

ETHANOL BLENDING IN INDIA

Policy Evolution, Key Milestones and Frequently Raised Concerns

PIB Backgrounder | 05 July 2026

The **Ethanol Blended Petrol (EBP) Programme** is presented by PIB as a key pillar of India's energy transition and biofuel strategy, intended to improve **energy security**, **support farmers**, reduce environmental impacts and increase the use of **domestically produced renewable fuel**.

Key Programme Indicators

Indicator	PIB figure
Ethanol blending	Less than 1.5% in 2013-14 → 20% in 2025-26
Target achievement	20% target achieved five years ahead of schedule
Ethanol procurement	~38 crore litres in ESY 2013-14 → >1,200 crore litres projected in 2025-26
Production capacity	421 crore litres in 2014 → ~2,000 crore litres in 2026
Crude oil import dependence	~88.5%
Foreign exchange saved since ESY 2014-15	₹1.90+ lakh crore
Crude oil substituted	310+ lakh MT
CO ₂ emissions cut	~930 lakh MT
Additional farmer earnings	₹1.60+ lakh crore

1. Programme Growth and Energy Security

Under the EBP Programme, ethanol blending increased from **less than 1.5%** in 2013-14 to **20% in 2025-26**. PIB states that India achieved the 20% blending target **five years ahead of schedule**. Ethanol procurement rose from about **38 crore litres** in ESY 2013-14 to **more than 1,200 crore litres** projected in 2025-26, while production capacity expanded from **421 crore litres** in 2014 to about **2,000 crore litres** in 2026.

PIB links this expansion to India's dependence on imported crude oil, which it places at close to **88.5%**. Since ESY 2014-15 through May 2026, PIB reports foreign-exchange savings of more than **₹1.90 lakh crore**, substitution of over **310 lakh metric tonnes** of crude oil, reduction of roughly **930 lakh metric tonnes of CO₂** emissions, and more than **₹1.60 lakh crore** in additional farmer earnings.

2. Frequently Raised Concerns: PIB's Record

Mileage: PIB rejects the claim that E20 cuts mileage by 30%. It says the 30% figure refers to ethanol's lower calorific value relative to petrol rather than an equivalent real-world mileage loss, and notes that driving habits, tyre pressure, servicing and AC load also affect mileage.

Engine compatibility: PIB states that no widespread pattern of engine failure linked to E20 has been reported since rollout and says E20 was cleared after testing involving SIAM, ARAI, IOCL and vehicle manufacturers.

Performance and octane: PIB describes ethanol as a high-octane fuel with a research octane number of about 108.5 versus 84.4 for petrol, and states that E20 raises the effective octane rating of Indian petrol to around 95.

Insurance and warranty: PIB reports that insurers and OEMs have clarified that spec-compliant E20 does not affect insurance or warranty validity, and cites SIAM as confirming that warranties will be honoured.

Fuel price: PIB notes that older claims about ethanol being cheaper relied on 2020-21 economics. It says ethanol procurement costs have since risen above refined petrol costs, while the mandate continues for energy-security, environmental and farm-income objectives.

Supreme Court claim: PIB states that the court matter concerned ethanol procurement contracts rather than the merits of E20 and says the Attorney General's office clarified on 30 June 2026 that describing E20 as an 'experiment' was incorrect.

3. Water, Fuel Quality and Storage Concerns

- PIB disputes the claim that producing one litre of ethanol consumes **10,000 litres** of water. It states that an ethanol plant uses about **3-5 litres** of processed water per litre of ethanol and that modern distilleries operate **Zero Liquid Discharge** systems.
- On rice, PIB states that attributing the entire agricultural water footprint of paddy cultivation to ethanol production is incorrect, and says only **surplus rice** determined and permitted by the **DFPD** after national **food-security requirements** are met is diverted to ethanol.
- PIB rejects claims that E20 contains residual sugar that attracts insects, stating that fuel ethanol is distilled, **residual sugars are eliminated**, and **denaturants** are used.
- On water absorption, PIB states that modern vehicles use **design features and safeguards** intended to prevent water entry into fuel tanks.

4. Industry Observations Cited by PIB

- **Vikram Gulati, Toyota Kirloskar Motor:** PIB quotes Gulati as saying ethanol is a proven high-performance fuel and that the move to E20 followed rigorous testing, including on older vehicles.
- **Rahul Bharti, Maruti Suzuki:** PIB cites service data covering 2.84 crore vehicles in FY 2025-26, including more than 1.5 crore vehicles over three years old and not E20-certified, with no E20-related damage found. PIB also quotes an illustrative mileage impact of roughly 0.6 km/l for a car otherwise returning 20 km/l.
- **Ashutosh Varma, Hero MotoCorp:** PIB cites analysis of service data as finding no higher incidence of damage in vehicles running on E20 compared with earlier fuels.
- **Vartika Shukla, Engineers India Limited:** PIB quotes Shukla as describing the programme as supported by stakeholder consultation, scientific evidence, automotive testing and global practice, and states that E20 meets BIS standards and BS-VI emission norms.

5. International Ethanol-Blending Context

- **United States:** PIB states that **E10** is the standard nationwide blend, **E15** is expanding, and flex-fuel vehicles can use blends as high as **E85**.
- **Brazil:** PIB describes **E27** as the standard petrol blend, with a move toward roughly **35%**, and says more than **80%** of new cars sold are flex-fuel vehicles.
- **Japan:** PIB notes a phased **E10** rollout. It also lists **Canada, Thailand** and several European nations as users of ethanol blending in their clean-fuel strategies.

Conclusion

PIB presents the **EBP Programme** as an established component of India's energy strategy, combining **reduced crude-oil dependence** and emissions with additional agricultural demand and **farmer income**. Its backgrounder also directly addresses common public concerns about **mileage, engine compatibility, warranty, water use** and **fuel quality**, while citing automotive-industry testing and service data in support of the programme.