India’s Ethanol Push: Beyond E20 and the Road Ahead for Fuel Blending

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India’s Ethanol Push Latest News

- The government has exempted higher ethanol-petrol blends (22%-30% ethanol) from central excise duty, putting them on equal tax footing with the current E20 fuel.
- It has also proposed amendments to formally recognise E85 (85% ethanol) and E100 (100% ethanol) fuels under the Central Motor Vehicles Rules.
- Together, these moves signal that India is preparing to move beyond E20 — but the plan has raised concerns among both consumers and automakers.

Understanding Ethanol Blending: The Basics

- Ethanol blending means mixing ethanol (a fuel made mainly from sugarcane or grain) with petrol. The number after “E” tells the ethanol percentage — so E20 means 80% petrol and 20% ethanol.
- India achieved the **20% blending target in 2025**, five years ahead of schedule.

- The government’s new measures point in two different directions:
    - The first move — shifting from E20 to higher blends like E25 — affects most existing petrol cars on Indian roads today.
    - The second move — recognising E85 and E100 — is meant for a completely new category of vehicles called **flex-fuel vehicles**, which can run on varying combinations of petrol and ethanol.
        - These vehicles are still not widely available in India.

Why Are Consumers Worried

- When India moved from E10 to E20 fuel, the transition happened in just three years, with little advance warning to vehicle owners. This experience has made people cautious about the next jump to E25.
- Several specific concerns have been raised:
    - **Engine damage**: Ethanol contains more water than petrol, and water is corrosive. Engines not designed for higher ethanol blends could suffer damage to engine components over time.
    - **Drop in mileage**: Many users reported a 5-12% drop in mileage after shifting from E10 to E20. The government, however, says this drop is only “marginal.”
    - **No choice at the pump**: Unlike in Brazil, Indian consumers currently cannot choose between different fuel blends at the pump — everyone gets the same standard fuel, whatever it is. Brazil also gives price discounts for higher ethanol blends, something India does not currently offer.
    - **Cold start problems**: Ethanol burns at a higher temperature than petrol, which can make cars harder to start on cold winter mornings.
    - **Worsening performance at higher blends**: While E10 caused barely noticeable problems, blends above E10 create issues for non-compatible engines — and these problems get worse at a faster rate as the ethanol percentage increases.
- The Petroleum Ministry, however, maintains there is no scientific evidence to support these worries.

Why Are Automakers Concerned

- For carmakers, the E25 transition means fresh rounds of engineering work — testing engine calibration, fuel-system durability, corrosion resistance, and material compatibility — just months after completing similar work for the E20 transition.
- There’s also a **supply-side challenge**: Oil Marketing Companies (OMCs) have indicated they can practically manage only two ethanol blends at a time at their pumps — making a smooth, nationwide simultaneous rollout logistically difficult.
- India’s ethanol supply to OMCs has grown massively — from just 38 crore litres in 2013-14 (1.6% blending) to over 1,039 crore litres in 2024-25 (19.2% blending) — showing how rapidly the ethanol ecosystem has scaled up in just over a decade.

Why Is the Government Pushing for Higher Blends

- **Energy Security** – India currently imports about 88.5% of its crude oil requirement. Higher ethanol blending is part of India’s strategy to cut oil import dependence and improve energy self-reliance.

- **The Agricultural Angle** – There is also a strong political and agricultural dimension. States like Maharashtra and Uttar Pradesh have large sugarcane-growing regions, and farmers there are sitting on excess sugarcane production. Higher ethanol blending creates a ready market for this surplus, benefiting the agricultural lobby in these states.

Government's Reassurance

- The government insists the rollout will happen only after proper testing and consultation.
- The Bureau of Indian Standards (BIS) has already notified fuel standards for these higher blends.
- The transition is "not being pushed through in a hurry" and that adequate time will be given to both vehicle makers and oil companies to prepare.

The Brazil Model: What Can India Learn

- Brazil's ethanol journey began in the 1970s, as a response to global oil market uncertainties. Over five decades, Brazil built a robust ethanol ecosystem using sugarcane-based fuel.
- Today, at almost every petrol pump in Brazil, **consumers can choose** between blended petrol (27-32% ethanol) and pure ethanol (E100).
- Brazil also successfully promoted **flex-fuel vehicles**, helped along by government price support that made ethanol-blended fuel cheaper than petrol. By the late 1980s, 9 out of 10 new cars sold in Brazil could run on ethanol alone.
- As an added bonus, ethanol also improves acceleration — a feature that resonated in a country passionate about motorsport.
- Crucially, Brazil rolled out its policy in phases, ensuring that people who had already bought vehicles under older fuel standards were not put at a disadvantage.

Conclusion

- India's ethanol ambition is sound in principle — less oil imported means more energy security and a market for farmers' surplus crops.
- But Brazil's success shows that choice, pricing incentives, and phased implementation matter as much as the blending target itself.
- Without these, the cost of the transition risks falling unfairly on ordinary vehicle owners.

Source: IE | IT
