

Frequently Asked Questions: Renewable Energy and Iowa

Q: What is E85?

E85 is the term for motor fuel blends of up to 85% ethanol and just 15% gasoline. E85 is considered an alternative fuel by the U.S. Department of Energy. It is a clean-burning, domestically produced, renewable fuel that helps decrease our dependence on imported oil. Automobiles called flexible fuel vehicles (FFV) are designed to run on E85.

Source: Iowa Corn Promotion Board

Q: What is ethanol?

Ethanol is a high octane, liquid, domestic and renewable fuel, produced by the fermentation of plant sugars. In the United States, ethanol is typically produced from corn and other grain products.

Source: Iowa Corn Promotion Board

Q: What is biodiesel?

Biodiesel is a clean-burning, biodegradable alternative fuel produced from renewable resources. Typically, biodiesel is made from soybean or animal fats. It is a widely recognized blending agent for petroleum diesel due to its performance and environmental qualities. Biodiesel blends range from B2 (2% biodiesel and 98% diesel) up to B20 (20% biodiesel and 80% diesel) for on-road use. For off-road use, many farmers use higher blend levels in their equipment.

Source: Iowa Renewable Fuels Association

Q: What does the renewable energy landscape in Iowa look like right now?

Iowa is the leader in renewable energy production, and the numbers continue to change every day. Iowa has 27 ethanol refineries with the capacity to produce more than 1.8 billion gallons annually. There are 20 ethanol refineries under construction or expansion that will add 1.5 billion gallons of annual capacity.

The state's nine biodiesel refineries have a combined annual capacity of more than 147 million gallons in operation. Five more biodiesel refineries are under construction and will add 180 million gallons of capacity. There are many additional renewable energy projects under development across the state.

Additionally, Iowa's wind energy industry now powers more than 250,000 homes, making Iowa the third largest wind farm state. Iowa is slated to add more than 350 additional turbines to the already existing 923 in the next few years. Wind is the cleanest renewable energy source and it reduces more than 1.5 million tons of carbon dioxide emissions annually.

Source: Iowa Renewable Fuels Association and Iowa Farm Bureau Federation

Q: What are the benefits to using renewable fuels?

Ethanol and E-85 reduce greenhouse gas emissions; is domestically produced, completely renewable and promotes energy independence; increases the value of agriculture; and is biodegradable.

Source: National Ethanol Vehicle Coalition

Q: How do renewable fuels benefit the environment?

Ethanol and E-85 are renewable fuels and burns more completely than gasoline, reducing the volume of hazardous vehicle emissions. Ethanol also reduces carbon dioxide levels by as much as 46 percent; and delivers 35 percent more energy than what went into making it, according to a USDA study.

Source: Iowa Corn Promotion Board

Q: How do renewable fuels contribute to our energy independence?

Today, ethanol use reduces our demand for imported oil by almost 100,000 barrels per day and reduces the U.S. trade deficit by billions of dollars. In addition, renewable fuels help extend our fuel supply by adding volume to the fuel market making us less dependent on foreign oil. Every 28 gallons of ethanol offsets one 42-gallon barrel of oil. Therefore, filling up a 32-gallon tank with E-85 replaces one barrel of foreign oil with an Iowa-grown renewable fuel.

Source: Iowa Corn Promotion Board

Q: How do renewable fuels benefit Iowa's economy?

By using renewable fuels, consumers build demand for Iowa's processing industry, which builds demand for Iowa corn. At each stage, the increased economic activity supports Iowa's rural economy. When Iowans fill up with E-85, more than 60 cents out of every dollar spent stays in Iowa. Demand for ethanol boosts Iowa's state and local tax receipts by \$16 million. Thousands of new jobs have been created in Iowa thanks to Iowa's farmers and the renewable energy industry in Iowa, in addition to the economic revival of many of Iowa's rural communities.

Source: Iowa Corn Promotion Board

Q: What is a flexible fuel vehicle?

A flexible fuel vehicle (FFV) is specifically designed to run on fuel blends that contain up to 85% ethanol. FFV drivers can fill their tanks with E85, gasoline, or a combination of the two without flipping a switch or worrying about the blend. Special onboard computers "read" the fuel blend and adjust the FFV's fuel injection and ignition timing to compensate for the fuel mixture. Currently, one out of every 10 vehicles purchased is a Flex Fuel Vehicle.

Source: Iowa Corn Promotion Board

Q: Can ethanol be used in any vehicle?

Gasoline-ethanol blends containing up to 10% volume ethanol may be used in any vehicles produced today. All major auto manufacturers approve the use of up to 10% volume ethanol. The addition of ethanol boosts octane and, because it is an oxygenate, ethanol contributes to a more complete fuel combustion resulting in reduced emissions of carbon monoxide and other ozone-forming emissions.

Source: National Ethanol Vehicle Coalition

Q: Where can I fill up with E85?

There are currently more than 70 E85 stations in Iowa and 1200 nationwide. For a current listing of stations that sell E-85, please visit www.E85fuel.com.

Source: Iowa Corn Promotion Board and Iowa Renewable Fuels Association

Q: How can I get an E85 pump in my area?

There are dollars and programs available to install an E85 pump in your area. The state of Iowa provides funds for E85 infrastructure to retailers through a cost share program. The program is available through the Iowa Department of Economic Development and grants cost-share funding of 50% of the total cost of the E85 pump up to \$30,000. In addition, there is a federal tax credit program available to retailers for the installation of E85 pumps. And, remember, if you want your local retailer to carry E85 – go ahead and ask! Increased demand equals an increase in pumps!

Source: Iowa Farm Bureau Federation

Q: What is the impact of having E85 available in the state?

Over 56,000 FFVs are on Iowa roads today. If every FFV ran on E85, they would use nearly 61 million gallons of ethanol. Auto makers plan to provide more FFV models, so the number of vehicles that can use E85 is expected to grow in Iowa.

Source: Iowa Department of Natural Resources

Q: What is the price of E10 and E85?

As with all fuels, when more sales outlets are available, fuel is typically more competitively priced. Like any other commodity, pricing is driven by basic supply and demand dynamics. Ethanol is priced as a competing fuel to gasoline. It's important to remember that retail prices for ethanol-blended gasoline are set by gasoline retailers and that fuel prices generally rise in the summer months. Ethanol is an energy commodity and is not tied to grain markets. The cost of corn has little or no impact on the market price of ethanol.

Source: Iowa Corn Promotion Board & Iowa Renewable Fuels Association

Q: How much corn does it take to make ethanol?

One acre of corn has the ability to make 400-450 gallons of ethanol!

Source: Iowa Corn Promotion Board

Q: What are distillers grains & solubles (DGS)?

DGS are a high-value feed used in dairy and beef production. When ethanol is produced, part of the corn is used to make the ethanol and the other part, the DGS, are used to feed livestock. This way, nothing goes to waste in the whole process! If DGS have to be shipped out of state, ethanol plants have to pay transportation costs, as well as drying costs, which means less money to circulate locally and more money being spent across state lines.

Source: Iowa Corn Promotion Board