BIOFUELS 101

Biofuels are liquid fuels made from renewable biological materials and used to reduce emissions in today's transportation system.

WHAT THE DATA SHOWS:

Biofuels are already delivering emissions reductions, improving air quality, supporting domestic jobs, and keeping transportation affordable. The data show they are a practical, scalable part of a clean transportation strategy, especially during the transition years ahead.

ETHANOL

Primarily made from corn and blended into gasoline for use in passenger cars.

BIODIESEL & RENEWABLE DIESEL

Primarily made from soy and animal waste, and blended into diesel for use in trucks and buses.

SUSTAINABLE AVIATION FUEL

Made from many agricultural and waste streams and blended with traditional jet fuel.

DELIVERING MEASURABLE CARBON REDUCTIONS TODAY

Biofuels are already reducing lifecycle emissions in the transportation sector at scale.

- Conventional ethanol typically delivers 40% lifecycle GHG reductions compared to gasoline.
- Biodiesel and renewable diesel routinely achieve 70%+ reductions, depending on feedstock and production pathway.
- Sustainable aviation fuel (SAF) has the potential to reduce emissions by more than 90%, especially as new technologies scale.

MICHIGAN IS ALREADY BENEFITING

Biofuels are part of Michigan's existing clean energy and manufacturing ecosystem.

- Michigan hosts ethanol, biodiesel, and renewable diesel supply chains that support jobs across agriculture, manufacturing, and logistics.
- Biofuels play a role in freight, aviation, marine, transit, and school bus fleets where full electrification is not yet practical.
- Advanced biofuels align with Michigan's strengths in engineering, manufacturing, and industrial innovation

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BIOFUELS IMPROVE LOCAL AIR QUALITY

Especially in high-traffic corridors, biofuels can improve public health by reducing air pollution.

- Higher ethanol blends reduce toxic aromatics in gasoline.
- Biodiesel and renewable diesel significantly reduce particulate matter.
- These benefits are especially important for freight corridors, ports, and urban communities, where there is a higher density of vehicle emissions.

BIOFUELS DO NOT COMPETE WITH THE FOOD SUPPLY

Modern biofuel production is tightly integrated with food and feed markets.

- Ethanol is produced from field corn that is primarily used for livestock feed and not consumed directly by humans, and the production process yields fuel while preserving protein-rich feed for animals.
- Biodiesel is produced from soybean oil, while the remaining soybean meal continues to be used for food and animal feed. Increased demand for the soy oil also increases meal supply, which helps moderate feed costs for meat, egg, and dairy production.

LAND-USE CHANGE IMPACTS ARE OFTEN OVERSTATED

The most credible data show minimal to no net land-use change from U.S. biofuel production.

- The U.S. has seen stable or declining cropland acreage, even as biofuel volume increased.
- Federal conservation programs continue to protect sensitive lands.
- Updated lifecycle models reflect improved farming practices, better data, and real-world outcomes.

CROP DIVERSITY IS PRESERVED

Biofuel demand has not driven a shift toward monocropping or reduced crop diversity.

- Specialty crops are legally and practically a distinct category of agricultural production, grown under different systems that reflect their unique requirements.
- The significant difference between farming row crops like corn and soy and specialty crops makes it economically impractical to switch, even when corn or soy prices rise.
- USDA data show that corn and soybeans are commonly grown in rotation, often alongside wheat and other crops.

BIOFUELS STRENGTHEN DOMESTIC ENERGY SECURITY

Biofuels are produced domestically from a variety of feedstocks.

- They reduce reliance on imported petroleum.
- They insulate fuel markets from geopolitical shocks as near-term substitutes for petroleum-based liquid fuels.
- They provide a hedge during supply disruptions, refinery outages, or extreme weather events.

BIOFUELS PROTECT AFFORDABILITY

Biofuels provide a technological advancement without requiring new vehicles.

- Biofuels can often be purchased at comparable or lower prices than traditional fuels
- They work in today's cars, trucks, buses, ships, and aircraft, reducing the need for costly technology upgrades.
- They help keep fuel prices competitive, particularly for rural, freight, and working-class drivers.