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**Budget Series #9** 

# ENCOURAGING ETHANOL BLENDING

# Union Budget 2022-23 gives further boost to blending through tax on unblended fuel

(Ministry of Petroleum & Natural Gas)

February 27, 2022

"Ethanol was rarely discussed in the country about 7-8 years ago. But now ethanol has become one of the major priorities of 21<sup>st</sup> century India. The focus on ethanol is having a better impact on the environment as well as on the lives of farmers."

- Prime Minister Narendra Modi

## Union Budget 2022-23: Proposal to encourage ethanol-blended fuel

In India's quest for a clean energy future and to keep up with its commitment to the Sustainable Development Goals (SDGs), the Government of India has been increasingly promoting the use of ethanol-blended fuel in the country. To further encourage the blending of fuel, the <u>Union</u> <u>Budget 2022-23</u> has announced an additional differential excise duty of Rupees Two per litre on unblended fuel from the 1<sup>st</sup> day of October 2022.

The decision comes as an attempt to prompt retailers, especially private oil companies, to switch to **ethanol-blended fuel** across the country to achieve energy security and a transition into a thriving low carbon economy which is critical for a growing nation like India. This step will also help bring down India's petroleum imports.

# What is Ethanol? Why is it necessary as an alternative fuel?

The energy demand in our country is rising due to an expanding economy, growing population, increasing urbanization, evolving lifestyles and rising spending power. About 98 per cent of the fuel requirement in the road transportation sector is currently met by fossil fuels and the remaining 2 per cent by bio-fuels.

- Ethanol is one of the principal bio-fuels, which is naturally produced by the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration. It is used as a chemical solvent and in the synthesis of organic compounds, apart from being an alternative fuel source.
- Domestic bio-fuels provide a strategic opportunity to the country, as they reduce the nation's dependence on imported fossil fuels.
- In addition, when utilized with appropriate care, bio-fuels can be environmentally friendly, sustainable ←

energy sources.

They can also help generate employment, promote Make in India, Swachh Bharat. doubling of farmers' incomes and promote Waste Wealth to generation.

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Biofuels can add strength to India's growth story with benefits in cities and villages. We recall the vision of Atal Ji, during whose tenure the plan to produce ethanol from biofuel was initiated. Building on this, we prepared a roadmap for Ethanol Blending Programme after 2014.

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### Ethanol Blending Programme<sup>1</sup>

The Ethanol Blended Petrol (EBP) Programme was launched in January 2003 with the sale of 5% ethanol blended petrol in nine States and four UTs. In 2006, the Ministry of Petroleum and Natural Gas extended the sale of 5% Ethanol Blended Petrol to 20 states and four UTs of the country. However, the performance of the programme remained limited due to challenges such as non-inclusion of conversion of grain to ethanol, high taxation of ethanol, limited availability of feedstock and infrastructure, among others.

The Government under the leadership of Prime Minister Narendra Modi, in line with its Energy security, climate change and rural economy enhancement goals, has initiated multipronged reforms to boost Ethanol usage in the country. Under the Ethanol Blended Petrol (EBP) Program, an indicative target of 20% blending of ethanol in petrol by 2030 was laid out. Subsequently, the target year for achieving 20% ethanol blending in petrol was also advanced to 2025 by 'The Cabinet Committee on Economic Affairs' (CCEA) in 2020.

## **Ethanol Blending Programme- Progress Timeline**

Since the inception of the Ethanol Blending Programme (EBP), there have been significant measures taken by the Central Government to increase the production and utilization of

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<sup>&</sup>lt;sup>1</sup>https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/oct/doc202110441.pdf https://www.niti.gov.in/sites/default/files/2021-06/EthanolBlendingInIndia compressed.pdf

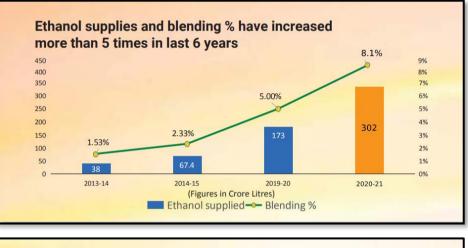
### ethanol which are mentioned in the give below.

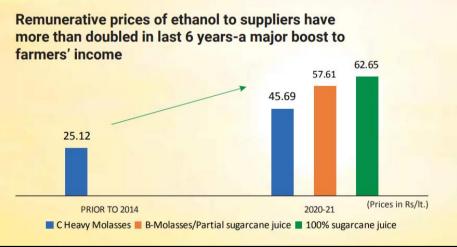
#### **A BRIEF TIMELINE DEVELOPMENTS IN 2021** ETHANOL BLENDING PROGRAMME ETHANOL BLENDING PROGRAMME **DECEMBER 2014 JANUARY 2021** Re-introduced administered price mechanism Department of Food & Public Distribution for ethanol to be procured under the EBP extends financial assistance to project Programme; opened the alternative route for proponents for enhancement of their ethanol production, directed Oil Public Sector ethanol distillation capacity or to set up Enterprises (PSEs) to set up bio-refineries. distilleries for producing 1st Generation 2014-15 (1G) ethanol from feedstocks Steps taken towards simplifying the tendering processes MAY 2016 JUNE 2021 Industries (Development and Regulation) or IDR Act amended on 14 May 2016 to clarify Target of achieving 20 % ethanol blending in on the roles of Central and State petrol preponed to 2025; Roadmap for ethanol Government for continuous supply of ethanol blending in India 2020-25 released by the Prime to be blended with petrol Minister; Pilot project of E 100 dispensing from AUGUST 2020 three locations at Pune launched. One time registration of ethanol OCTOBER 2021 suppliers for long term, including giving them visibility of ethanol demand for Centre doubles incentive on sugar sacrificed **OCTOBER 2020** five vears. for producing ethanol. Approval of National Biofuel Coordination Committee (NBCC) to utilise surplus stock of **NOVEMBER 2021** rice lying with Food Corporation of India (FCI) to be released to the distillers for ethanol **JUNE 2018** Cabinet Committee on Economic Affairs gives production. Notified forward-looking and updated approval for fixing higher ethanol prices derived from different sugarcane-based raw materials National Policy on Biofuels, 2018 JUI Y 2018 under the EBP Programme for the forthcoming involving all stakeholders Interest Subvention Scheme to improve and sugar season 2021-22; Oil PSEs given the increase ethanol production capacity in the freedom to decide the pricing for 2G ethanol. Country. DECEMBER 2021 2018-19 Allowed conversion of B heavy molasses, Government fixes higher ethanol price sugarcane juice and damaged food grains derived from different sugarcane based to ethanol. **APRIL 2019** raw materials; lowers the Goods and Services Tax rate to 5% from 18% on Extended EBP Programme to the whole of ethanol meant for blending: Centre fixed India except the Island UTs of Andaman 10% blending target for Ethanol Supply Nicobar and Lakshadweep SEPTEMBER 2019 Year 2021-22 & 20% blending by 2025. New sources, sugar and sugar syrup, introduced for ethanol production at fixed **OCTOBER 2019** remunerative price Published "Ethanol Procurement Policy on a long-term basis under EBP Programme" NOVEMBER 2020 Approval of NBCC to utilise maize for ethanol production. Interest subvention scheme for augmentation of ethanol production capacity extended to grain-DECEMBER 2020 based distilleries. Oil Marketing Companies (OMCs) have increased their ethanol storage capacity from 5.39 crore litres in November 2017 to 16.9 Crore litres till December 2020, thereby providing ethanol storage cover of over 20 days at their depots.

# Significant Outcomes<sup>2</sup>

The results from these landmark reforms have had positive effects not only on the country's economy but also on the income of the farmers, and they are also geared up to recharge the rural economy. Some of the significant outcomes from these reforms are:

- Ethanol supplies and blending percentage have increased more than five times in last six years. While 38 crore litres of Ethanol was procured during the year 2013-14, in 2020-21 this jumped nearly eight times to 322 crore litres.
- Remunerative prices of ethanol to suppliers have more than doubled in last six years-a major boost to farmers' income. An eight-fold jump in procurement in last six years and the price of procurement going up by nearly 2.5 times, has led to a significant jump in the income of farmers.





- Ethanol **distillation capacities have almost doubled** and number of distilleries increased by 40 per cent in five years.
- The decision to allow diversion of B heavy molasses, sugarcane juice / sugar / sugar syrup for ethanol production in 2018-19 enabled reliable supply of feedstock and the price stability of sugar.

<sup>2</sup>https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/oct/doc202110441.pdf

- Under EBP, OMCs (Oil Marketing Companies) have paid sugar mills nearly Rs. 42,000 crore for ethanol supplies in the last seven years, which has **helped mills to clear farmers' dues**. Additionally, decision has been taken to buy damaged and surplus food grains for ethanol production, ensuring price value for surplus grain stock as well as accommodating the fresh season crop to meet EBP target.
- The cumulative **foreign exchange impact** due to EBP Programme is estimated over Rs. 26,509 crores during the period ESY 2014 to 2021 (up to July 2021).
- One crore litre of ethanol-blended petrol can save around 20000 tons of carbon dioxide emission. Greenhouse gas

emission. Greenhouse gas emissions due to the EBP Programme were lowered by 192 lakh tons from 2014 to 2021 (up to July 2021).

• The IDR Act implementation enabled the state governments to avoid complicated documentation procedures and conduct probusiness activities like-approvals, online permits, electronic locking, GPS tracking of vehicles carrying ethanol etc.



"Target date for achieving 20% ethanol-blending with petrol advanced by 5 years to 2025 from 2030. Will cut pollution & reduce import dependence. Besides helping the environment,focus on ethanol will also benefit farmers."

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## **Roadmap for Ethanol Blending in India 2020-25**

On the occasion of World Environment Day 2021, Prime Minister Narendra Modi released the "<u>Report of the Expert Committee on Roadmap for Ethanol Blending in India 2020-2025</u>". The report suggested: (i) an annual roadmap for production and supply of ethanol till 2025-26, and (ii) systems for countrywide marketing of ethanol.



Key observations and recommendations from the Report:<sup>3</sup>

- Fuel ethanol demand projection: India's requirement of ethanol for petrol blending will increase from 173 crore litres in 2019-20 to 1,016 crore litres in 2025-26. To enable roll out of ethanol production across India, ethanol may be supplied from surplus to deficit states based on the requirements to ensure uniform availability of ethanol blends in the country.
- Ethanol blending roadmap: The Report recommends the Ministry of Petroleum and Natural Gas to notify a plan for availability of E10 fuel (blend of 10% ethanol and 90% petrol) by April 2022. Further, the Ministry is to notify a plan for the continued availability of the fuel for older vehicles. Fuel blended with 20% ethanol (E20) should be launched in a phased manner from April 2023 to ensure the availability of E20 by 2025. The rollout of higher ethanol blends may be done in phased manner, starting with the states with surplus production of ethanol.
- **Expediting regulatory clearances:** The report recommends measures to expedite regulatory clearances for ethanol production such as expediting the issuing of consent to establish distilleries by state governments. Further, a single window system may be formulated by the <u>Department for Promotion of Industry and Internal Trade</u> to facilitate speedy clearances for new projects and expansion of current projects for ethanol production.
- Environmental Impact: One litre of ethanol from sugar requires about 2,860 litres of water. In view of the need for water conservation, the report recommended that suitable incentives should be used to (i) source ethanol from less water-intensive crops, and (ii) promote production from maize and second-generation sources.
- Ethanol compatible vehicles: The Committee highlights that in order to use higher ethanol blends, vehicles need to be designed holistically to prevent engine failure and low fuel economy. To ensure production of ethanol-blended petrol compatible vehicles in the future, the Committee recommended that: (i) E20 material compliant and E10 tuned engine vehicles may be rolled out across the country from April 2023, and (ii) vehicles with E20 tuned engines can be rolled out from April 2025.
- Unrestricted movement of denatured ethanol: The report noted that ethanol used for blending purposes is denatured ethanol (unfit for human consumption). It further noted that state governments are empowered to legislate, control, and levy taxes and duties on liquor meant for human consumption. The report recommended that movement of denatured ethanol across India should not be under the control of states, but maybe controlled only by the central government to ensure unrestricted movement across India.

<sup>&</sup>lt;sup>3</sup>https://www.niti.gov.in/sites/default/files/2021-06/EthanolBlendingInIndia\_compressed.pdf

### **References:**

https://www.niti.gov.in/sites/default/files/2021-06/EthanolBlendingInIndia\_compressed.pdf https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/oct/doc202110441.pdf https://www.niti.gov.in/sites/default/files/2021-06/EthanolBlendingInIndia\_compressed.pdf https://www.pib.gov.in/PressReleasePage.aspx?PRID=1782735 https://www.pib.gov.in/PressReleaseDetail.aspx?PRID=1777217 https://pib.gov.in/PressReleasePage.aspx?PRID=1782275

### **Further Reading:**

http://petroleum.nic.in/sites/default/files/AR\_2018-19.pdf https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/oct/doc202110441.pdf

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