

E20 Ethanol Blending Push - Benefits, Concerns, and the Road Ahead

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E20 Ethanol Blending Latest News

- The government has told Parliament that the **ethanol blending programme has helped save around Rs. 2 lakh crore in foreign exchange**, even as Opposition leaders have launched campaigns against E20, alleging that it harms vehicles and is being forced on consumers.

About Ethanol Blending and E20

- **Ethanol** is a biofuel produced from sugarcane, molasses, maize, damaged foodgrains, and surplus rice. When blended with petrol, it reduces dependence on imported crude oil.
- E20 refers to petrol containing 20% ethanol and 80% petrol. India's Ethanol Blended Petrol (EBP) Programme aims to cut crude imports, save foreign exchange, support farmers, and reduce emissions.
- The government's target was to produce 10-11 billion litres of ethanol so that 20% of petrol used in transport could come from domestically produced ethanol.

- The intention was to keep this money within the Indian economy rather than allowing it to flow out as foreign exchange through crude oil imports.

Growth of Ethanol Capacity

- India's distillery capacity has expanded sharply on the back of this policy push:
 - The country now has around 500 distilleries.
 - Combined capacity stands at 18-20 billion litres.
 - For the current ethanol year, which runs from November to October, oil companies have contracted to procure about 10.5 billion litres of ethanol.

Feedstock Composition

- For the current ethanol year, ethanol for petrol blending is drawn from:
 - Maize: 45%
 - FCI rice: 22%
 - Sugarcane juice: 16%
 - B-heavy molasses: 10%
 - Damaged foodgrains: 4.5%
 - C-heavy molasses: 1.1%

The Import Allegation

- One line of criticism has been that India is importing ethanol or maize under external pressure. The available evidence does not support this.
- Commerce Ministry statistics show no surge in ethanol or maize imports. In any case, direct ethanol import for petroleum blending is banned in India, although the US corn lobby has been pushing for higher corn imports.
- Domestic maize output has grown strongly, rising 45% in three years to 55 million tonnes in 2025-26, with more than 20% of it going into ethanol.
- Experts in maize research maintain that there is no need to import it.

Impact on Sugar and Food Security

- Sugarcane juice and B-heavy molasses would ordinarily go into sugar production and are now being diverted to ethanol. So far, this has not disrupted sugar availability.
- The closing stock of sugar in September 2025 was around 5 million tonnes, and a similar closing stock is expected this year. This suggests that diversion to ethanol has not affected sugar stocks.
- The risk, however, is not eliminated. In the event of monsoon failure, crop losses, or foodgrain shortages, the diversion of FCI rice, sugarcane juice, and B-heavy molasses to ethanol would come under stress, raising the possibility of corn imports.

The Vehicle Compatibility Question

- This is the most contested aspect of the E20 rollout.
- **Newer Vehicles**
 - Vehicles bought after April 2023 are E20-ready. That is when the **Bharat Stage 6** Phase 2 (Real Driving Emissions) mandate took effect.
 - These vehicles were factory-engineered for E20 with ethanol-resistant elastomers, fluorinated fuel lines, upgraded pump seals, and recalibrated engine control units.
 - These roughly 70 million vehicles make up about 23% of India's active petrol fleet and face little cause for concern.
- **Legacy Vehicles**
 - The remaining 77%, nearly 240 million two-wheelers and cars built for E5 or E10, are the genuine worry.
 - Ethanol is a polar solvent that degrades older rubber compounds and plastics, hardening and cracking fuel hoses over time. It is also hygroscopic, meaning it absorbs atmospheric moisture.
 - In vehicles parked for long periods, the ethanol-water mixture separates and settles, forming an acidic layer that corrodes tanks, damages fuel pumps, and clogs filters with sludge.
 - Consumer surveys have found that 66% of pre-2023 owners reported mileage losses exceeding 10%, and 55% reported increased maintenance.

Conflicting Assessments

- Technical assessments differ sharply on the extent of damage.
- IIT Kanpur's Engine Research Laboratory maintains that E20 causes no notable damage, with efficiency loss under 5%, attributing most complaints to driving habits and traffic conditions.
- Independent mechanics and automotive communities dispute this, citing real-world fuel pump and injector failures traced to ethanol's solvent and low-lubricity properties.
- The government told Parliament in August that one leading automobile manufacturer had serviced 2.84 crore vehicles in FY 2025-26, including about 1.5 crore legacy vehicles, without finding E20-linked engine damage. A two-wheeler maker reported similar findings.
- On mileage, the government acknowledged an efficiency penalty of about 2 to 6% in some vehicles designed for E10, though it noted this was also influenced by driving conditions, habits, and maintenance.

The Question of Pace

- A significant criticism concerns how quickly the transition happened.
- Brazil, often cited as the global benchmark, moved to high ethanol blends gradually over several decades, with parallel modifications to vehicles. This allowed a stable transition and public confidence.
- In India, the 10% milestone was reached in 2022. Within just three years, blending was ramped up to 20%, with very little information or advisory support from manufacturers. A more phased and transparent rollout would have carried the public along more effectively.

Economic Gains Claimed

- The government has presented substantial economic benefits from the programme.

- It told Parliament that ethanol blending has led to savings of around Rs. 2 lakh crore in foreign exchange and substituted about 32 million tonnes of crude oil imports.
- Substituting 10 billion litres of petrol with ethanol effectively means dispensing with a month of crude imports.
- The government also stated that while crude oil prices rose 70% during the West Asia conflict, petrol prices at the pump increased by only 7 to 8%, though under-recoveries also increased.

The Cost Debate

- Whether ethanol is actually cheaper than petrol is not straightforward.
- Oil marketing companies procure ethanol at around Rs. 70 per litre for blending, against a pump price of roughly Rs. 105 per litre for petrol.
- However, the base price of petrol, covering production, transportation, and OMC margins, is typically only 55-60% of the pump price, with the rest being taxes.
- On the surface, ethanol does not appear cheaper than petrol. But ethanol and petrol follow different costing and tax regimes, making it difficult to draw an independent conclusion on whether ethanol has genuinely helped keep prices down, as the government claims.

Source: TH

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