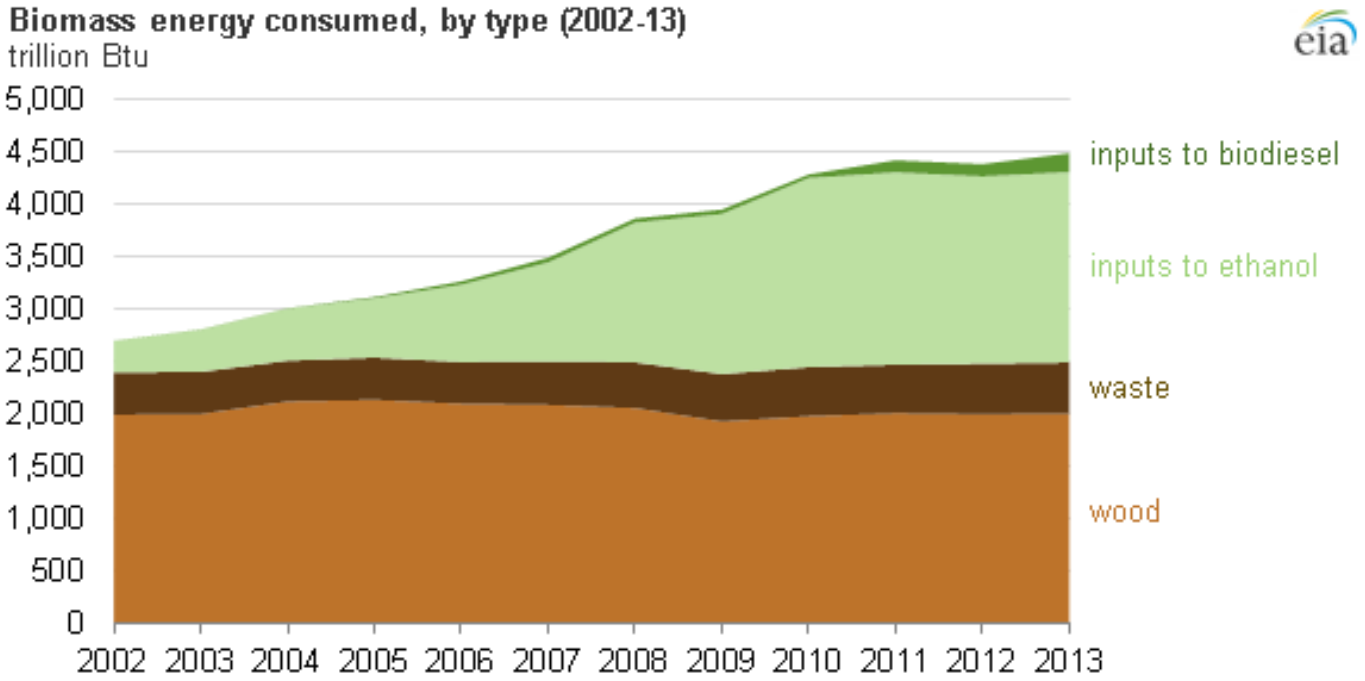
Biofuels Drive Growth In Overall Biomass Energy Usage

U.S. Energy Information Administration



Biomass energy consumption in the United States grew more than 60% from 2002 to 2013. This growth is almost entirely due to increased consumption of biomass to produce biofuels, mainly ethanol but also a smaller amount of biodiesel and other biomass-based diesel fuels. In 2013, biomass accounted for about half of all renewable energy consumed and 5% of total U.S. energy consumed.

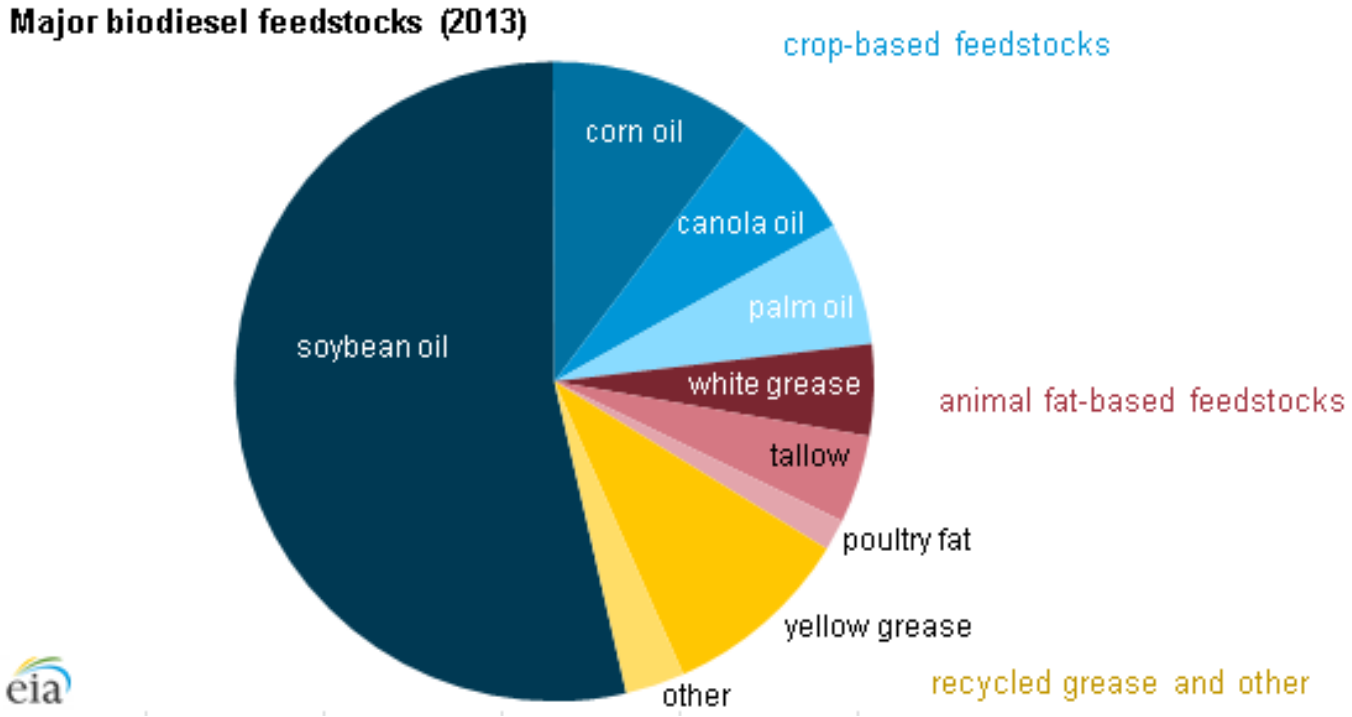
The major biomass energy sources in the United States are:

- Wood, including wood-derived fuels such as charcoal and byproducts of paper production
- Waste, including municipal solid waste, landfill gas, sludge waste, agricultural byproducts, and others
- Organic raw material inputs (feedstocks) used to produce biofuels

From 2002 to 2013, biomass energy converted to biofuels grew more than 500% as U.S. production of ethanol and biodiesel grew. On average, 60% of the energy in feedstocks is converted to deliverable biofuels. The remainder becomes energy losses or coproducts, which are measured as energy consumed by the industrial sector. Most biofuels are consumed as blended transportation fuels—ethanol blended with motor gasoline or biodiesel blended with diesel fuel. Some biodiesel is used as heating oil.

Consumption of wood and waste energy increased just 4% over this period as increases in the consumption of waste energy exceeded increases in wood use. About two-thirds of U.S. wood energy is consumed for industrial processes. Nearly all U.S. waste energy is consumed for electric generation or industrial processes.

Biofuel feedstocks include agricultural crops and other plant material, animal byproducts, and recycled waste. Corn is the feedstock for nearly all of the ethanol produced in the United States. Biodiesel is produced from a more diverse array of biomass resources, led by soybean oil, which accounted for more than 50% in 2013. Recycled waste, such as waste cooking oil, accounted for a little over 10% in 2013.



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