GOVERNMENT OF INDIA
MINISTRY OF PETROLEUM AND NATURAL GAS
RAJYA SABHA
UNSTARRED QUESTION NO-1735
ANSWERED ON - 04/08/2025

PROMOTION OF ETHANOL PRODUCTION

1735. SHRI MASTHAN RAO YADAV BEEDHA:

Will the Minister of PETROLEUM AND NATURAL GAS be pleased to state:

(a) the steps undertaken by Government to boost ethanol production in order to meet its targets under the Ethanol Blended Petroleum (EBP) Programme;

(b) whether Government has a blueprint for the promotion of 3G ethanol production, if so, the details thereof;

(c) whether Government is working on developing technologies that can increase the conversion efficiency of ethanol made from lignocellulosic biomass;

(d) if so, the details thereof; and

(e) whether Government have studied the issues and problems in promoting the ethanol production, if so, the measures taken to address these problems under single window system?

ANSWER

THE MINISTER OF STATE IN THE MINISTRY OF PETROLEUM & NATURAL GAS

(SHRI SURESH GOPI)

(a): In order to boost ethanol production to achieve 20% Ethanol blending target by the Ethanol Supply Year (ESY) 2025-26 under Ethanol Blended Petrol (EBP) Programme, the Government have taken several steps to increase ethanol production in India, which *inter alia* includes expansion of feedstock for ethanol production, administered price mechanism for ethanol procurement under the Ethanol Blended Petrol (EBP) Programme, lowered GST rate to 5% for ethanol for EBP Programme, introduction of various Ethanol Interest Subvention Schemes (EISS) during 2018-22, a dedicated subvention scheme for Cooperative Sugar Mills to convert existing sugarcane-based distilleries into multi-feedstock plants for ethanol production from molasses as well as grains, Long Term Offtake Agreements (LTOAs) between OMCs and Dedicated Ethanol Plants, multimodal transportation of ethanol to enhance availability of ethanol and increasing ethanol storage capacity along with other allied infrastructure for handling of higher blends of ethanol, notified "Pradhan Mantri Ji-VAN(Jaiv Indhan-Vatavaran Anukul fasal awashesh Nivaran)" 2019, amended in 2024, to provide financial support for setting up Advanced Biofuels projects in the country using lignocellulosic biomass and other renewable feedstock.

(b) to (d): With an objective to broaden the scope of the scheme to incorporate Advanced Biofuels including Third Generation (3G) Ethanol, the Government has amended the PM JI-VAN Yojana in 2024 to provide financial support for setting up Advanced Biofuels projects in the country using lignocellulosic biomass and other renewable feedstock.

The PM JI-VAN scheme currently envisages setting up of about 12 commercial Advanced Biofuel Projects and about 10 demonstration scale Advanced Biofuel Projects. The purpose of supporting Demonstration projects is to enthuse Technology providers to display viability & performance of their novel technologies thereby indigenization of advanced biofuel technologies and to address, *inter-alia*, the challenge of higher conversion process cost of lignocellulosic biomass to ethanol as compared to the conventional molasses to ethanol process. Indian Oil Corporation Limited (IOCL) has established a 3G ethanol plant of 128 Kilo litre per day capacity at Panipat, Haryana, using refinery off-gas as feedstock, which is currently under stabilization.

Department of Biotechnology (DBT) has informed that they have supported research and innovation projects focused on developing technologies to enhance the conversion efficiency of ethanol made from lignocellulosic biomass by providing advanced biocatalytic solutions and indigenous bioprocesses. DBT through Biotechnology Industry Research Assistance Council (BIRAC) has supported setting up of a 10 tonnes lignocellulosic biomass per day processing plant to produce about 3,000 litres of ethanol per day and the development of a novel cocktail of cellulosic enzymes.

IOCL R&D has also developed a 2G ethanol technology with integrated enzyme production and mechanically completed a 10 tonnes per day demonstration plant at Panipat, integrated with onsite enzyme production, utilizing biomass feedstocks such as rice straw, wheat straw, and bagasse. Bharat Petroleum Corporation Limited (BPCL) has developed and successfully demonstrated an in-house 2G ethanol process using lignocellulosic biomass. Hindustan Petroleum Corporation Limited (HPCL) has taken initiative to develop 2G technology and in-house enzyme development to improve overall viability of the process.

(e): In order to facilitate project proponents willing to set up ethanol plants across the country, Government has launched a digital platform namely National Single Window System (NSWS) for guidance of investors to identify and to apply for various approvals (Central/State) as per their business requirements. Apart from this, an Ethanol Help Desk is also active on NSWS portal for facilitating Stakeholders/Industry at which concerned stakeholders can raise their issues/queries for resolution.

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