

India has Successfully Achieved 20 per cent Ethanol Blending in Petrol in 2025

Petroleum and Natural Gas Minister Hardeep Singh Puri has said that India has successfully achieved 20 per cent ethanol blending in petrol in 2025, five years ahead of its original target set for 2030.

Highlighting the country's clean energy progress, the minister noted that ethanol blending in petrol has risen from just 1.5% in 2014 to 20% in 2025, a nearly 13-fold increase over 11 years. Mr Puri emphasised that the shift towards ethanol-blended fuel has not only bolstered energy security but also led to significant economic and environmental benefits.

Key achievements and announcements

- **Target achieved ahead of schedule:** The original deadline for E20 was 2030, which was later advanced to 2025. India's program surpassed this revised timeline as well. Blending levels rose from just 1.5% in 2014 to 20% in 2025.
- **Economic benefits:** According to Minister Puri, the move resulted in significant economic advantages by reducing India's dependence on crude oil imports, saving approximately ₹1.36 lakh crore in foreign exchange. It also provided substantial income to farmers and boosted the domestic biofuel industry.
- **Environmental impact:** The government reported that the E20 program reduced carbon dioxide emissions by around 698 lakh tonnes since 2014, contributing to India's climate goals.
- **Support for agriculture:** By sourcing ethanol from crops like sugarcane, maize, and crop residues, the program has increased rural incomes. The use of agricultural waste for second-generation ethanol also helps with pollution control.
- **Future plans:** Following the achievement, Minister Puri announced in September 2025 that the government would "assess where we have to go" before setting higher targets. Discussions are underway to explore blending levels beyond 20%, potentially reaching E25, E27, and E30.

Explanation of Exam Oriented Key Terms

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Ethanol Blended Petrol (EBP) Programme

The EBP Programme aims to blend 20% ethanol with petrol (E20) by 2025-26 to reduce oil imports, cut carbon emissions, and boost farmer incomes by using surplus agricultural products. Launched in 2003, the program has achieved significant blending targets, but faces challenges like feedstock availability, water usage for crops, and vehicle compatibility. Policy support, technological advancements, and a diversified feedstock approach, including agricultural waste, are crucial for the program's success.

Program launch and targets

- **Launch:** The EBP Programme was launched in 2003 by the Ministry of Petroleum and Natural Gas.
- **Targets:**
 - **Initial targets:** The initial indicative target set under the National Policy on Biofuels 2018 was to achieve 20% ethanol blending in petrol by 2030.
 - **Advanced targets:** Due to positive results, the deadline for 20% blending was advanced to the Ethanol Supply Year (ESY) 2025-26.
 - **Progress:** The target of 10% blending (E10) was achieved five months ahead of schedule in June 2022.

Key objectives

- **Energy Security:** Reduce India's high dependence on imported crude oil, which makes the country vulnerable to price volatility and geopolitical risks.
- **Economic Benefits:** Save foreign exchange reserves and boost the domestic agriculture sector by providing a market for crops used in ethanol production.
- **Environmental Protection:** Lower vehicular emissions, as ethanol is a cleaner-burning fuel, helping to reduce greenhouse gas emissions and pollution.
- **Farmer Welfare:** Provide additional income to farmers by assuring a market for surplus crops like sugarcane and maize.

Feedstock and ethanol generations

The program's flexibility in feedstock is a key feature, as defined by the National Policy on Biofuels (NPB), amended in 2022.

- **First Generation (1G):** Ethanol produced from food-based biomass such as sugarcane juice, molasses, and surplus food grains like maize and broken rice.
- **Second Generation (2G):** Ethanol produced from non-food sources like lignocellulosic biomass, including crop residues (e.g., rice straw), bagasse, and bamboo.
- **Third Generation (3G):** Biofuels derived from algae, currently in the research and development phase.

Related government initiatives and policies

- **National Policy on Biofuels (2018, amended 2022):** The overarching framework for the EBP Programme, which sets targets, defines feedstock, and promotes different generations of biofuels.
- **Pradhan Mantri JI-VAN Yojana (2019, modified 2024):** A scheme that provides financial support for setting up commercial projects for 2G ethanol production from agricultural residues.
- **Interest Subvention Schemes:** Financial assistance provided to producers for setting up ethanol production plants.
- **Administered Price Mechanism:** The government fixes the ex-mill price for ethanol, providing price stability for suppliers.
- **GST Reduction:** The GST rate for ethanol used in the EBP Programme has been lowered to 5% to encourage adoption.
- **E20 Compatible Vehicles:** The auto industry has committed to developing vehicles compatible with 20% ethanol blending.

Practice Questions:

1. Consider the following statements:

Statement I: India has successfully achieved its 20 per cent ethanol blending in petrol target by 2025, five years ahead of its original 2030 target, which has significantly bolstered energy security.

Statement II: The shift toward ethanol-blended fuel has saved the country approximately over ₹ one lakh crore in foreign exchange by reducing dependency on imported crude oil.

Statement III: The acceleration of India's ethanol blending program has primarily benefited the urban automobile industry by promoting E20 compliant vehicles.

Which one of the following is correct in respect of the above statements?

- a) Both Statement II and Statement III are correct and both of them explain Statement I
- b) Both Statement II and Statement III are correct but only one of them explains Statement I
- c) Only one of the Statements II and III is correct and that explains Statement I
- d) Neither Statement II nor Statement III is correct

Answer: c

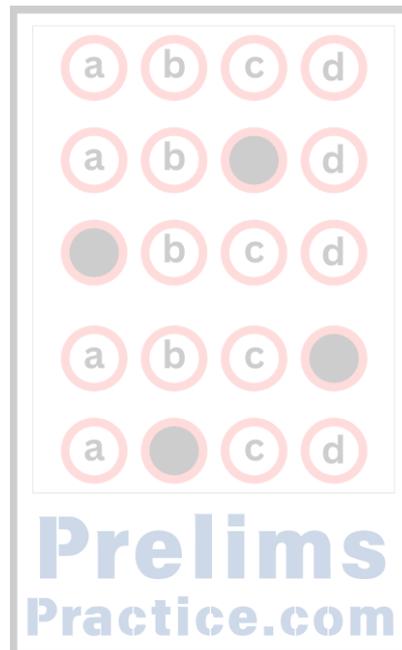
Explanation: Statement I is true: The Minister's statement confirms India achieved the 20% E20 target ahead of the advanced 2025 deadline (originally 2030). This move is a major component of enhancing energy security by using domestically produced fuel.

Statement II is also true: A key benefit and stated achievement of the program is the significant saving in foreign exchange by cutting down on crude oil imports. **Statement II is the correct explanation of Statement I** because reducing the oil import bill directly contributes to and is a primary mechanism by which energy security is bolstered.

Statement III is false: While the auto industry is involved in the transition (manufacturing E20 compatible vehicles is now mandated), a primary stated goal and achievement of the program is to support the rural and agricultural economy, not primarily the urban auto industry.

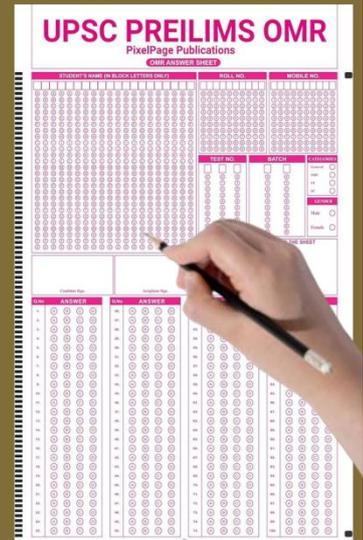
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