



## Mains Practice Question

**Q.** Discuss the utility and importance of methanol production for the Indian Economy. (150 words)

01 Jul, 2020 GS Paper 3 Economy

### Approach

- Highlight the relevance of Methanol with respect to energy demand in India. Briefly explain the nature of methanol.
- Discuss the utility of Methanol by discussing its characteristics such as its efficiency as fuel.
- Illustrate the importance of methanol such as in transportation and cutting on import bills.
- Summarise your answer highlighting future prospects.

### Introduction

Energy is considered as the key inputs for economic development of the Country. India is poised to play a significant role in the **Global energy space**, as it is likely to account for **25% of the rise in global energy demand by 2040**. Methanol can play an important role in order to contain the rising imports and improve the energy security of India.

Methanol is a low carbon, hydrogen carrier fuel produced from high ash coal, agricultural residue, CO<sub>2</sub> from thermal power plants and natural gas. Use of methanol in various ways is one of the viable options for meeting India's commitment to COP 21. Methanol production is also an important component in achieving aims of the **National Policy on Biofuels, 2018**.

### Body

#### Utility Of Methanol Production

- **Efficient Fuel:** Methanol is an efficient fuel and emits lesser Nitrogen Oxides and Particulate matter (PM) than gasoline and even produces no sulphur oxides as there is no sulphur in Methanol.
- **Blender and substitute:** It can be blended (or be completely substituted) with gasoline to use as a transport fuel along with other applications.
- **Less Emission:** The tailpipe emissions from methanol usage (i.e. at the consumption end) are quite low in comparison with conventional fuels like gasoline and diesel.

#### Importance of Methanol in Indian Economy

- **As a Transportation fuel:** Methanol can be blended with gasoline and diesel, or can be used as a substitute. It gives us an opportunity to reduce our dependence on imported crude oil.
  - This also offers an opportunity for the **railway engines** to run on methanol blends.
  - In order to check the pollution caused by diesel run ships, methanol powered ships would not only be **cost effective alternatives** but would also produce far less pollution.
- **Compliments Pradhan Mantri Ujjwala Yojana (PMUY):** It provides LPG connections to Below Poverty Line (BPL) households, who were earlier dependent on solid biomass as cooking fuel.

- Since the price of crude is likely to increase in the long term. Therefore, methanol blending with LPG would help in ensuring clean fuel supplies for a longer duration.
- **Reduction in import bills:** Blending of 15% methanol in gasoline can result in at least 15% reduction in import of gasoline/ crude.
  - The methanol economy will result in a minimum 15% reduction in fuel bill annually for the country by 2030.
- **Replacement of diesel genset:** A large number of telecom towers, especially in rural areas run on diesel for as long as 18-20 hours a day because of frequent electric cuts.
  - Telecom towers in India consume around 2% of diesel consumption which is a significant amount indicating a vast potential for methanol to replace diesel.
- **Production of various chemicals:** Methanol can be used for producing various chemicals like formaldehyde, acetic acid and olefins which can be exported and can be a foreign exchange earner.
- **Reduction in GHG emissions:** Adoption of Methanol as priority fuel would bring down GHG emissions by 20% in terms of particulate matter, Nitrogen oxide, and Sulphur oxide thereby improving urban air quality.
- **Dovetailing with Swachh Bharat Mission:** Biomass and low quality coal can be sourced to generate methanol. Thus it can become a successful model of “**waste to wealth**” generation in India which can be dovetailed with Swachh Bharat Mission.

## Way Forward

Hence, by adopting Methanol, India can have its own indigenous and cheaper fuel. To achieve this, the **Methanol Economy program** initiated by **NITI Aayog** has been started.

It aims at reducing our oil import bill; reducing greenhouse gas (GHG) emissions & converting Indian coal reserves and municipal solid waste into methanol leading to low import's while creating new jobs by setting up methanol production plants.