



Clean Energy For Florida

FREQUENTLY ASKED QUESTIONS

What is ethanol?

Ethanol, better known as ethyl alcohol or grain alcohol, is a premium liquid renewable fuel produced by fermenting and distilling starch crops that have been converted into simple sugars. It is a clear, colorless liquid with a characteristic, agreeable odor.

How is ethanol made?

Ethanol is made using a similar process to that used in making beer or wine. Ethanol can be produced from any biological feedstock that contains appreciable amounts of sugar or materials that can be converted into sugar such as starch or cellulose. Sugar cane, corn, citrus pulp and peels, and tree clippings are all examples of materials that can be used to produce ethanol.

What is ethanol used for?

As an energy source, ethanol is an alternative fuel when blended with gasoline. Ethanol was traditionally used in alcoholic beverages and for industrial purposes. Today, fuel-ethanol is growing in popularity. U.S. EnviroFuels will be using 100% of the ethanol it produces for fueling purposes.

Many drivers do not realize that ethanol can be used in most any motor vehicle. The most common form of ethanol, E10 (10% ethanol, 90% gasoline) can be burned in any conventional automobile on the road today.

Higher concentrations of ethanol, such as E85 (85% ethanol) can be burned in vehicles known as flexible fuel vehicles (FFVs), which can run on E85, gasoline, or any mix in between. The United States already has nearly 5 million flex fuel vehicles on the road today, and more are being made every day by major automakers including DaimlerChrysler, Ford, General Motors, Mazda, Mercury, Isuzu and Mercedes.

What are the benefits?

There are numerous benefits to ethanol—we refer to them as the 4 E's:

1.) Ethanol Increases Energy Security

As a domestic, renewable source of energy, ethanol can reduce dependence on foreign oil. Blended with gasoline at terminals, ethanol can help extend our fuel supply by adding volume to the market; 23.8 gallons of ethanol displace one barrel of imported oil. The use of ethanol directly displaces imports of foreign oil and gasoline additives, including MTBE. Ethanol can also increase the United States' ability to control its own security and economic future by increasing the availability of domestic fuel supplies. U.S. EnviroFuels aims to provide Florida with a domestically produced alternative to traditional gasoline.

Florida currently ranks third among states in total petroleum consumption at more than 20 million gallons per day.

Gasoline enriched with ethanol burns cleaner, more completely and more efficiently with lower harmful tailpipe emissions.

2.) Ethanol Use Improves the Environment

Compared to gasoline-fueled vehicles, ethanol-fueled vehicles produce lower carbon monoxide and carbon dioxide emissions, lower volatile organic compounds, and the same or lower levels of hydrocarbon and non-methane hydrocarbon emissions. This helps reduce pollution levels including smog and greenhouse gas emissions. In fact, some states require the seasonal or year-round use of up to 10% ethanol as an oxygenate additive to

gasoline to mitigate ozone formation.

3.) Ethanol Boosts the Economy

The U.S. ethanol industry has already supported the creation of nearly 130,600 jobs in all sectors of the economy. Ethanol industry operations and spending for new construction added \$1.3 billion of tax revenue for the federal government and \$1.2 billion for state and local governments during 2004.

In addition, ethanol distilleries serve as local economic powerhouses. It is projected that each ethanol distillery developed and built in Florida by U.S. EnviroFuels, LLC will provide 30 to 40 new, high-paying jobs to the local community.

4.) Ethanol Enhances Engine Performance

The ethanol in E10 Unleaded adds two to three points of octane to ordinary gasoline—helping improve engine performance. Ethanol in gasoline also helps prevent the buildup of power-robbing deposits in fuel injection systems resulting in cleaner fuel injectors. Ethanol is a high-octane fuel and has 80% or more of the energy content of gasoline. Power, acceleration, payload and cruise speed of vehicles operating with E85 are comparable to those operating with equivalent conventional fuels.

Are vehicles that run on ethanol available?

Every major automaker approves the use of oxygenated fuels such as E10 Unleaded. Flexible fuel vehicles are also widely available. As of 2006, the National Ethanol Vehicle Coalition estimated that approximately 5 million FFVs have already been sold in the United States, *although many buyers remain unaware that they may fuel with E85*. Check your owner's manual or visit with your dealer to determine if you drive a vehicle that can fuel with E85.

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Where can ethanol-blended gasoline be purchased?

Ethanol is blended in about 30% of the nation's gasoline. Some, but not all, gas pumps will be labeled with the amount of ethanol contained in the fuel. States determine whether they have mandatory, voluntary or no pump labeling laws.

Ethanol-blended fuel is sold extensively throughout the Midwest where most of the country's ethanol is produced. In Minnesota, for example, every gallon of unleaded gasoline contains 10% ethanol. E85 fueling stations are also located primarily in the Midwest; however, with 26 states banning the use of MTBE, which is known to cause groundwater pollution, many gas stations beyond the Midwest will have ethanol available as E10. Furthermore, there are several hundred E85 pumps across the country, and that number grows each day. The actual fueling process is the same as fueling with gasoline or diesel.

U.S. EnviroFuels plans to make ethanol blends available in Florida gas stations by fall of 2007.

What feedstock will U.S. EnviroFuels use?

The initial platform will be to use corn which can be brought in by rail or barge from the Midwest. However, U.S. EnviroFuels is committed to working with the local agricultural community to produce crops for ethanol. Citrus farmers in Florida who were hit hard by canker may consider growing crops suited for ethanol production. Options include corn, sorghum (a cousin of corn) and sweet sorghum. Sorghum is well-suited for Florida because it requires less water than corn to grow.

What about cellulosic ethanol?

Cellulosic ethanol is an exciting new technology which allows ethanol to be created from non-traditional sources. These cellulosic sources for ethanol include corn stover (the stalks and residue left over after harvest), grain straw, switchgrass, quick-growing tree varieties (such as poplar or willow), or even municipal waste. This process for cellulosic ethanol production does exist today, and work continues to bring this technology to commercial scale. Once this technology is commercially viable, U.S. EnviroFuels plans to jump to the cellulosic ethanol platform.

Does ethanol rob corn from food and feed use?

No. In America, over half of all corn produced goes toward feedstocks for animals. The great thing about ethanol produced from corn is that it returns nutrients as a feed which is created as a byproduct of the ethanol production process. Ethanol only uses the starch in the kernel. After ethanol production, the nutrients are returned as a high quality feed known as Distillers Dried Grains with Solubles, "DDGS." Ruminants such as dairy cows and beef cows do not require starch.

Where will U.S. EnviroFuels build its ethanol plants?

As the ethanol market in the Southeast and Florida matures, U.S. EnviroFuels has the long-standing goal to develop multiple ethanol plants throughout Florida. The company evaluated more than two dozen potential sites including ports, landfills and existing power plants. The first two locations will be at Port of Tampa and Port Manatee, both in the Tampa Bay area. The company is also evaluating the feasibility of in-land Florida ethanol plants that utilize 100% of feedstock from local Florida growers.

Is ethanol safe?

Yes it is safe. It will not damage local environment or surface waters if it is spilled, nor will it damage motor vehicle engines. In fact, ethanol enhances engine performance. Ethanol has a positive environmental, health and safety footprint. The industry has an excellent safety track record.

Ethanol is non-toxic and biodegradable.

The grain that U.S. EnviroFuels will use to produce ethanol will be handled and stored by equipment produced by Sukup Manufacturing Company, a leading designer, builder and provider of top-quality grain-handling and grain-drying equipment, with over 40 years of experience. The grain will be stored in steel grain bin structures, which have shown no combustion hazards. This setup is similar to thousands across the United States.

Is ethanol flammable?

Ethanol has a higher flashpoint than gasoline, making it safer to handle and store. The definition of a flashpoint is the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested.

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| <p>FLASHPOINT</p> <p><i>To put it simply: the lower the flashpoint, the higher the fire hazard.</i></p> <p>Gasoline..... - 50 °F</p> <p>Ethanol + 55 °F</p> |
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What makes U.S. EnviroFuels’ ethanol plants different from others in the past?

U.S. EnviroFuels will build ethanol distilleries with superior technology and process design, eliminating certain inefficiencies that some plants have faced in the past. The industry’s technology has vastly improved in the last decade, solving previous problems such as odor and emissions that are associated with older plants seen in some parts of the Midwest.

About air emissions and odor

U.S. EnviroFuels will build environmentally friendly, "green" ethanol plants that comply with all state and local emissions requirements in Florida. The company recognizes that in years past, the issue of non-compliance with EPA emissions standards has been widely publicized. However, this issue has been solved and, today all new plants come standard with technology to meet air emissions requirements. U.S. EnviroFuels will operate under strict odor control procedures and will utilize Best Available Control Technology to minimize odor and emissions.

About U.S. EnviroFuels, LLC

United States EnviroFuels, LLC, is a Tampa-based company planning to build multiple large-scale fuel ethanol plants in the state of Florida. U.S. EnviroFuels, LLC will continue to be the leader in Florida for the development, construction, and management of environmentally-friendly ethanol plants that enable Florida to reduce its dependence on imported gasoline.

- Sources:**
- American Coalition for Ethanol
 - American Petroleum Institute
 - Consumer Federation of America
 - Ethanol Promotion and Information Council
 - Goosen's EtOH Fuel Book, Harvester Press, 1980
 - National Ethanol Vehicle Coalition
 - The Renewable Fuels Association
 - U.S. Department of Energy
 - U.S. EnviroFuels LLC