

There can be challenges to starting a green fleet, or converting an existing fleet to the use of alternative fuels. According to some industry experts, a successful plan to reduce fuel consumption and carbon emissions requires a long-term vision, incremental change, support from top management, and flexibility to make changes along the way.

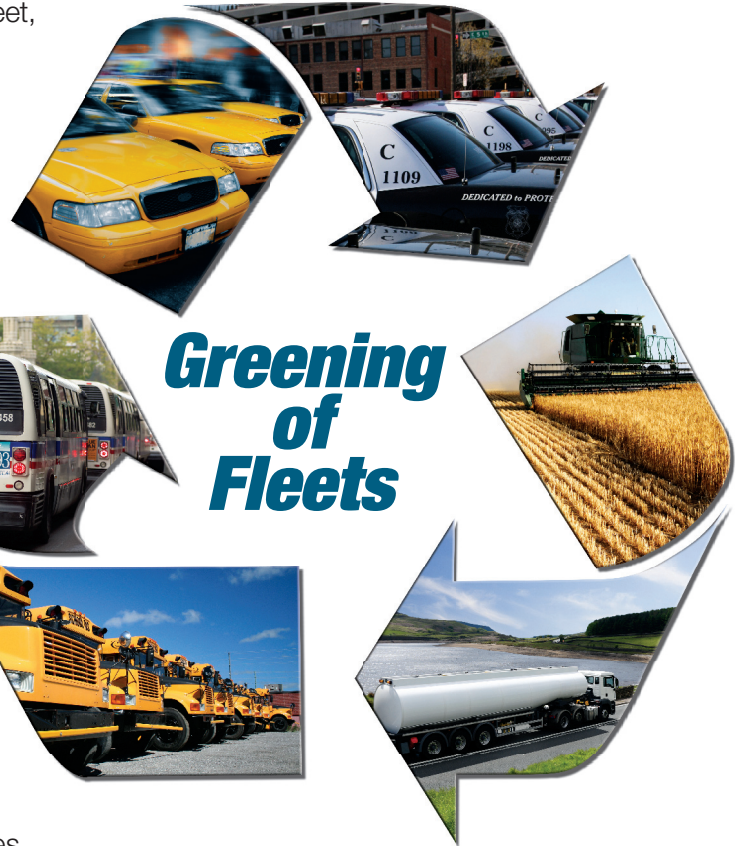
There are compelling reasons *why* fleets should be green and deliberate steps on *how* to implement alternative fuels.

Why Use Green Fleets?

- **Reduce operating costs** by improving efficiency, reducing life cycle costs, and reducing vulnerability to volatile fuel prices.
- **Reduce greenhouse gas emissions** by implementing the use of ethanol in vehicles, which are the primary source of greenhouse gases and urban air pollution.
- **Improve corporate image** by branding business strategies and appealing to public concerns about energy conservation and ecological sensibilities.

How to Implement Green Fleets

- **Get buy-in** from all management and staff levels, and be sure to communicate information about the benefits, goals, and targets frequently.
- **Create long-term objectives** and tangible goals based on best practices in the industry (such as baselines, benchmarks, and progress reports).
- **Avoid setting reduction goals in absolute numbers** for growing fleets or fleets just starting because absolute goals can impede growth.
- **Anticipate obstacles**, such as driver resistance, lag time between original equipment manufacturers' technology and market availability, and slower return on investment.
- **Move slowly** and implement change over time.
- **Improve vehicle use** with selection analysis and education of drivers.
- **Track and report progress** and share successes with employees, shareholders, and the public.



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Ethanol Basics

Ethanol is a fuel made from corn, sugarcane, wheat, and other agricultural products. Ethanol is produced by fermentation of sugars. All conventional gasoline vehicles have the ability to use E10 as their fuel and many automakers recommend its use because of the high performance and clean-burning characteristics. About 97% of America's gasoline contains some ethanol. Vehicles that are designed to run on blends of up to E85 are called flexible fuel vehicles (FFVs). According to the American Coalition for Ethanol (ACE), there are more than 8.5 million FFVs on U.S. roads today.



Did You Know?

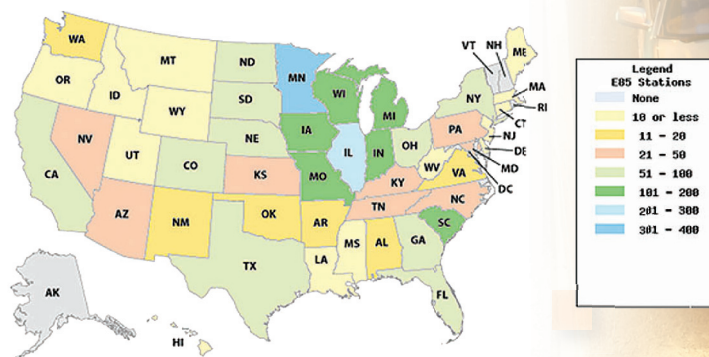
Check out the following link to see what incentives are available for ethanol.

<http://www.afdc.energy.gov/afdc/laws/matrix/tech>

- **Renewable, domestically produced fuel made from a variety of feedstocks (for use in spark ignition, gasoline engines)**
 - Corn
 - Sugarcane
 - Wood materials
- **FFVs and can use a variety of fuel blends**
 - E85 – Up to around 83% ethanol
 - Any other blends or regular gasoline
 - Any gasoline vehicle can run E10
- **Over 2500 fueling stations nationwide**

Incentives

Despite the fluctuating economy and budget woes, there are a record number of grants and incentives for funding alternative fuel vehicles that have been made available. For example, in 2009 the U.S. Department of Energy (DOE) made nearly \$300 million of American Reinvestment and Recovery Act (ARRA) funding available through the Clean Cities program. This single grant funding opportunity is responsible for putting more than 9,000 alternative fuel and energy efficient vehicles on the road and establishing an additional 542 fueling stations across the country.



Ethanol E85 fueling stations. Source: AFDC.

Ethanol Availability

Ethanol has widespread availability around the globe. As of February 2012, there are more than 2,500 fueling stations that dispense E85 across the country. If E85 is not available at a particular fueling station, these FFVs can operate on straight gasoline or any ethanol blend up to E85.

Ethanol Cost

The cost of ethanol, much like the cost of conventional gasoline, depends on a variety of factors. One of these factors is the amount of ethanol in the fuel blend. A high ethanol ratio, such as E85, will cost more when adjusted for energy content.

Much of the commercially available gasoline in the U.S. is, in fact, E10. The agricultural crops that supply the raw material for ethanol are based on seasonal weather. A poor crop may lead to higher ethanol prices while an especially abundant crop may lead to lower prices at the E85 pump. Ethanol has about 75% of the energy density (by mass) of gasoline and a better comparison is done by comparing the gasoline gallon equivalent (GGE) of E85 with gasoline.

Fuel	Area	2012 Cost	2009 Cost
Conventional Gasoline	National Average	\$3.37	\$1.86
Ethanol (E85)	National Average	\$4.44	\$2.56

E85 and conventional gasoline cost comparison, 2009-2012. Source: AFDC.