



Government Boosts Advanced Biofuel Production Through Expanded JI-VAN Yojana

प्रविष्टि तिथि: 04 DEC 2025 4:32PM by PIB Delhi

The Government had notified the “Pradhan Mantri JI-VAN (Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran) Yojana” 2019, amended in 2024, with the objectives to establish advanced biofuels projects in the country using lignocellulosic biomass and other renewable feedstocks, provide remunerative income to farmers for their otherwise waste agriculture residues, create rural and urban employment opportunities, address concerns of environmental pollution caused by burning of biomass/agriculture residue, reduce soil and water pollution from municipal solid waste, contribute to Swachh Bharat Mission, help in meeting the target envisaged in Ethanol Blended Petrol (EBP) programme, reduce dependence on crude oil import, etc. This scheme envisages setting up of commercial Advanced Biofuel Projects and demonstration scale Advanced Biofuel Projects for improving commercial viability as well as promoting R&D for development and adoption of technologies in the field of production of advanced biofuels.

Under this scheme, commercial Second Generation (2G) Paddy Straw based feedstock bio-ethanol project has been set up by Indian Oil Corporation Ltd. (IOCL) at Panipat (Haryana). A Second Generation (2G) Bamboo based Biorefinery project has been set up under the scheme at Numaligarh (Assam) by Numaligarh Refinery Ltd. through a joint venture company, Assam Bio-Ethanol Private Limited (ABEPL). Indian Oil Corporation Limited (IOCL) has also established a 3G ethanol plant at Panipat, Haryana, using refinery off-gas as feedstock.

The National Policy on Biofuels, as amended in 2022, promotes use of, *inter-alia*, damaged food grains like broken rice, food grains unfit for human consumption, food grains during surplus phase as declared by the National Biofuel Coordination Committee (NBCC), and agriculture residues (Rice straw, cotton stalk, corn cobs, saw dust, bagasse etc.). This Policy also promotes and encourages use of feedstock such as corn, cassava, rotten potatoes, maize, sugarcane juice & molasses. The extent of utilization of individual feedstock for ethanol production varies annually, influenced by factors such as availability, costs, economic feasibility, market demand, and policy incentives. Any diversion of sugarcane juice, its by-products, maize, and other food/feed crops for ethanol production is carefully calibrated in consultation with relevant stakeholders.

The Department of Food and Public Distribution (DFPD) has informed that Sugar production in the country exceeded domestic demand during the Sugar Season (SS) 2024-25 (October - September). Sugar availability during SS 2024-25 stood at 340 lakh metric ton (LMT), apart from diversion of 34 LMT for ethanol production, as against the domestic sugar demand of 281 LMT. Sugar diversion for ethanol production has helped stabilize surplus sugar inventories in the country and timely payment to farmers for their cane dues. Maize production has also increased by nearly 30% from 337.30 LMT in 2021-22 to 443 LMT in 2024-25.

Ethanol Blended Petrol (EBP) Programme has resulted in expeditious payment to farmers to a tune of over Rs. 1,36,300 crores from Ethanol Supply Year (ESY) 2014-15 up to October 2025, besides savings of more than Rs. 1,55,000 crores of foreign exchange, net CO2 reduction of approximately 790 lakh metric tonne and substitution of more than 260 lakh metric tonnes of crude oil.

The Government is also encouraging farmers to diversify from water intensive crops like rice, sugarcane, etc. to more sustainable crops like maize for ethanol production. The “Roadmap for Ethanol Blending in India 2020-25” has also noted that technological advancements have made it possible for molasses-based distilleries with incineration boilers and grain-based distilleries to become zero liquid discharge (ZLD) units, resulting in negligible pollution. Government is also promoting water conservation practices in sugarcane cultivation also by promoting drip irrigation under ‘Per Drop More Crop’ scheme. Many sugar mills are also running awareness campaigns among cane farmers for adopting water conservation techniques.

In addition, the Government has been implementing the Waste to Energy programme under National Bioenergy programme to support setting up of CBG/Bio-CNG projects from urban, industrial & agricultural wastes/residues in the Country. Further, to facilitate biomass collection and prevent the burning of agricultural residue, the Government has also been providing financial assistance to Compressed Bio Gas (CBG) producers for procurement of Biomass Aggregation Machinery.

This information was given by the MINISTER OF STATE IN THE MINISTRY OF PETROLEUM AND NATURAL GAS SHRI SURESH GOPI, in a written reply in Lok Sabha today.

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