in early 2026.
- **Segment-Wise Share and Adoption Rates**

Vehicle Segment	Primary Alternative Fuel Choice	Market Transition Drivers
Three-Wheelers (3W)	Pure Electric Vehicles (EVs)	Lowest operational cost per km, high commercial usage, localized urban routes.
Two-Wheelers (2W) (<i>>70% of total volume</i>)	Pure Electric Vehicles (EVs)	Growing range capability, lower acquisition gaps, home-charging accessibility.

Vehicle Segment	Primary Alternative Fuel Choice	Market Transition Drivers
Passenger Vehicles (PVs/Cars)	CNG and LPG	High upfront EV cost, highway range anxiety, well-expanded City Gas Distribution (CGD) networks.

Why is EV adoption in passenger cars lagging behind 2Ws and 3Ws?

- **Upfront Price Disparity** - The initial acquisition cost of electric cars remains significantly higher than Internal Combustion Engine (ICE) or CNG equivalents.
- **Charging Infrastructure Deficit** - Inadequate fast-charging networks across highways and multi-story housing societies creates severe range anxiety among retail car buyers.
- **Targeted Policy Focus** - Central government initiatives like the PM E-DRIVE Scheme explicitly target public transport, commercial fleets, e-2Ws, e-3Ws, e-buses, and charging hubs, while excluding personal electric passenger cars from direct demand subsidies.
- **CNG Network Expansion** - The aggressive expansion of City Gas Distribution (CGD) infrastructure makes CNG a cheaper, accessible, and practical middle-ground alternative for suburban commuters.



What are the strategic and environmental implications for India?

- **Tailpipe vs. Total Emissions** - While CNG/LPG reduces localized air pollution relative to diesel, it remains a fossil fuel that does not eliminate long-term greenhouse gas (GHG) emissions or oil/gas import dependencies.
- **Upstream Power Grid Reliance** - EV decarbonization depends on India's energy grid mix; relying heavily on coal-fired power limits the net lifecycle carbon reductions of electric vehicles.
- **Critical Minerals and Supply Chain** - Swapping crude oil imports for imported lithium-ion cell components shifts India's strategic trade vulnerabilities toward critical mineral supply chains.

Reference

[The Hindu | Alternative Fuels](#)



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