

1. Discuss the importance of bio fuels for India? Critically examine whether the national policy on bio fuels will help India unlock its bio fuel potential?

(250 Words)

Answer:

Background:-

The Union Cabinet has approved National Policy on Bio-fuels – 2018 in order to promote bio-fuels in the country.

Importance of biofuels to India:-

- Biofuels in India are of strategic importance as it augers well with the ongoing initiatives of the Government such as Make in India, Swachh Bharat Abhiyan, Skill Development and offers great opportunity to integrate with the ambitious targets of doubling of Farmers Income, Import Reduction, Employment Generation, Waste to Wealth Creation.
- Current problem of the pollution is plaguing the entire north Indian plains. The short-term solution for this issue exists in the quick and scaled-out expansion of biofuel-powered public transport across the country.
- This will lead to a huge reduction in stubble burning because of an economic incentive available to remove and give the crop waste to biofuel plants.

Economic:-

Energy generated from biofuels is equivalent to 340 million barrels of oil or over \$22 billion. Considering that in the first quarter India had a current account deficit of \$14.3 billion, India could wipe out almost a third of our current account deficit.

Employment:-

- The increase in ethanol production alone has the potential to create over 700,000 jobs when targeting only the base potential.
- States with a combination of high agricultural activity and large fuel consumption like Maharashtra, Punjab and Uttar
- Pradesh would be the best positioned to exploit this opportunity.

National biofuel policy :-

Categories of biofuels:

- The policy creates two categories of biofuels: basic and advanced. Basic biofuels include first generation bioethanol.
- Advanced biofuels include second generation ethanol, municipal solid waste, third generation biofuels, bio-CNG etc

Raw materials:

- The policy expands the scope of raw material for ethanol production by allowing the use of certain items that are unfit for human consumption. These include: (i) sugarcane juice, (ii) materials containing sugar such as sugar beet, (iii) materials containing starch such as corn, cassava, and (iv) damaged food grains like wheat, broken rice, and rotten potatoes.

- Farmers are at a risk of not getting appropriate price for their produce during the surplus production phase. Taking this into account, it also allows the use of surplus food grains for production of ethanol for blending with petrol, with the approval of the National Biofuel Coordination Committee.
- This will likely reduce the cost of producing biofuels and improve affordability for consumers, particularly during times when oil prices reach discomfoting levels.

Financial incentives:

- The policy indicates a viability gap funding scheme of Rs 5,000 crore in six years for second generation ethanol bio refineries.
- Further, advanced biofuels will also get additional tax incentives, and higher purchase price as compared to basic biofuels.
- Roles and responsibilities of all the concerned Ministries/Departments with respect to biofuels has been captured in the Policy document to synergise efforts.
- The new policy will also benefit farmers, who will be able to sell various types of agricultural waste to industry at remunerative prices

Expected benefits:-**Reduce Import Dependency:**

The ethanol supply year 2017-18 is likely to see a supply of around 150 crore litres of ethanol which will result in savings of over Rs.4000 crore of forex.

Cleaner Environment:

- One crore lit of E-10 saves around 20,000 ton of CO₂ emissions.
- For the ethanol supply year 2017-18, there will be lesser emissions of CO₂ to the tune of 30 lakh ton. By reducing crop burning & conversion of agricultural residues/wastes to biofuels there will be further reduction in Green House Gas emissions.

Health benefits:

Used Cooking Oil is a potential feedstock for biodiesel and its use for making biodiesel will prevent diversion of used cooking oil in the food industry.

Municipal solid waste Management:

It is estimated that, annually 62 MMT of Municipal Solid Waste gets generated in India. There are technologies available which can convert waste/plastic, MSW to drop in fuels. One ton of such waste has the potential to provide around 20% of drop in fuels.

Infrastructural Investment in Rural Areas:

At present Oil Marketing Companies are in the process of setting up twelve 2G bio refineries with an investment of around Rs.10,000 crore. Further addition of 2G bio refineries across the Country will spur infrastructural investment in the rural areas.

Employment Generation:

One 100klpd 2G bio refinery can contribute 1200 jobs in Plant Operations, Village Level Entrepreneurs and Supply Chain Management.

Additional Income to Farmers:

- By adopting 2G technologies, agricultural residues/waste which otherwise are burnt by the farmers can be converted to ethanol and can fetch a price for these waste if a market is developed for the same.
- Also, farmers are at a risk of not getting appropriate price for their produce during the surplus production phase. Thus conversion of surplus grains and agricultural biomass can help in price stabilization

Concerns with the policy:-

- Supply-chain infrastructure that is required to deliver biofuels to the final consumer remains inadequate.
- To convert India's existing biofuel potential into reality, huge investments need to be made in creating bio refinery capacity.
- However, this is easier said than done. While state-owned oil marketing companies are in the process of setting up 12 biorefineries, this can only be a base to build on.
- On the ground, private sector investment in this space has been hampered by financial constraints and lack of cohesive support from the Central to the local level.
- Efficiently transporting low value biomass to the refineries is another challenge.

Way forward:-

- The Centre should ensure that it actively involves the private sector in this exercise especially for functions like procurement, storage and distribution.
- Centre should steer clear of micromanaging the supply chain but, instead, help in land acquisition for the bio-refineries and working with the stakeholders to fix a reasonable price for the end product.
- The policy should be followed up with coordinated action at the user end to ensure that the larger goal of the policy of cleaning up the air, reducing the carbon footprint and shift to more sustainable renewable fuels is not lost sight of.

Conclusion:

From encouraging the use of biofuels in public transport to ensuring that civic bodies actually realise the potential of municipal waste and sewage the policy needs to be implemented in mission mode on a nationwide basis.

PRACTICE QUESTIONS

Answer the following Questions

1. Indian Ocean has a great political and economic importance. Comment. (250 Words)
2. Composite water management index developed by NITI Aayog is one of the first step towards mitigation of water crisis in India. Examine. (250 Words)