

# Biofuels

**Any fuel that is derived from biomass**—that is, plant or algae material or animal waste. Since such feedstock material can be replenished readily, biofuel is considered to be a source of renewable energy, unlike fossil fuels such as petroleum, coal, and natural gas.

Why are biofuels important? - 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.

**Ethanol fuel** is the most common biofuel worldwide, particularly in Brazil. Alcohol fuels are produced by fermentation of sugars derived from wheat, corn, sugar beets, sugar cane, molasses and any sugar or starch.

## Is ethanol more fuel efficient than gasoline?

**Ethanol contains about 27% less energy than gasoline.** So, vehicles will typically go 3% to 4% fewer miles per gallon on E10 and 4% to 5% fewer on E15 than on 100% gasoline.

The ethanol subsidy, which is commonly referred to as the "blender's credit," offers ethanol blenders registered with the Internal Revenue Service a tax credit of **45 cents for every gallon of pure ethanol they blend with gasoline.** Market-based ethanol expansion contributed an average of \$0.45 per bushel, or about 27% of the total increase. Together, subsidies plus market-driven expansion of ethanol **caused about 36% of the increase in corn prices in 2006 to 2009 relative to 2004 levels.**

Does ethanol pollute more? - For years, corn-based ethanol has been mixed with the gasoline sold at gas stations across the U.S., but a recently published study has found that its carbon intensity is "likely at least 24% higher" than gas, Roadshow by CNET reported. Feb 16, 2022

Does ethanol hurt your car engine? - Ethanol can damage many parts of your car at concentrations above 10%. Ethanol can destroy gas tanks, fuel pumps, gaskets, and attract moisture into your fuel. **Engines can be completely ruined over time if they're not designed for ethanol.** Jun 8, 2022

## Pros of Biofuels

1. They are less expensive.
2. They are environmentally friendly.
3. They are sourced from a wide range of materials.
4. They can be produced locally.
5. They can stimulate the local economy.

## Cons of Biofuels

1. They produce industrial pollution.
2. They require high initial investment.

3. They require more land conversion.
4. They can affect food supply and prices.
5. They are not easily available.

**Is ethanol a fraud?**

**Why do we continue to use ethanol?**

**With U.S. fossil fuels reserves at 400 years why do we need ethanol?**

**The U.S. and Brazil produce 84% of world ethanol – why not other countries?**

**If we discontinue ethanol production – what effect on farmers?**

**The world is facing a vast food shortage – would stopping ethanol help?**