U.S. DEPARTMENT of ENERGY | Office of Critical Minerals and Energy Innovation

Ethanol as a Vehicle Fuel

Find research-based information on the Alternative Fuels Data Center website

Learn about the properties of ethanol fuel blends, explore the benefits and considerations of using ethanol as a vehicle fuel, and access tools and datasets.

AFDC.ENERGY.GOV/FUELS/ETHANOL

Considering Using Ethanol as a Vehicle Fuel?

Ethanol is a domestically produced renewable fuel that can be made from almost any plant-based material. More than 98% of gasoline sold in the United States contains ethanol to oxygenate the fuel and help reduce air pollution. Fuel providers can offer E15, E85, or other ethanol-gasoline blends.

Low-level blends of E10 (10% ethanol, 90% gasoline) or less can be used in any conventional gasoline vehicle. Flex fuel vehicles (FFVs) are capable of operating on gasoline and blends containing up to 83% ethanol.

While ethanol contains less energy per gallon than gasoline, drivers will generally not notice a difference in a vehicle's fuel economy using E10 or E15 (15% ethanol, 85% gasoline). The impact to fuel economy lessens as ethanol content decreases. Ethanol impacts fuel economy in part because FFVs are optimized for gasoline. If they were optimized to run on higher ethanol blends, fuel economy would likely increase as a result of increased energy efficiency. Ethanol production also creates jobs in rural areas.

Dive Into the Details: What You'll Find on the AFDC

- Basics about ethanol feedstocks, blends, specifications, and production and distribution
- Considerations such as fuel economy and performance, job impacts, energy security, equipment, and availability
- Flex fuel vehicles and how they work, vehicle availability, maintenance, and safety
- Ethanol fueling station locations and infrastructure, plus information on installation and safety
- Laws and incentives related to ethanol in your area

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For more information, visit: **afdc.energy.gov**

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