



India's Ethanol Roadmap

Why in News

The central government has released an expert committee report on the **Roadmap for Ethanol Blending in India by 2025**.

- The roadmap proposes **a gradual rollout of ethanol-blended fuel** to achieve E10 fuel supply by April 2022 and phased rollout of E20 from April 2023 to April 2025.

Key Points

▪ About the Report:

- The **Ministry of Petroleum & Natural Gas (MoP&NG)** had instituted an Expert Group to study the issues such as pricing of ethanol, matching pace of the automobile industry to manufacture vehicles with new engines with the supply of ethanol, pricing of such vehicles, fuel efficiency of different engines etc.

▪ Ethanol Blending:

◦ About Ethanol:

- It is one of the principal **biofuels**, which is naturally produced by the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration.

◦ Blending Target:

- The Government of India has **advanced the target for 20% ethanol blending in petrol (also called E20) to 2025** from 2030.
- **Currently, 8.5% of ethanol is blended with petrol** in India.

◦ Objectives of Ethanol Blending:

• Energy Security:

- Increased use of ethanol can help **reduce the oil import bill**. India's net import cost stands at USD 551 billion in 2020-21.
- The E20 program **can save the country USD 4 billion (Rs 30,000 crore) per annum**.

• Incentives for Farmers:

- The oil companies procure ethanol from farmers that **benefits the sugarcane farmers**.
- Further, the government plans to **encourage use of water-saving crops, such as maize**, to produce ethanol, and **production of ethanol from non-food feedstock**.

• Impact on Emission:

- Use of ethanol-blended petrol **decreases emissions such as carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx)**.

- The **unregulated carbonyl emissions**, such as acetaldehyde emission **were, however, higher with E10 and E20** compared to normal petrol. However, these emissions were relatively lower.

▪ **Recommendations:**

- **Notifying Ethanol Blending Roadmap:** MoP&NG should immediately notify the plan for pan-India availability of E10 fuel by April, 2022 and its continued availability thereafter until 2025 for older vehicles, and launch of E20 in the country in phases from April, 2023 onwards so as to make E20 available by April, 2025.
- **Augmenting Infrastructure for Oil Marketing Companies:** OMCs will need to prepare for the projected requirement of ethanol storage, handling, blending and dispensing infrastructure.
- **Expediting Regulatory Clearances:** Currently, ethanol production plants/distilleries fall under the “Red category” and require environmental clearance under the Air and Water Acts for new and expansion projects.
 - This often takes a long time leading to delays.
 - While several steps have been taken to expedite Environment Clearances (EC) under **the Environment Protection Act** there are few areas of concern which if addressed, will facilitate early setting up of ethanol distillation capacities in the country.
- **Incentivising Ethanol Blended Vehicle:** Globally, vehicles compliant with higher ethanol blends are provided with tax benefits.
 - A similar approach may be followed so that the cost increase due to E20 compatible design may be absorbed to a certain extent, as is being done in some states for promoting [Electric Vehicles](#).
- **Pricing of Ethanol Blended Gasoline:** For better acceptability of higher ethanol blends in the country, retail price of such fuels **should be lower than normal petrol** to compensate for the reduction in calorific value and incentivize switching to the blended fuel.
 - Tax breaks on ethanol as a fuel may be considered by the government.

Initiatives Already Taken

- The [National Policy on Biofuels-2018](#), provides an indicative target of 20% ethanol blending under the Ethanol Blended Petrol (EBP) Programme by 2030.
- The **Union Ministry of Road Transport and Highways** has **mandated stickers on vehicles mentioning their E20, E85 or E100 compatibility**.
 - This will pave the way for flex fuel vehicles.
 - Flex fuel engines can run any ratio of blended petrol from E20 to E100.
- [E100 pilot project](#): It has been inaugurated in Pune.
 - TVS Apache two-wheelers are designed to run on E80 or pure ethanol (E100).
- [Pradhan Mantri JI-VAN Yojana, 2019](#): The scheme aims to create an ecosystem for setting up commercial projects and boost Research and Development in the 2G Ethanol sector.
- **GOBAR (Galvanizing Organic Bio-Agro Resources) DHAN Scheme, 2018**: The scheme aims to positively impact village cleanliness and **generate wealth and energy** from cattle and organic waste.
 - It also aims at creating new rural livelihood opportunities and enhancing income for farmers and other rural people.
- [Repurpose Used Cooking Oil \(RUCO\)](#): The Food Safety and Standards Authority of India (FSSAI) has launched this initiative that will enable collection and conversion of used cooking oil to biodiesel.

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