



# Energy Headlines

THE ENERGY NEWSLETTER OF MNIT JAIPUR



There is no energy crisis, only a crisis of ignorance." — R. Buckminster Fuller

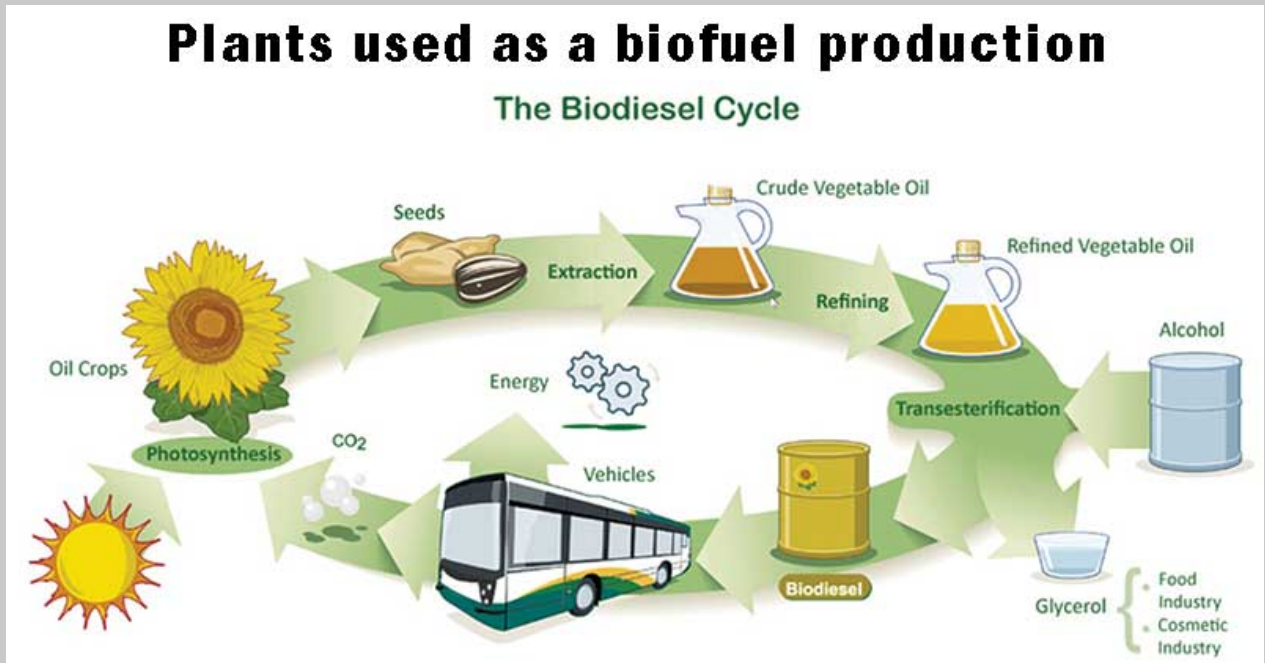
## What is Biofuel?

Biofuel is a fuel produced from renewable biomass material, commonly used as an alternative, cleaner fuel source to burning fossil fuels. Biofuels are low in carbon intensity so they don't directly affect global warming in fact, it is suggested that biofuel formulations can remove materials like logging waste and cooking oil from the waste stream. As of 2010, the worldwide production of biofuel reached 105 billion liters, which is a 17% increase from the year previous. Biodiesel contributed to nearly 2.7% of total fuel consumption for road transport in 2010, which is mainly due to the contribution of biodiesel and ethanol. The total amount of ethanol produced was 86 billion liters in 2010 with Brazil and the United States being the world's largest producer accounting for 90% of production. The European Union is the world's largest producer of biodiesel accounting for 53% of production worldwide.

## Economics of Biofuels

Replacing fossil fuels with biofuels—fuels produced from renewable organic material—has the potential to reduce some undesirable aspects of fossil fuel production and use, including conventional and greenhouse gas (GHG) pollutant emissions, exhaustible resource depletion, and dependence on unstable foreign suppliers. Demand for biofuels could also increase farm income. On the other hand, because many biofuel feedstocks require land, water, and other resources, research suggests that biofuel production may give rise to several undesirable effects. Potential drawbacks include changes to land use patterns that may increase GHG emissions, pressure on water resources, air and water pollution, and increased food costs. Depending on the feedstock and production process and time horizon of the analysis, biofuels can emit even more GHGs than some fossil fuels on an energy-equivalent basis. Biofuels also tend to require subsidies and other market interventions to compete economically with fossil fuels, which creates deadweight losses in the economy.

# Biofuel production



## Classification of Biofuel

### 1. First Generation Biofuel

- Also called conventional biofuel
- Made from sugar, starch and vegetable oil animal fats
- Bio-alcohol
- biodiesel
- biogas

### 2. Second Generation

- **Biofuel** (Also called Advance Biofuel made from nonedible)
- Straw
- Grass
- Jatropha plants
- Pongamia plants
- Waste vegetable

### 3. Third Generation Biofuel

- Made from Algae and microbes
- Algae Species
- *Alaria esculenta*
- *Palmaria palmata*

### CREDITS

Somnath (2020PCV5309)  
Manish Kumar Saini (2020PCV5349)  
Naresh Kumar Kumawat (2020PCV5274)  
Dr. Vivekanand (HOD)  
Dr. Kapil Pareek (Faculty Co-Ordinator)  
Dr. Aneesh Prabhakar (Faculty Co-Ordinator)

Source: <https://www.epa.gov/environmental-economics/economics-biofuels>

### Disclaimer:

This newsletter is for internal circulation within MNIT. All information/articles have been compiled from newspapers, technical magazines and other sources. For suggestions, feedback, and any other article you want to read on some particular topic or want us to publish in our reader's column then mail us to [energyclub@mnit.ac.in](mailto:energyclub@mnit.ac.in) or reach out to us on our Facebook Page

<https://www.facebook.com/EC.MNITJaipur>

Like and follow our Official Energy Club MNIT Facebook page <https://www.facebook.com/EC.MNITJaipur>