



Curb on Sugar Diversion for Ethanol

For Prelims: [Curb on Sugar Diversion for Ethanol](#), Ethanol Blended Petrol (EBP), [Biofuels](#), Feedstocks, [Crude Oil Import](#), Food Security.

For Mains: Curb on Sugar Diversion for Ethanol, Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

Source: [IE](#)

Why in News?

Recently, The Ministry of Consumer Affairs, Food and Public Distribution directed to restricting the use of sugarcane juice/syrup for ethanol production, a key component in **Ethanol Blended Petrol (EBP)**.

- The Indian government has implemented stringent measures to fortify domestic sugar availability. Initially, it imposed a ban on sugar exports.

What is Ethanol Blending?

- **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.
 - Ethanol is 99.9% pure alcohol that can be blended with petrol.
- **Ethanol Blending Programme (EBP):**
 - It is aimed at reducing the country's dependence on [Crude Oil Imports](#), cutting carbon emissions and [Boosting Farmers' Incomes](#).
 - The Government of India has advanced the target for 20% ethanol blending in petrol (also called E20) to 2025 from 2030.
 - The all-India average blending of ethanol with petrol has risen from **1.6% in 2013-14 to 11.8% in 2022-23**.

Why has the Government Restricted the Diversion of Sugar for Ethanol Production?

- **Sugar Shortage Concerns:**
 - There are **concerns over a potential shortfall** in sugar production.
 - The move to restrict the diversion of sugarcane juice or syrup for ethanol production **is aimed at addressing this anticipated shortage**.
- **Prioritising Food Over Fuel:**
 - The decision reflects a prioritization of food production (sugar) over fuel production (ethanol).
 - By emphasizing the production of sugar, a critical commodity in India, the government **aligns with the priority of ensuring [Food Security](#)** and availability for

consumers.

- **Managing Supply-Demand Dynamics:**

- The government is attempting to manage the delicate balance between supply and demand in the sugar market. By curbing diversion for ethanol production, it seeks to **stabilize sugar availability and potentially mitigate** any price volatility in the market.

What are the Implications of this Move?

- **Impact on Ethanol Production:**

- This decision affects **around 28% of total ethanol production**, reducing the volume of ethanol generated from this high-value feedstock.
- The prohibition on using sugarcane juice or syrup for ethanol production is expected to affect the earnings of sugar mills, particularly as these sources fetch **higher prices compared to other feedstocks used in ethanol production.**

- **Challenges for Ethanol Blending Targets:**

- The government aims to raise the ethanol fuel-blending target from **12% to 15% in 2023-24** and has set a target of achieving 20% ethanol blending in petrol by 2025-26.
- However, with the restriction on sugarcane juice/syrup for ethanol production, meeting these targets might become more challenging.

What are the Other Sources of Ethanol Production?

- **Grains:** Corn (maize), barley, wheat, and other cereal grains contain starch, which can be converted **into fermentable sugars for ethanol production.**
- **Cellulosic Biomass:** Agricultural residues (corn stover, wheat straw), forestry residues, dedicated energy crops (switchgrass, miscanthus), and municipal solid waste contain cellulose and hemicellulose **that can be broken down into sugars for ethanol fermentation.**
- **Rice:** Surplus rice, including broken or damaged grains, can also serve as a source for ethanol production. The starch content in **rice can be converted into sugars for fermentation.**
- **Fruits and Vegetables:** Certain fruits and vegetables with high sugar content, like grapes and potatoes, can be utilized for ethanol production.

Way Forward

- There is a need to explore and incentivize the use of alternative feedstocks like grains, rice, damaged/broken grains, and cellulosic biomass for ethanol production.
- Diversification reduces dependency on sugarcane-based sources and ensures a stable supply chain.
- Implement policies that encourage the use of diverse feedstocks for ethanol production. Differential pricing, similar to the previous government strategy, can incentivize the production of ethanol from non-sugarcane sources. Clear and stable policies support long-term investments in diversified feedstock utilization.