

Topic Page: [Biomass energy](#)

Definition: **biomass fuel** from *Processing Water, Wastewater, Residuals, and Excreta for Health and Environmental Protection: An Encyclopedic Dictionary*

A carbon-based, renewable fuel, (e.g., alcohol, methanol, ethanol, wood), derived from biomass, corn, and other grains, as compared to fossil fuel. Also called biofuel.



Image from:

[Sunflower is a major source of high quality... in The Encyclopedia of Farm Animal Nutrition](#)

Summary Article: **biofuel**

From *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

Any solid, liquid, or gaseous fuel produced from organic (once living) matter, either directly from plants or indirectly from industrial, commercial, domestic, or agricultural wastes. There are three main methods for the development of biofuels: the burning of dry organic wastes (such as household refuse, industrial and agricultural wastes, straw, wood, and peat); the fermentation of wet wastes (such as animal dung) in the absence of oxygen to produce biogas (containing up to 60% methane), or the fermentation of plant carbohydrates (such as sugar cane or maize) to produce alcohol and esters; and energy forestry (producing fast-growing wood for fuel).

Fermentation produces two main types of biofuels: alcohols and esters. These could theoretically be used in place of fossil fuels but, because major alterations to engines would be required, biofuels are usually mixed with fossil fuels. The EU allows 5% ethanol, derived from wheat, beet, potatoes, or maize, to be added to fossil fuels. In Brazil ethanol from sugar cane is used in cars run either on ethanol, on gasohol (a blend of petrol and ethanol), or on both ('dual-fuel' engines). Ethanol replaces 40% of the petrol that the country would use for motor transport.

Attempts to reduce carbon dioxide emissions have led to state subsidies for biofuels in many countries. However, the intensive farming of carbohydrate crops such as maize has been widely criticized as inefficient and damaging to food security. Research and development efforts are aiming to develop 'second generation' biofuels based solely on inedible plant material, including sugarcane bagasse and straw.

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peat

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biofuel. (2018). In Helicon (Ed.), *The Hutchinson unabridged encyclopedia with atlas and weather guide*. Abington, UK: Helicon. Retrieved from <https://search.credoreference.com/content/topic/biofuel>



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