

Program Overview



Grow & Go: Frequent Questions

SmartWay Grow & Go

What is SmartWay Grow & Go?

SmartWay Grow & Go is a program developed by the U.S. Environmental Protection Agency (EPA) to promote the environmental benefits of renewable fuels. The program will support President Bush's goal of reducing U.S. dependency on foreign oil and help improve our environment. This program creates a renewable fuel component for EPA's existing SmartWay Transport Partnership. EPA will work with its public-private partners to implement the SmartWay Grow & Go goals.

What are the goals of SmartWay Grow & Go?

By working with our current and prospective SmartWay Transport partners, the SmartWay Grow & Go program aims to promote the environmental benefits of renewable fuels. By 2012, EPA's goal is for 25 percent of our SmartWay partners to commit to use renewable fuels, and by 2020 to have 50 percent of our partners commit to use renewable fuels.

Through SmartWay Grow & Go, EPA and its partners will expand technical information about renewable fuels and increase public awareness of their environmental benefits. In addition, EPA will work with our federal partners and others to clarify and streamline the regulatory framework, which will remove barriers to the increased use of quality renewable fuels.

Renewable Fuels

What are the environmental benefits of E85 and biodiesel?

Renewable fuels help improve our environment by reducing emissions of harmful pollutants. E85 reduces emissions of carbon monoxide (CO) and benzene, a known human carcinogen, while the use of biodiesel cuts emissions of CO, particulate matter (PM), and sulfates. Certain emissions such as acetaldehyde (E85) and NOx (biodiesel) increase with the use of these fuels, but overall, these fuels provide important emissions benefits.

Do renewable fuels help reduce greenhouse gas emissions?

In addition to pollution reduction, renewable fuels can help reduce our nation's greenhouse gas emissions. When made from corn, E85 decreases greenhouse gas (GHG) emissions on a lifecycle basis (which include the energy required to grow and process corn into ethanol) by 15 to 20 percent as compared to gasoline. E85 made from cellulose can cut emissions by around 70 percent. B100 reduces lifecycle GHG emissions by more than 50 percent, while B20 reduces GHG emissions by at least 10 percent.

Any other benefits?

Because Grow & Go focuses on renewable fuels made from domestically-produced materials, this initiative will help reduce our dependence on foreign oil and support America's farming communities.

Does it take more energy to make renewable fuels than is actually in the fuel?

EPA has concluded that ethanol and biodiesel generate more energy than the fossil fuel energy used to produce these fuels. Corn ethanol generates about 30 percent more energy than the fossil fuel energy used to produce it, while biodiesel generates about 50 percent more energy.

It's also important to consider how these fuels compare to the conventional gasoline and diesel fuels they're replacing. Over the entire lifecycle of producing and using it, corn ethanol reduces petroleum use by over 90 percent compared to gasoline. Biodiesel reduces petroleum use by about 85 percent compared to diesel fuel.

How much E85 and biodiesel is sold today?

In 2004, the latest year for which sales information is available, around 34 million gallons of E85 were sold. In 2005, 75 million gallons of B100 were sold. In comparison, an average of about 200 billion gallons of gasoline and diesel fuel is sold in the U.S. each year.

Where can I find E85 and/or biodiesel?

You can find E85 at more than 1,000 fueling stations across the country. Biodiesel is available in various blends (B5, B20, B100) at roughly 600 stations. For a detailed list and map of locations, please visit DOE's Alternative Fuel Station Locator at: www.eere.energy.gov/afdc/infrastructure/locator.html.

E85

What is the difference between a flex fuel vehicle and a conventional vehicle?

FFVs feature specially-designed fuel systems and other components that allow a vehicle to operate on a mixture of gasoline and ethanol that can be up to 85 percent ethanol. These cars and trucks have the same power, acceleration, payload, and cruise speed as conventionally fueled vehicles. Maintenance is also very similar.

Why can't E85 be used in a conventional vehicle?

E85 use in a conventional, gasoline-only vehicle can cause a range of mechanical problems. The problems include engine failure, damage to fuel components, illumination of the check engine light, and emissions increases.

I've heard that a conventional vehicle can be converted to run on E85. What is EPA's position on this?

It is technically possible to convert a conventional gasoline vehicle to run on E85; however, such conversions would likely be illegal unless they are certified by EPA. To date EPA has not certified any converted vehicles. In addition, these conversions may violate the vehicle warranty.

Does the use of E85 reduce fuel economy?

Because ethanol contains less energy than gasoline, E85 reduces vehicle fuel economy and range by 20-30 percent. Vehicles can be designed to be optimized for E85, which would reduce or eliminate this tendency. However, no such vehicles are currently on the market.

In many parts of the country, E85 is as expensive as or more expensive than gasoline. When combined with the fuel economy penalty, this is a significant obstacle to greater E85 use. How will Grow & Go address these challenges?

Recent prices have been high due to many factors, including high demand for ethanol resulting from the phase-out of methyl tertiary butyl ether (MTBE), a fuel gasoline similar to ethanol. However, ethanol prices have come down from the highs observed earlier this year. In addition, increased supply (about 40 new ethanol plants are currently under construction) should further reduce prices in the coming year. In addition, price is not the only factor that has limited growth in E85. Access to and information about E85 also has been limited. Grow & Go and our partners will address this through greater outreach and education efforts.

Biodiesel

Is cooking oil (or restaurant grease) biodiesel?

No. Biodiesel is a renewable fuel produced from agricultural resources such as vegetable oils. To make biodiesel, the base oil is put through a process called “esterification.” Esterification uses a certain type of industrial alcohol (ethanol or methanol) to remove the glycerin from the cooking oil, making it thinner, lighter, and cleaner burning. Cooking oil or recycled greases from restaurants have not been processed into esters are not biodiesel, and are not registered by EPA for legal use in vehicles.

What about kits that allow you car to run on cooking oil?

Cooking oil is thicker, heavier, and does not burn as well as regular auto fuel. Because it doesn’t burn as well, it is likely to cause more pollution than other types of auto fuel. Vehicles converted to use these oils would likely need to be certified by EPA; to date, EPA has not certified any vegetable oil conversions. Lastly, these conversions may violate vehicle warranties.

I've heard reports of low-quality biodiesel damaging vehicles. What is EPA doing to ensure biodiesel quality?

Generally speaking, biodiesel purchased from a reputable dealer selling commercial-grade biodiesel should be of good quality. Each manufacturer of biodiesel is required to be registered by the EPA. As part of the registration process, the manufacturer provides evidence that it can produce biodiesel that meets standards set by ASTM, a group whose fuel standards are almost universally recognized by government entities in the United States.

In addition, the National Biodiesel Board, the national trade association for biodiesel producers, has a voluntary accreditation and quality assurance program called BQ-9000. It is managed by an independent organization, the National Biodiesel Accreditation Commission, and certifies biodiesel producers and distributors. For more information, please visit: www.bq-9000.org.

Does biodiesel increase emissions of NOx? What is EPA's position?

A 2002 EPA summary analysis of existing data suggests vehicles using biodiesel may emit slightly more nitrogen oxide (NOx)—about 2 percent for B20 and 10 percent for B100. Subsequent studies have yielded mixed results, with some showing small increases and others showing small decreases. EPA plans a further investigation to fully assess this issue, including the emissions impact of using biodiesel in vehicles equipped with PM traps and NOx aftertreatment designed to meet strict new emission standards.

More Information

Where can I find more information?

For additional information on the Grow & Go program, please visit EPA's Web site at: www.epa.gov/smartway/growandgo.