



Biofuel Effect on Indian Economy

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Biofuels have gained significant attention in recent years due to their specialized characteristics to mitigate climate change, reduce dependence on fossil fuels, and promote rural development and optimum use agroproducts and avoid their wastage. In India, the government has taken several initiatives to promote biofuels, including setting blending targets for ethanol and biodiesel in transportation fuels. The impact of biofuels on the Indian economy is significant, as it can contribute to reducing the country's import bill generate income for farmers and increase their profits and makes country self dependent and reduces the dependence of foreign currency.

- India is a net importer of crude oil, and its dependence on imported oil has been a significant drain on the country's foreign exchange reserves. The increasing demand for energy and the volatile global oil prices India need to find new alternative source for crude oil which production could be done on large scale and ie biofuels. India is agricultural country. The million tones of grain and feed get wasted every year that could be stop by this technique on large scale. That's have made it necessary for India to look for alternative energy sources. Biofuels, which are produced from renewable resources such as agricultural crops, forestry wastes, and municipal solid waste, have emerged as a promising solution to India's energy.
- The use of biofuels has several economic benefits for India. Firstly, it can help reduce the country's oil imports on large scale. India imports more than 80% of its oil requirements, which is a significant burden on the country's foreign exchange reserves and have drastic effects on Indian economy. Around 1% of the GDP is depleted in the form of food wastage. According to the Ministry of Agriculture (Govt of India), Rs. 50,000 crores of food produced gets wasted every year By promoting the use of biofuels, India can reduce its dependence on imported oil and save valuable foreign exchange. The government's target of achieving 20% ethanol blending in petrol and 5% biodiesel blending in diesel by 2030 is expected to reduce India's oil import bill By around \$7 billion per year.
- Secondly, the production of biofuels can provide an additional source of income for farmers. India is an agricultural country, and a significant portion of its population is engaged in farming. By promoting the cultivation of crops such as sugarcane, corn, and jatropha for biofuel production, farmers can earn additional income from their land. The government has introduced several initiatives, such as the Pradhan Mantri JI-VAN Yojana, to encourage farmers to take up biofuel cultivation.
- Thirdly, the use of biofuels can promote rural development. The production of biofuels requires raw materials that are mostly produced in rural areas. By promoting biofuel production, the government can create new employment opportunities in rural areas and promote rural development. The use of biofuels can also help reduce the dependence of rural communities on traditional sources of energy such as firewood and kerosene.

- However, there are also challenges associated with the production and use of biofuels. The cultivation of crops for biofuel production can compete with food production, leading to higher food prices. The government needs to strike a balance between biofuel production and food security. Also, the production of biofuels requires significant amounts of water, which can lead to water scarcity in areas where water resources are already scarce. Therefore, it is essential to promote sustainable biofuel production practices that do not harm the environment or compete with food production.
- One of the main challenges is the cost of production, which can be higher than that of traditional fossil fuels. This can make biofuels less competitive in the market, and it may require government subsidies to promote their use. Another challenge is the availability of feedstock for biofuel production. The production of biofuels requires crops such as sugarcane, corn, and oilseeds, which may compete with food crops for land and water resources.
- The Indian government has set ambitious targets to increase the use of biofuels in the country. In 2018, the government announced that it plans to achieve 20% ethanol blending with petrol and 5% biodiesel blending with diesel by 2030. This move is expected to reduce the country's dependence on crude oil imports and save foreign exchange reserves. The increased use of biofuels can also help to reduce air pollution, which is a major concern in many Indian cities.
- One of the key advantages of biofuels is that they can be produced locally, which can create employment opportunities in the agricultural sector. The production of biofuels requires crops such as sugarcane, corn, and oilseeds, which can be grown by farmers in rural areas. The production of biofuels can also promote rural development by creating local industries that can process and refine the crops into biofuels.
- Another advantage of biofuels is that they are renewable and sustainable sources of energy. The use of biofuels can reduce greenhouse gas emissions and promote environmental sustainability. The production of biofuels can also be an effective way to manage agricultural waste and promote the efficient use of natural resources.
- In conclusion, the use of biofuels has significant economic benefits for India. It can reduce the country's oil import bill, provide an additional source of income for farmers, and promote rural development and promotion of modern industrialization in India.
- However, the government needs to enhance promotion of sustainable biofuel production practices and strike a balance between biofuel production and food security. With the right policies and initiatives, biofuels can become a vital component of India's energy security strategy.
- At the end, the use of biofuels has significant economic benefits for India. It can reduce the country's oil import bill, provide an additional source of income for farmers, and promote rural development. However, the government needs to promote sustainable biofuel production practices and strike a balance between biofuel production and food security. With the right policies and initiatives, biofuels can become a vital component of India's energy security strategy.

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