

**Difference Between Biomass And Biogas:** Biomass and biogas are very closely related to each other. Biogas is derived from biomass. Biomass is the starting raw material for the production of biogas. The major component of both biomass and biogas is carbon. Biomass is a solid material whereas biogas is made up of different gasses. Biomass and biogas are two types of biofuels. The term 'biofuel' is derived from 'bio' and 'fuel'. Bio means life. Fuel is a material that can be broken or burned to provide energy.

- Biomass and Biogas both are used to produce clean fuels.
- It does not cause pollution.
- The cost of building power plants for renewable energy is extremely high.

## What is Biomass?

Biomass is the collective name for solid biofuels that are derived from living organisms. This is applicable to both animal and plant-based materials. This mainly consists of food and crop wastes, and animal manure. Also, biomass can be collected from some other resources by burning them in the presence of oxygen. Biomass can be converted into biodiesel, bioethanol, etc. So crops like sugarcane and corn starch can be produced and then fermented to produce bioethanol. Also, biomass can be burned to produce heat, electricity, or other liquid fuels.

## What is Biogas?

Like biomass, biogas is also a biofuel. It is a mixture of gases that is derived from organic matter. It is a process through which organic wastes are converted into renewable energy.

Naturally, biogas is produced by the decomposition of organic matter. The sources of organic matter include animal manure, food wastes, sludge, crop wastes, etc. The breakdown of these organic matters in anaerobic conditions produces biogas. Biomass can be in a number of ways including the production of gas, heat, electricity, etc.

## Difference Between Biomass and Biogas

In this era of climate change biomass and biogas both are gaining popularity. Both are renewable fuels. Both are used to produce heat and electricity. But there are a number of differences between biomass and biogas.

<b>Biomass</b>	<b>Biogas</b>
Biomass is a raw material	Biogas is the end product
It is burnt in the presence of oxygen	It is produced in the absence of oxygen
Biomass is the biological matter that is derived from living organisms	It is a mixture of gases produced from organic matter

It is in the solid state	It is in the gaseous state
Sources of biomass are living organisms that died recently	Sources of biogas are organic matter
It is composed of biological matter	It is mainly composed of methane and carbon dioxide
The calorific value is low	The calorific value is high

## Conclusion

Biomass and biogas both are biofuels. They come under zero carbon fuel types. So when you burn them, they give out an equal amount of CO<sub>2</sub> that they absorbed during their lifetime. They are very crucial for the fulfillment of India's renewable energy target.