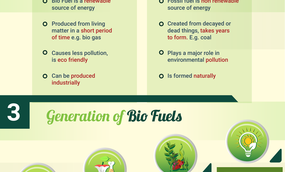
National Policy On BIOFUELS 2018

Why in news?

The Prime Minister recently approved 'National Policy on Bio-fuels 2018' to promote bio - fuels in India

1 What is Bio-Fuel

Bio-fuel is any **hydrocarbon fuel** produced from living or organic matter usually plants. e.g.



Bio Diesel is produced using **vegetable oil and fat** in a procedure called transesterification

Bio ethanol is an alcohol produced from fermentation of carbohydrate and cellulosic material of crops, plants and grasses

Bio gas is naturally produced from **decomposition** of organic waste or by anaerobic digestion

2 Bio Fuel versus Fossil Fuel

- Bio Fuel is a **renewable** source of energy
- Produced from living matter in a **short period of time** e.g. bio gas
- Causes less pollution, **is eco friendly**
- Can be **produced industrially**

- Fossil fuel is **non renewable** source of energy
- Created from decayed or dead things, **takes years to form.** E.g. coal
- Plays a major role in environmental **pollution**
- Is formed **naturally**

3 Generation of Bio Fuels

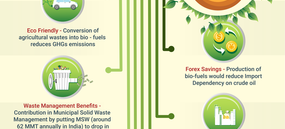
First Generation Biofuels uses the **FOOD CROPS** for bio-fuels e.g. wheat & sugar for making ethanol

Second Generation Biofuels uses **NON-FOOD CROPS** and feedstock e.g. Wood, grass, organic waste etc

Third Generation Biofuels uses specially engineered **ALGAE** whose biomass is used to convert into biofuels

Fourth Generation biofuel contributes in **SUSTAINABLE ENERGY** and in capturing and storing CO_2

4 National Policy on biofuels, 2018



Objective

To Expand the scope of Raw Material for **Ethanol Production** by the use of:

- **Sugarcane Juice**
- **Starch Containing Materials** e.g. Corn, Cassava
- **Sugar Containing Materials** e.g. Sugar Beet, Sweet Sorghum
- **Damaged Food Grains** e.g. wheat, broken rice, rotten Potatoes, unfit for human consumption

Salient Features

Categorizes biofuels to enable extension of appropriate financial and fiscal incentives under each category as

- **Basic Bio-fuels** – First Generation (1G) bio-ethanol and biodiesel
- **Advanced Bio-fuels** – Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, Third Generation (3G) bio-fuels, Bio-CNG etc.

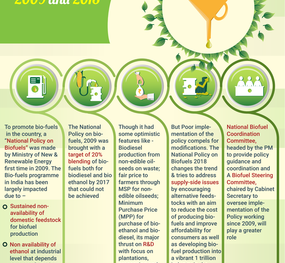
Allows use of surplus food grains for production of ethanol to blend with petrol and ensures appropriate price to farmers during surplus

Provides Thrust on Advanced Biofuels by Viability gap funding scheme for 2G ethanol Bio refineries of Rs.5000 crore in 6 years, additional tax incentives and higher purchase price as compared to 1G biofuels

Contributes to supply chain mechanisms for biodiesel production from non-edible oilseeds, used cooking oil, etc

Converges efforts of concerned Ministries/ Departments with respect to bio-fuels

Potential Benefits of the policy



Eco Friendly - Conversion of agricultural wastes into bio - fuels reduces GHGs emissions

Forex Savings - Production of bio-fuels would reduce Import Dependency on crude oil

Waste Management Benefits- Contribution in Municipal Solid Waste Management by putting MSW (around 62 MMT annually in India) to drop in fuels e.g. hydrocarbon fuels from solid waste

Infrastructural Investment - in rural areas though addition of 2G bio refineries across the Country

Employment Generation - through the establishment of bio-refineries for Plant Operations, Supply Chain Management etc

Additional Income to Farmers - by the sale of agricultural residues that is generally burnt

Health Benefits - Used cooking oil is a potential feedstock for making bio-diesel, using it for bio fuel will save from health hazards developed in food industry

Price Stabilization - of the products by conversion of surplus grains and agricultural biomass

Policy Analysis: Policy 2009 and 2018

To promote bio-fuels in the country, a **'National Policy on Biofuels'** was made by Ministry of New & Renewable Energy first time in 2009. The Bio-fuels programme in India has been largely impacted due to –

- **Sustained non-availability of domestic feedstock** for biofuel production
- **Non availability of ethanol** at industrial level that depends on sugar factories, that is sometimes diverted to other users such as alcohol producers

The National Policy on bio-fuels, 2009 was brought with a **target of 20% blending** of bio-fuels both for biodiesel and bio ethanol by 2017 that could not be achieved

Though it had some optimistic features like - Biodiesel production from non-edible oil-seeds on waste; fair price to farmers through MSP for non-edible oilseeds; Minimum Purchase Price (MPP) for purchase of bio-ethanol and bio-diesel, its major thrust on **R&D** with focus on plantations, processing and production of bio-fuels, **Financial incentives** for second generation bio-fuels etc

But Poor implementation of the policy compels for modifications. The National Policy on Biofuels 2018 changes the trend & tries to address **supply-side issues** by encouraging alternative feedstocks with an aim to reduce the cost of producing bio-fuels and improve affordability for consumers as well as developing bio-fuel production into a vibrant 1 trillion industry in the next six years

National Biofuel Coordination Committee, headed by the PM to provide policy guidance and coordination and **A Biofuel Steering Committee**, chaired by Cabinet Secretary to oversee implementation of the Policy working since 2009, will play a greater role

Challenges and way forward

Abuse of policy especially when prices of crude oil soar as farmers would find it economically more rewarding to convert farm produce into ethanol for doping with petrol

Inadequate supply-chain infrastructure to deliver biofuels to the final consumer. Hence, improved investment should be done in building robust infrastructure

Need of improvement in technological and financial feasibility with respect to production of biofuels

Limits on private investment: needs to be removed that have discouraged private investment in building supply chains for tapping India's huge biofuel potential