

GOVERNMENT OF INDIA  
MINISTRY OF CHEMICALS & FERTILIZERS  
DEPARTMENT OF CHEMICALS & PETROCHEMICALS

**LOK SABHA**

**UN-STARRED QUESTION NO. 1430**  
TO BE ANSWERED ON 28.07.2023

**METHANOL ECONOMY PROGRAMME**

1430. SHRIMATI APARUPA PODDAR:

Will the Minister of CHEMICALS AND FERTILIZERS be pleased to state:

- (a) whether the Government has any proposal for methanol economy programme in the country;
- (b) if so, the details thereof along with the present status of methanol production indicating the production capacity and actual output thereof;
- (c) whether the Government has any proposal to set up methanol production units in the country; and
- (d) if so, the details thereof?

**ANSWER**

MINISTER OF STATE FOR CHEMICALS AND FERTILIZERS

(SHRI BHAGWANTH KHUBA)

(a) to (b): The NITI Aayog has been driving the national efforts towards methanol economy programme in India since 2016 by constituting three expert groups on production, utilization and R&D to explore the different aspects of the methanol economy. Based on the reports of the Expert Groups and the discussions held at an International Conference in the year 2016, NITI Aayog, had drawn a road map to explore methanol as an alternative fuel. The Methanol Economy Roadmap was presented to the Committee of Secretaries (CoS) in 2017. The CoS agreed to the proposed Roadmap and directed NITI Aayog to drive the Methanol Economy programme. The NITI Aayog, accordingly set up an Apex committee and 5 task forces in accordance with that decision to work on methanol production from coal, methanol production

from biomass and municipal waste, utilisation of methanol, conversion of the internal combustion engine and dissemination of information. The details of the progress made in the Methanol Economy programme is given below:

- i. The Ministry of Road Transport and Highways (MoRTH) has notified methanol blends in petrol – 15%, 85% and 100% by volume – called M15, M85 and M100, respectively.
- ii. The Indian standard for M15 has been formulated by the Bureau of Indian Standards (BIS).
- iii. The Indian Oil Corporation Limited (IOCL) has prepared the M15 blend and its stability has been checked.
- iv. Thermax Limited, Pune jointly by Indian Institute of Technology (IIT), Delhi and Bharat Heavy Electricals Limited (BHEL), Hyderabad demonstrated 1 and 0.5 Tonnes Per Day (TPD) respectively for the production of methanol using high ash coal through indigenous technology.
- v. Emissions and material compatibility, for the M15 blend, have been completed by the Automotive Research Association of India (ARAI), Pune.
- vi. The ARAI, in collaboration with the Maruti Suzuki Ltd., Hero Motocorp, TVS Motors, Bajaj Auto Ltd. and Mahindra & Mahindra has completed the road trials and the durability test of the vehicles on M15.
- vii. The IOC has carried-out performance and emission trials on M15 blended petrol.
- viii. Assam Government in association with Assam Petrochemicals has launched methanol based cooking stoves.
- ix. IOCL launched M15 dispensing station at Tinsukia District, Assam.
- x. Kirloskar Oil Engines Limited developed a 100% methanol-operated engine of 20 kWh capacity.
- xi. Ashok Leyland Ltd. in association with IOCL have successfully demonstrated the performance of diesel engines with MD15 (15% Methanol blended in diesel) and pilot trials of buses with MD15 in association with Kerala State Road Transport Corporation has been flagged off on 12th March, 2023 in Bangalore.

(c) to (d): The Department of Science & Technology has supported the two major projects which have successfully demonstrated production of methanol from high ash Indian coal using fluidized bed gasification process and were successfully completed. The details of these two projects are as follows:

- i. BHEL-Hyderabad has successfully demonstrated the generation of methanol in a pilot plant with a capacity of 0.25 TPD (Tonnes per Day) from Indian high ash coal. The overall CO conversion achieved in the methanol reactor is more than 80% and finally methanol with purity of more than 99% is generated from syngas.
- ii. THERMAX & IIT Delhi team have indigenously designed 1 TPD pilot plant and successfully demonstrated technology for conversion of Indian high ash coal to methanol (major setup located in Thermax premises in Pune). Oxy-blown coal

gasification is a significant milestone for conversion of high ash coal into syngas. This has helped to achieve directly the H<sub>2</sub>/CO ratio needed for methanol synthesis, which was used as an input in the 1 TPD methanol pilot plant.

In addition, Government of India has approved to setup a Lignite based gasification plant for the production of methanol at Neyveli to be implemented by Neyveli Lignite Corporation (NLC) India.

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