

# Production of Biofuel by Using Biomass

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## EDITORIAL

The development of the biofuels sector is focused on long-term sustainability. Economic, social, and environmental sustainability are the three pillars of sustainability. Biofuels must be more cost-effective and competitive than petroleum in terms of production. Biofuels development has the potential to create new demand in the agriculture sector. Because biofuels production is an agricultural process, the same elements and inputs can contribute to existing agricultural production systems contribute to its overall efficiency. Biofuel manufacturing is not harmful to the environment in terms of environmental sustainability.

Global energy depletion as a result of continued overuse is a big issue for the present and future world community. The ongoing depletion of fossil fuel supplies, as well as the resulting increase in their price, has sparked interest in developing alternate technologies and substrates to meet global energy demand.

Algae-Green growth originates from stagnant lakes in the real world, and more recently from green growth ranches, which deliver the plant for the specific motivation of creating biofuel favoured stand point of green growth centred on the following: NO, CO<sub>2</sub> in the air, and biomass that self-crates.

It comes from the age of starches derived from agrarian products such as maize, sugar, sticks, wheat, beets, and from unappealing cellulose derived from the same. Produced from existing yields, it may be used in a contemporary gas engine, making it a viable alternative to oil, grain, and other fossil fuels. Not susceptible to microbial degradation, high accessibility, and repurposed material it is used in the production of biodiesel fuel automobiles, home heating, and other products. It is made from agricultural waste that has been heated into charcoal-like biomass. There is almost minimal handling required, and it usually stores CO<sub>2</sub> rather of releasing it into the atmosphere.

India bought 184.795 MMT of petroleum worth 7,84,652 crores in 2012-13. In the year 2012, petroleum imports climbed by 7.61 percent. The cost of petroleum crude oil imports increased by

3.30 percent due to a 16.73 percent increase in US dollars due to the reduction in rupee value. In comparison to 2012, the current growth rate is 7.13 percent.

The Lake Sambhaji is located on the Solapur-Bijapur highway at Solapur city. The lake type is semi natural lake. The catchment watershed area is 0.2177 sq km. The nature of the lake is however plain. The lake is used for recreation, washing/Laundry, solid waste, sewerage has not been provided yet and there is no sewage treatment followed.

At 1 atm pressure, 350°C is reached. Diesel has between 8 and 21 carbon atoms per molecule. According to the European road diesel EN 590 standard, a minimum of 51 litres of diesel must be used. Diesel must have a density of 0.832 kg/L, resulting in carbon dioxide emissions of 73.25 g/MJ and 43.1 MJ/kg is the heat of combustion. Paraffinic chemicals, naphthenic compounds, and aromatic compounds are all found in petroleum crude oil. Diesel contains alkanes and cycloalkanes groups.

The cetane number is the most important metric for determining the quality of diesel fuel; greater cetane numbers ignite more quickly when sprayed into hot compressed air. Combustion and cold starting are aided by the high cetane number. High cetane fuel reduces noise and emissions as well. Knocking is the result of a gasoline explosion inside the engine. Anti-knocking agents are chemicals used in high-performance engines to reduce gasoline knocking. Octane number, often known as octane rating, is a standard measure of motor and jet fuel anti-knock qualities and performance. Fuels with a high octane rating can endure a lot of compression.

Fuels with a higher octane rating perform better. The pour point of diesel is the lowest temperature at which it becomes a semi-solid fluid with changed flow characteristics. The higher the pour point, the more paraffin the fuel contains. Kinematic viscosity (m<sup>2</sup>/s) is the ratio of a fluid's dynamic viscosity and density. The cloud point of diesel is the temperature at which dissolved solids begin to precipitate. The amount of potassium hydroxide necessary to neutralise one gram of diesel is known as the acid value of diesel.

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