

## U.S. Ethanol Ready For The World Market

The United States has plenty of ethanol and is ready and willing to meet foreign market needs. As the U.S. Grains Council (USGC) works with its industry partners to develop markets and enable trade, ethanol, a grain-based renewable fuel, is growing in importance.

In the United States, ethanol is made primarily from corn, for which the U.S. Department of Agriculture (USDA) is predicting record crops over the next decade. With more than 200 ethanol plants scattered across 29 states, the United States is capable of producing more than 15 billion gallons (56.7 billion liters) of the renewable fuel per year – more than American consumers use – providing ample supply for both the domestic market and the burgeoning export market.

“We’re currently the world’s largest net exporter, producing more ethanol than we are consuming,” said Mike Dwyer, USGC chief economist. “That puts us in the position of being able to meet international buyers’ long-term needs.”

Industry experts estimate the current U.S. inventory at 22 million barrels, the highest level since early 2012.

New biofuels technologies and infrastructure improvements are paving the way for increased export potential. Likewise, the efficient U.S. transportation system includes unit trains, entire trains of ethanol-filled tanker cars that travel from production locations to ports where one of the world’s largest shipping fleets awaits.

A well-established marketing system means U.S. ethanol offers a competitive price, especially relative to Brazilian ethanol at the point of export. Government and industry investments have helped the industry build to where it is today, and technological advancements including the use of new feedstocks place the industry in a position for additional future growth.



**Rail cars transport ethanol from production locations to storage and ports.**

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“The U.S. ethanol industry is in a strong position,” Dwyer said. “It is already capable of meeting international demand, and there is room for even more growth.”

Ethanol is gaining in popularity throughout the world, with new markets continuing to emerge. As the world strives to meet goals set by global climate initiatives, ethanol can provide an affordable solution.

“Ethanol is a high-octane fuel, with a 113 octane rating,” Dwyer said. “That makes it an ideal blend in countries where decreased use of fossil fuels is a goal.”

Using its expertise developing international markets and market-specific education, the Council is working with the Renewable Fuels Association, Growth Energy and the USDA’s Foreign Agricultural Service to help develop ethanol markets around the world and connect foreign buyers with U.S. producers and traders.

The world wants ethanol, and the U.S. ethanol industry is ready, willing and able to meet the global demand. ■

## Renewable Fuel Standard Offers Stability For International Buyers

The Renewable Fuel Standard (RFS), established in 2005 by the United States government, requires U.S. energy companies to blend renewable fuels like ethanol into petroleum-based transportation fuel. The target amount of conventional renewable fuel blending for 2016 is set at 14.5 billion gallons (54.8 billion liters), more than triple the target blend mandated when the program originated.

“The purpose of the RFS was to create a floor for U.S. renewable fuel consumption, however, we can - and are - producing more

**THE UNITED STATES** produced **14.7 billion gallons (55 billion liters)**, with exports of **872 million gallons (3.3 billion liters)** IN 2015, making it **THE WORLD’S LEADING ETHANOL PRODUCER.**

Source: U.S. Department of Agriculture Economic Research Service, 2014/2015 Marketing Year Data



**U.S. ethanol production facility. Many are located in the Corn Belt, where a majority of the primary feedstock, corn, grows.**

## Ethanol Marketing Collaboration

The U.S. Grains Council (USGC), Renewable Fuels Association (RFA), Growth Energy and the U.S. Department of Agriculture’s Foreign Agricultural Service (USDA’s FAS) are working collaboratively to strengthen and balance the efforts of building international demand for U.S. ethanol.

Through a variety of programs such as market assessments, international policy development, educational workshops and clean energy missions, the group promotes the benefits and value of U.S. ethanol.

“Our strategies vary by region and country depending on energy policy, trade matters, public health concerns and environmental issues,” said Ashley Kongs, USGC manager of ethanol export programs.

Programs are in development in China, India, Mexico and Japan with additional efforts in the Philippines and Peru. The group utilizes experts and representatives to share knowledge that will result in better understanding of ethanol’s properties and successful ethanol utilization.

For example, the group’s efforts to connect Peruvian ethanol buyers with U.S. ethanol producers and traders established an initial sale of 10 million gallons (38 million liters) of U.S. ethanol.

For more information, visit [www.grains.org](http://www.grains.org). ■

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ethanol than we are consuming,” said Mike Dwyer, U.S. Grains Council chief economist. “This puts the United States in the position of being the largest net exporter of ethanol in the world and sends a clear signal to international buyers that we can be the long-term, reliable supplier of ethanol.”

International buyers have good reason to be confident in U.S. ethanol exports, not just because of the supply available, but because U.S. ethanol has a favorable cost advantage compared to other world ethanol producers.

The main feedstock used in the production of U.S. ethanol is corn. The USDA outlook remains stable for planted corn acreage over the next ten years, yet production is set to grow to nearly 15 billion bushels (381 million metric tons). The production growth is due to efficiency and higher yields, and it contributes to a steady and reliable feedstock supply for U.S. ethanol producers.

Dwyer said ethanol export demands will continue to grow over the next 10 years, further increasing the export percentage of U.S. production.

“Regions like Asia are not only increasing their overall fuel usage, but have the potential to increase their current ethanol blend rates,” he said.

Additionally, export development programs facilitated by the Council and industry partners contribute to growing demand for U.S. ethanol. These marketing programs focus on helping international buyers understand the properties of ethanol as an octane enhancer as well as an energy source and as a way to reduce greenhouse gas (GHG) emissions and improve air quality.

“Ethanol may be the single easiest way for countries to address air quality and GHGs because it is relatively affordable,” Dwyer said. “Through increased blending of ethanol, international markets can achieve improvement in the economics of petroleum refining by getting more gasoline out of a barrel of oil.

“The prospects for U.S. ethanol export growth are superior to any other sort of domestic demand. The key to developing export markets is permanent demand.” ■

## United States Surpasses Brazil As Leading Ethanol Exporter

Worldwide demand increases for ethanol, paired with new government and taxation policies put into effect every year, alter ethanol trade on all levels.

Since the Renewable Fuel Standard (RFS) went into effect in 2005, U.S. ethanol production has soared. But historically-high corn prices during that time period and underinvestment in infrastructure capable of distributing gasoline blends containing more than 10 percent ethanol have constrained U.S. ethanol consumption. In recent years, the combination of lower corn prices and increased ethanol production has had U.S. ethanol producers actively seeking export markets.

## U.S. Ethanol Export Working Group Members

**The U.S. Grains Council (USGC)** has expertise in developing international markets for U.S. grains and co-products and conducting educational, market-specific development programs.

**The U.S. Department of Agriculture’s Foreign Agricultural Service (USDA/FAS)** provides a network of agriculture specialists and data experience on a country-by-country level.

**Renewable Fuels Association and Growth Energy** are trade associations representing U.S. ethanol producers and industry with experience in domestic and international trade and policy.

In 2015, U.S. farmers had another record corn crop and the U.S. ethanol industry continued to grow, maintaining its position as the world's leading ethanol exporter.

The U.S. Department of Agriculture's (USDA's) Economic Research Service (ERS) data for the 2014/2015 marketing year indicates the United States exported nearly 872 million gallons (3.3 billion liters) of ethanol and surpassed Brazil for the third time since 2011 as the world's leading ethanol exporter.

**Brazil's Decreased Ethanol Exports**

Brazilian ethanol is made from sugar cane feedstock, making sugar prices a key factor in their ethanol industry. A lower sugar cane harvest and a decreased import demand from the United States account for the reduction in Brazilian exports. According to the most recent analysis by USDA's Foreign Agricultural Service, Brazilian ethanol exports decreased by half from 766 million gallons (2.9 billion liters) in 2013 to 493 million gallons (1.9 billion liters) in 2015.

Looking to the future, the Brazilian government recently raised their ethanol fuel blend mandate from 25 to 27.5 percent, which should increase their domestic use even more and decrease the amount of Brazilian ethanol available for export.

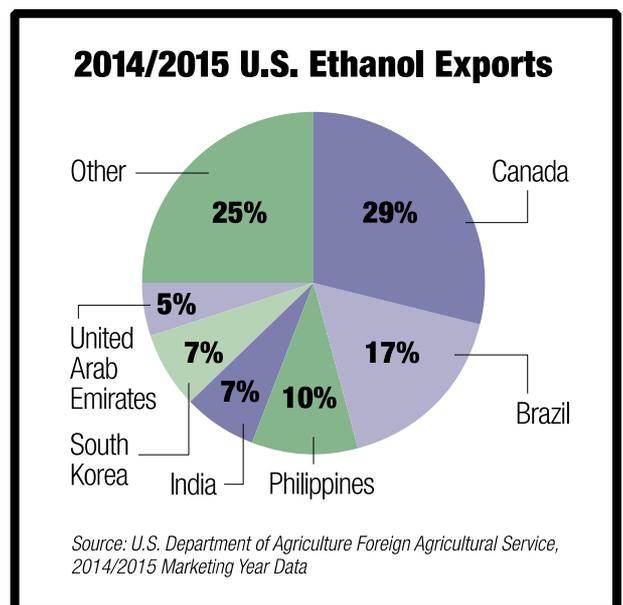
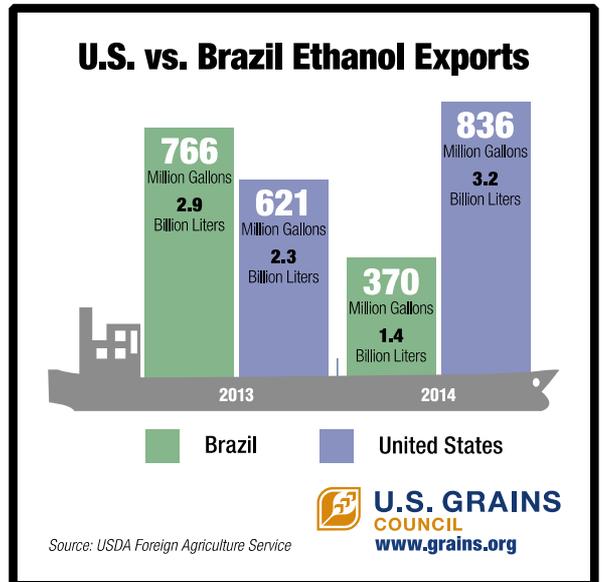
Although the quantity of available ethanol for export has decreased, Brazilian sugar cane ethanol will continue to be exported to the U.S. market, according to the International Trade Administration's 2015 Renewable Fuels Top Markets report. Sugar cane ethanol qualifies as an advanced biofuel under the EPA's RFS regulations, allowing U.S. blenders to meet their specific blending requirements for advanced biofuels. ■

**U.S. Ethanol Markets Diversify in 2014/2015**

Data from the U.S. Department of Agriculture's (USDA's) Economic Research Service (ERS) indicates U.S. ethanol production during the 2014/2015 marketing year reached a record volume of 14.7 billion gallons (55 billion liters), which is up 3.9 percent from the previous year. Exports for the same time period were 872 million gallons (3.3 billion liters).

Government mandates, which identify a certain amount of ethanol to be blended with gasoline, are making a big impact on global ethanol demand. In many countries, blend mandates function as targets rather than as requirements. USDA estimates 84 percent of U.S. ethanol exports in 2014 went to countries with mandates in place, a trend that continued in 2015 and will likely remain in 2016.

The Philippines, India, Peru and South Korea now join Canada, Brazil and China as top U.S. ethanol importers, while exports to a previous top purchaser, the European Union, have significantly decreased, shifting the overall diversification of the U.S. ethanol markets. On an annual basis, Canada remains the top importer of U.S. ethanol, driven by national blend mandates in the country and convenient access to U.S. production.



Exports to Brazil have changed in recent years due to fluctuations in the price of their main ethanol feedstock, sugar and supply availability in certain regions of Brazil throughout the year. It remains the number two export market for U.S. ethanol, although the pace has slowed so far this year.

USDA export trade data for 2014/2015 indicates strong growth in U.S. ethanol exports to the Philippines and India. These countries have blend mandates in place and represent the third- and fourth-largest export markets, respectively.

Domestic ethanol production in the Philippines (using sugar cane and molasses as feedstocks) has been unable to meet their 10 percent blend mandate, resulting in the need for imports. The 5 percent blend mandate in India has not been met due to insufficient domestic fuel ethanol supplies. The country has a goal of 20 percent blending by 2017, making increased ethanol imports a necessity there to reach the blending target.

The United Arab Emirates and Oman both showed strong growth since early in 2014. These are largely discretionary blending markets, meaning ethanol is used there above a mandated rate or based on favorable ethanol prices. Exports are driven by the relative price of ethanol and gasoline rather than an established blend mandate. As the price of crude oil decreased worldwide in 2015, estimates of U.S. ethanol exports to the region have shifted between market participants, and the region remains one of our largest export markets.

Additional markets contributing to the U.S. ethanol export diversity are South Korea, Tunisia, Peru and Mexico. South Korea imported 57.3 million gallons (217 million liters) of U.S. ethanol in the 2014/2015 marketing year, while Tunisia imported 44 million gallons (167 million liters). Peru imported 18 million gallons (68 million liters), and is on track to double that level this year. Mexico's total for the same time period was 33.4 million gallons (126 million liters). ■

## Ethanol Contracting Basics

New business transactions usually require a letter of credit prior to procurement or vessel loading. As a trading relationship develops through consecutive transactions, buyers with a strong balance sheet may no longer need a letter of credit.

Most traders finalize contracts with a flat price for delivered ethanol. This price is inclusive of product procurement, insurance, chartered vessel and other necessary costs associated with product delivery. Contracts typically indicate ownership changes hands when the product is off-loaded at the destination port.

Transactions should include a certificate of analysis for the ethanol. Buyer and seller equally share the cost of independent laboratory testing.

Buyers should contract ethanol several months in advance, as the majority of U.S. ethanol production is sold quarterly. Ethanol specifications vary among buyers and markets. Therefore, traders have to provide ethanol producers with enough lead-time to meet the exact specifications in the contract.

Source: CHS Global Renewable Fuels, Minnesota

# Getting U.S. Ethanol And Co-Products To The World

