Ethanol blending policy

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Biofuels are projected as one of the viable future energy alternatives. India has managed to achieve only 5% blending of ethanol due to certain technical, market and regulatory hurdles. Now the updated policy is seen as a silver lining to boost biofuel usage and reduce the existing dependency on fossil fuel.

In news: PM Modi recently reviewed the proposed ethanol policy.
Placing it in syllabus: Biofuels
Dimensions

1. Ethanol blending policy
2. Challenges for fuel blending
3. 2G biofuels
4. Biomass stubble and ethanol

Content:

Ethanol Blending policy:

- The proposed ethanol policy will focus on the key features of **manufacturing, sale, utilization and blending.**
- The policy has proposed a roadmap, which would "**increase blending by states from 5 percent to 12-15 percent by 2026, and then increase to 20 percent by 2030**."
- Under the proposed policy, the government is likely to **allow use of grain for ethanol and is likely to allow use of maize to supplement ethanol supplies from cane/molasses** in the next two-three months.
- The government would **fix ethanol prices by next quarter for maize** and is likely to fix realistic transport rates at par with petrol to address the price issue.

- To fix transportation challenges the policy will **enable creation of pipeline infrastructure for ethanol movement.**
- On GST rates, the government is likely to **reduce 28 percent GST on molasses,** and reduce 18 percent on special denatured spirit to 5 percent. (GST on ethanol is 5 percent from July 2018).

Significance:

- The policy will proportionately reduce India's dependence on the volatile international crude market to ensure limited price fluctuations.
- It will help correct unstable pricing, high taxes and duties and heavy state control on movement.
- Reduce sugar exports in three years by diverting sugar producers into ethanol.

Challenges for ethanol blending:

- The **current domestic production of bioethanol is not sufficient** to meet the demand for bio-ethanol for blending with petrol at Indian Oil Marketing Companies (OMCs).
- In India, sugarcane molasses is the major resource for bioethanol production and **inconsistency of raw material supply** is a major obstacle to blending targets.
- **Blend wall** is the other challenge towards the biofuel targets. (Blending wall is the maximum percent of ethanol that can be blended to fuel without decreasing the fuel efficiency).
- Ethanol being a highly flammable liquid needs **safety and risk assessment measures** during all phases of production, storage and transportation.
- The non-uniform distribution of raw material throughout the country demands a **compulsory transportation and storage,** especially inter-state movement, encountering diverse climatic and topographic conditions.

- The price of obtaining agricultural waste required for the production of bio-ethanol at 2G plants was currently too high for it to be viable for **private investors** in the country.

2G biofuel:

- **Second-generation biofuels**, also known as **advanced biofuels**, are fuels that can be manufactured from various types of non-food biomass.
- 2G biofuels are made from different feedstocks and therefore may require different technology to extract useful energy from them.
- These feedstocks include lignocellulosic biomass ***or woody crops, agricultural residues or waste, dedicated non-food energy crops*** grown on marginal land unsuitable for food production.
- It is more expensive than first-generation ethanol.
- The development of 2G biofuels has seen a stimulus since the **food v/s fuel dilemma** regarding the risk of diverting farmland or crops for biofuels production to the detriment of food supply.

Biomass stubble and ethanol:

- 2G bioethanol helps to provide greater income to farmers and prevent them from having to burn agricultural waste which is a major source of air pollution.
- As Punjab and Haryana struggle to deal with the stubble burning menace, **Indian Oil Corporation Limited (IOCL)'s set up an ethanol plant at Panipat.**
- It will convert rice straw into ethanol, thus **serving the dual purpose** of discouraging stubble burning while also providing them returns for their agricultural waste.
- It also aids in the fulfilment of the goal of 'doubling farmers' income by 2022'.
- The project is based on indigenously developed

technology and will not leave any waste behind and will produce ethanol with negligible emission from the boiler.
- Stubble burning contributes to about 48% of the total emission in Haryana and Punjab and Haryana is the second largest producer of paddy waste in the country after Punjab.

About the plant:

- This is the first commercial project in the country which will directly convert paddy straw to ethanol.
- Ethanol production capacity: 100 kiloliters
- Stubble consumption capacity: 425.5 metric tons
- Employment generation: 1,350 persons
- Expected to be functional by: August 2021

Mould your thought:

1. Bring out the salient features of the proposed Ethanol policy. What hurdles stand in the path of promoting bio-ethanol?

Approach to the answer:

- Define ethanol blending
- Write down the features of newly updated policy
- Mention the challenges for ethanol blending
- Way forward