

Biofuel

By Lennart Kiil



A fuel station with biodiesel and FlexFuel, a fuel with a lot of ethanol, in the USA. Both are biofuels made from plants.

Robert Couse-Baker. [CC BY 2.0. Wikimedia Commons.](#)

Fuel made from [biomass](#).

A biofuel can be a liquid, a solid or a gas. Biofuels can power cars and other vehicles. Biofuel has also recently been successfully used to power an airplane. They are also often used to heat homes.

Most biofuels used in transportation are liquids. Biofuels for heating houses are usually solid or on gas form.

Biofuels are also used for district heating and production of electricity at powerplants. The use of biofuels is increasing in most of the world.

Making biofuels

All biofuels are made from recently dead biological material. This is different from [fossil fuels](#). These are made from biological material that died a long time ago.

Another difference between biofuel and fossil fuel is that biofuel is [carbon neutral](#). During growth biofuel removes CO_2 from the [atmosphere](#) and it releases the same amount when it is used.

Because of [greenhouse gases](#) released during the production and growth of some types of biofuel it is important to choose the right biofuels if the objective is to avoid contributing to [climate change](#).

The biological material for biofuels may be crops harvested only to make biofuels. In that case the resulting biofuel is sometimes called an agrofuel.

The material for biofuel may also come from waste. Many other processes involving biological materials produce big amounts of biological waste that can be used in the production of biofuels.

Biofuel is normally made from plants. Sometimes biofuel is made from dead animals. Plants store the energy they make from [photosynthesis](#). It is this energy biofuels make use of. It is during photosynthesis that CO_2 is removed from the atmosphere.

Biofuels - good for the environment?

Some of the plants used for biofuel are also used for food. This has led to a debate over biofuels because some of the food shortage in the world could be avoided if none of the plants were used for biofuel.

This problem is solved in newer biofuels. These new biofuels are called second and third generation biofuels.

Second generation biofuels are made from plants or parts of plants that are not used in food production and from animal waste.

Third generation biofuels are made from algae and are also sometimes called algae fuels.

How to cite this entry

Lennart Kiil: "Biofuel". Climate Encyclopedia, climate-encyclopedia.com/biofuel, retrieved 25 October 2026.

Climate Encyclopedia is free and needs no login.