

A woman with long brown hair, wearing a white long-sleeved shirt and light-colored pants, is driving a car. She is smiling and looking forward. The car's interior features tan leather seats. The background outside the car is blurred, suggesting motion. The text "Ethanol" is overlaid in large white letters, and "America's Homegrown Fuel" is overlaid in yellow letters below it.

Ethanol

America's Homegrown Fuel

The logo consists of two stylized green leaves or petals arranged in a circular shape.

growth energy™
America's Ethanol Supporters

Ethanol is an advanced biofuel that we use every day and it is moving America forward.

- It is renewable, homegrown and already 10 percent of the gasoline in our tanks.
- It burns cleaner and cooler than oil and increases octane, which is good for our environment and our car engines.
- Without ethanol, we would turn back the clock by adding chemicals that produce cancer-causing emissions back into gasoline, once again becoming more dependent on foreign oil and paying higher gas prices.

You may not think of it often, but we are benefitting from ethanol every day. Learn more about this American success story at **GrowthEnergy.org**.



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Ethanol: America's Energy

Clean, high-performance fuel – Made in the U.S.A.

Ethanol is an advanced biofuel that is blended into 97 percent of gasoline today – it is good for the environment, for consumers, and for America's energy security.

- Every day, ethanol is working to slash greenhouse gas emissions from vehicles by as much as 57 percent – and this percentage continues to increase with ongoing innovations in advanced biofuels. It also replaces toxic gasoline additives that have been linked to cancer and smog, making breathing easier for all of us.
- In addition to providing consumers with more affordable choices at the pump, ethanol keeps our engines running smoothly and efficiently. In fact, the Environmental Protection Agency has approved higher blends of ethanol – like E15 – for use in more than 86 percent of cars on the road today. NASCAR mechanics have trusted the high-octane biofuel for nearly 10 million miles and American drivers can now reap the same benefits.
- Ethanol strengthens our energy security, reducing our reliance on oil from hostile nations in the Middle East. Already, ethanol displaces 59 million gallons of imported oil per day. In fact, since the Renewable Fuel Standard (RFS) was enacted in 2005, we have cut our dependence on foreign oil by more than half.

Americans deserve more choices at the pump – choices that are greener, cleaner, more cost-efficient and better for our engines. Imagine all the good we can do for our economy, our environment and our future by increasing the blend of ethanol in our fuel supply.

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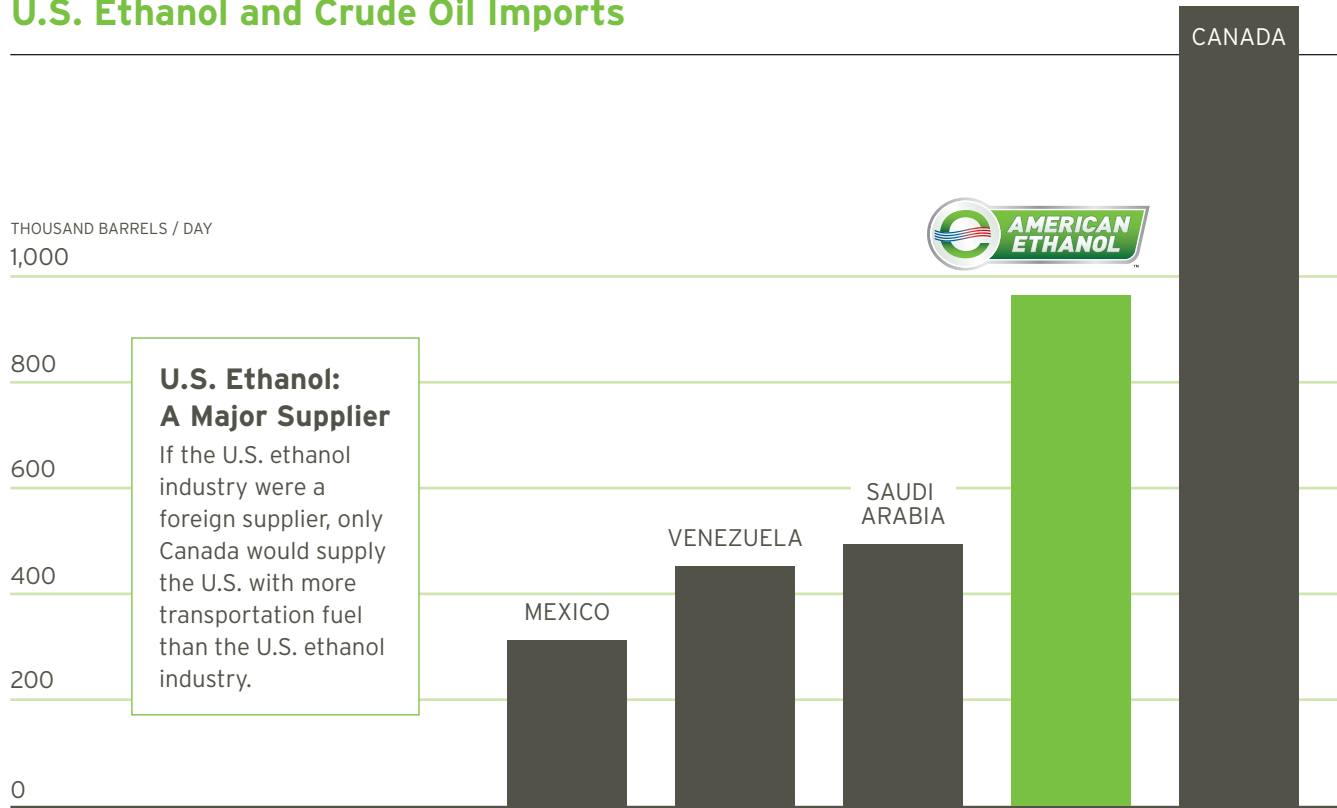
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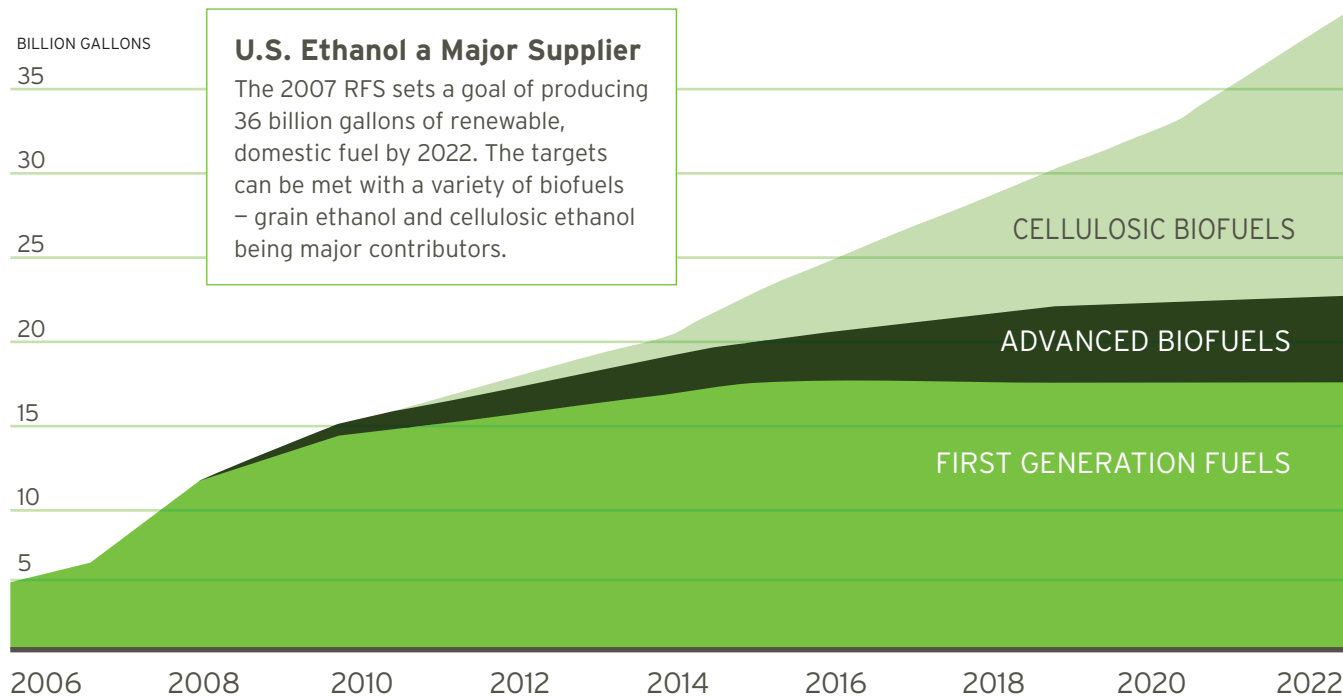
Fueling the United States

U.S. Ethanol and Crude Oil Imports



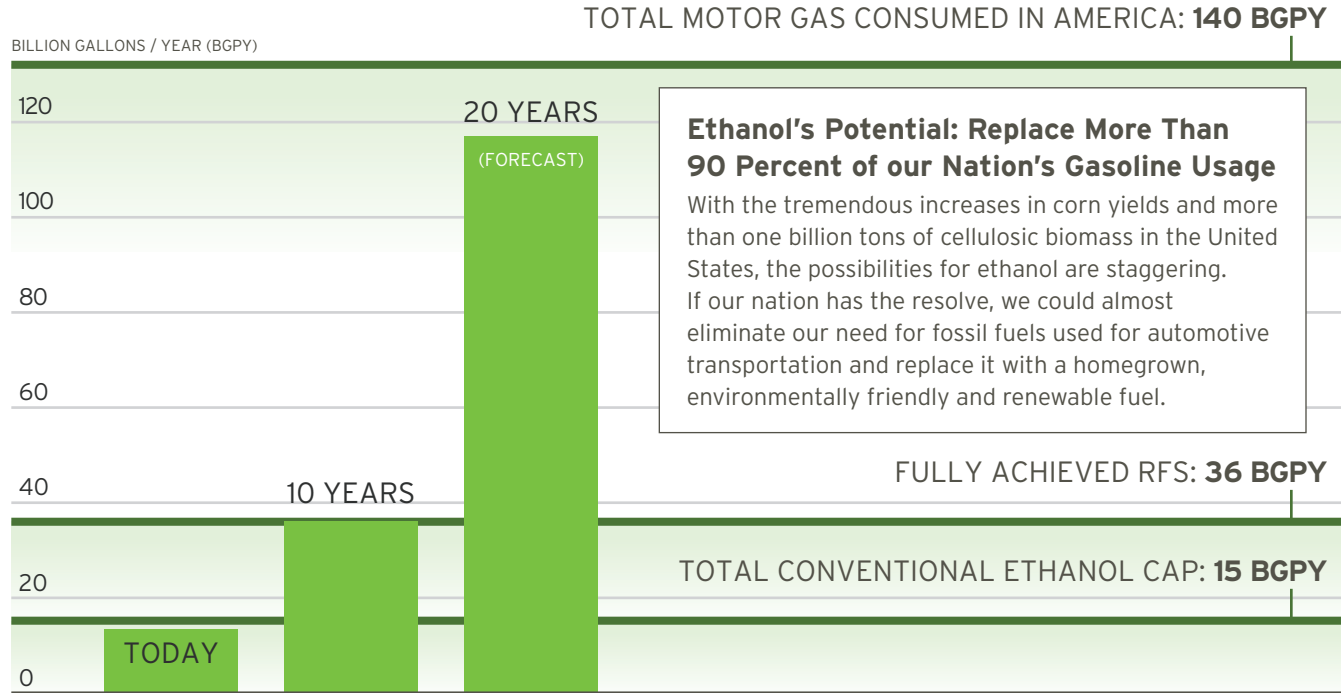
A Pathway to Fueling Our Future

Why America Needs the Renewable Fuel Standard



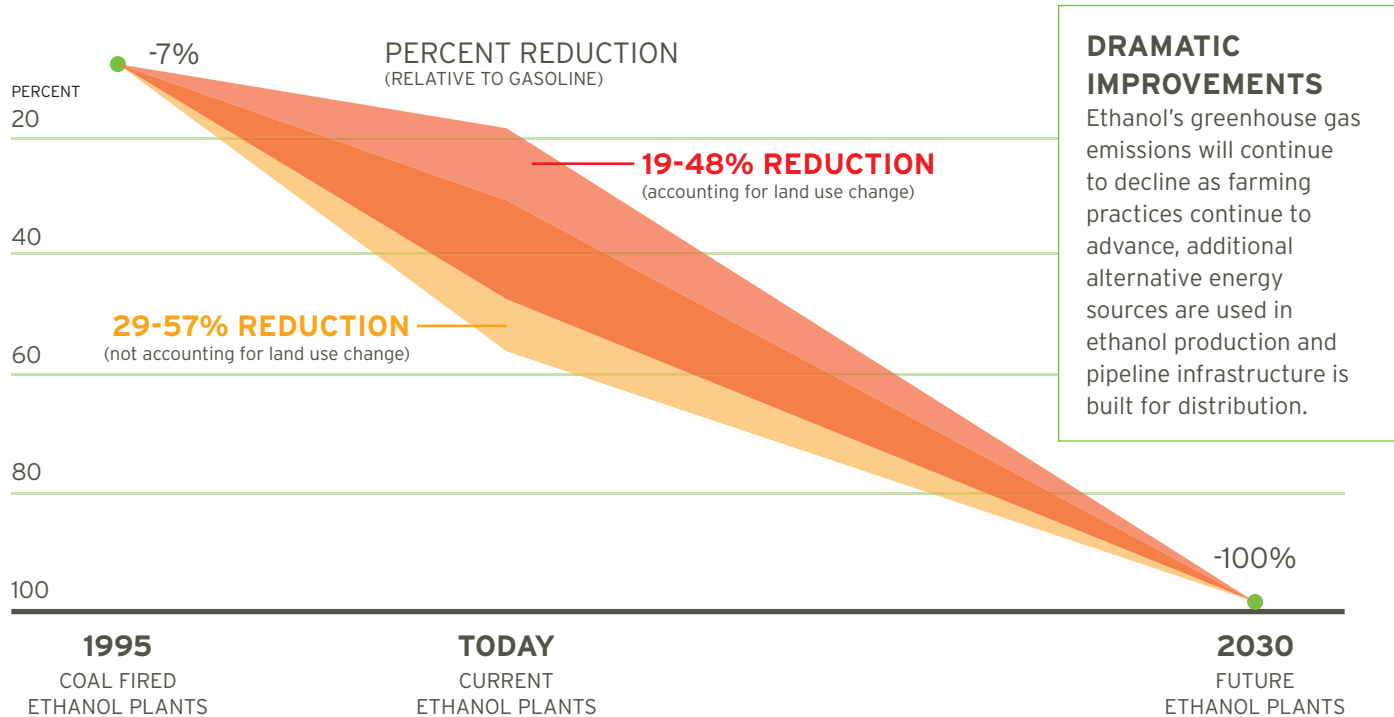
The Future of Ethanol Production

A Renewable Biofuel, Ethanol Has Considerable Growth Potential



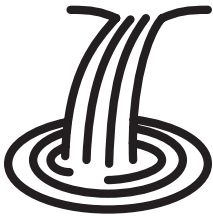
Ethanol Reduces Greenhouse Gas Emissions

Innovation Continues to Improve Environmental Benefits



Ethanol Production is Energy Efficient

Today's Ethanol Uses Less Energy, Water and Corn



IT TAKES LESS WATER TO PRODUCE A GALLON OF ETHANOL

2.70 gallons of water/gallon of ethanol in 2012 versus 2.72 gallons of water/gallon of ethanol in 2008.



MORE ETHANOL IS BEING PRODUCED

from each bushel of corn. 2.82 gallons/bushel in 2012 versus 2.78 gallons/bushel in 2008.



IT TAKES LESS ENERGY TO PRODUCE A GALLON OF ETHANOL

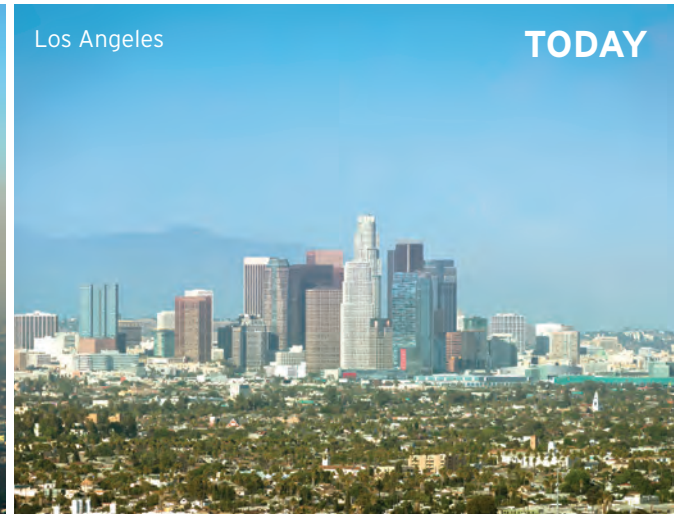
23,862 BTU/gallon in 2012 versus 26,206 BTU/gallon in 2008.

Ethanol is Better for the Air We Breathe

Since the Enactment of the RFS, Clean Burning Ethanol is Cleaning our Air



Global ethanol production and use is estimated to reduce greenhouse gas emissions by 110 million metric tons every year – **the equivalent of taking nearly 20 million vehicles off the road each year.**



Ethanol is a clean-burning fuel that **has 40-90 percent less carbon** than the toxic additives it replaces in gasoline.

Ethanol Provides Fuel and Food

Ethanol Production Makes Fuel, Feed and More



Multiple Products

Ethanol production makes more than fuel – it also creates highly-valued co-products. Ethanol producers continue to find new markets for these co-products.



Ethanol

The primary product made is ethanol, a high-oxygen octane-enhancer. Ethanol is blended with gasoline and sold at retail filling stations across the country.



Distiller's Grains (DDGs)

Distiller's Grains are a healthy, low-cost animal feed. Ethanol production only removes the starch from the corn kernel. The remainder – protein, fiber and oils – are collected and distributed as a nutritious, low-cost animal feed that replaces a higher volume of field corn, thereby saving money for livestock producers.



Corn Oil

More than 80 percent of dry mill ethanol plants are able to extract corn oil which may be used as a biodiesel feedstock or a feed ingredient.



Carbon Dioxide

During the process of distilling ethanol, fermentation releases carbon gases. Some ethanol plants capture those carbon gases and sell that to soda and beverage companies for carbonation.

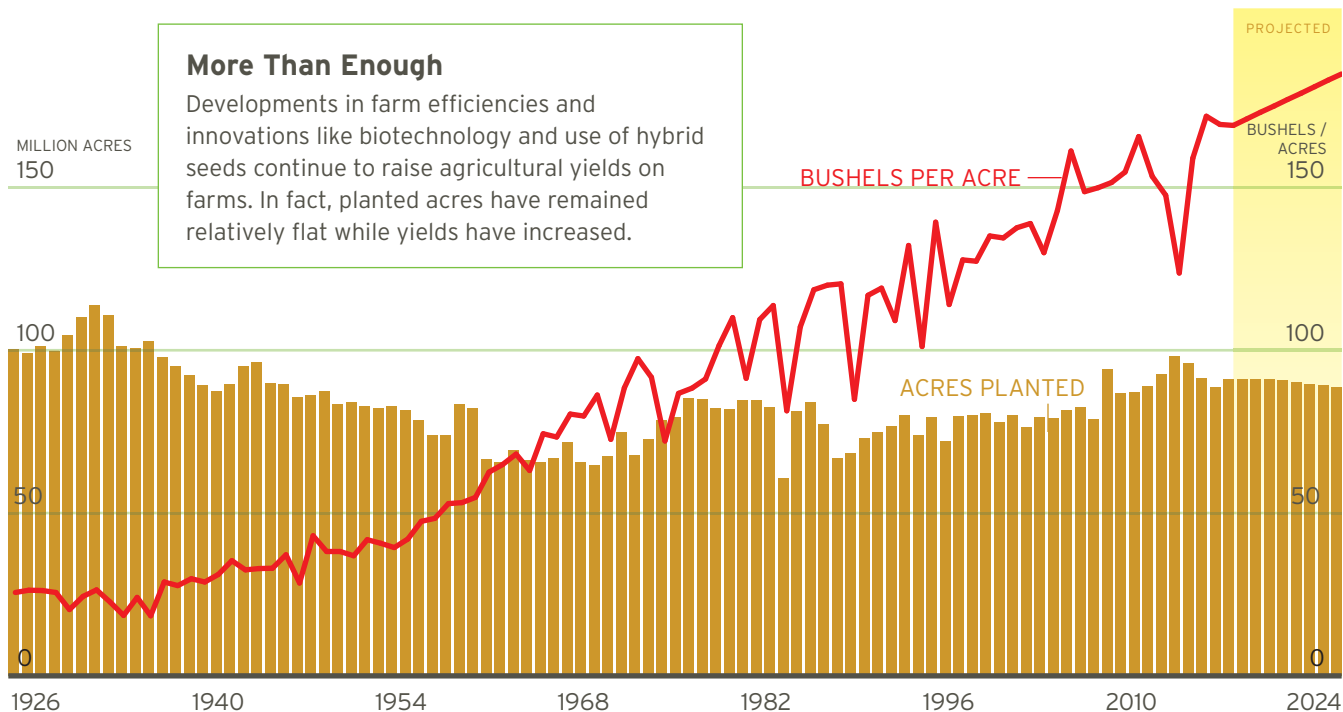


Other Products

Products in development include specialty proteins to be used as natural edible coatings or biopolymers that can replace protein based plastics.

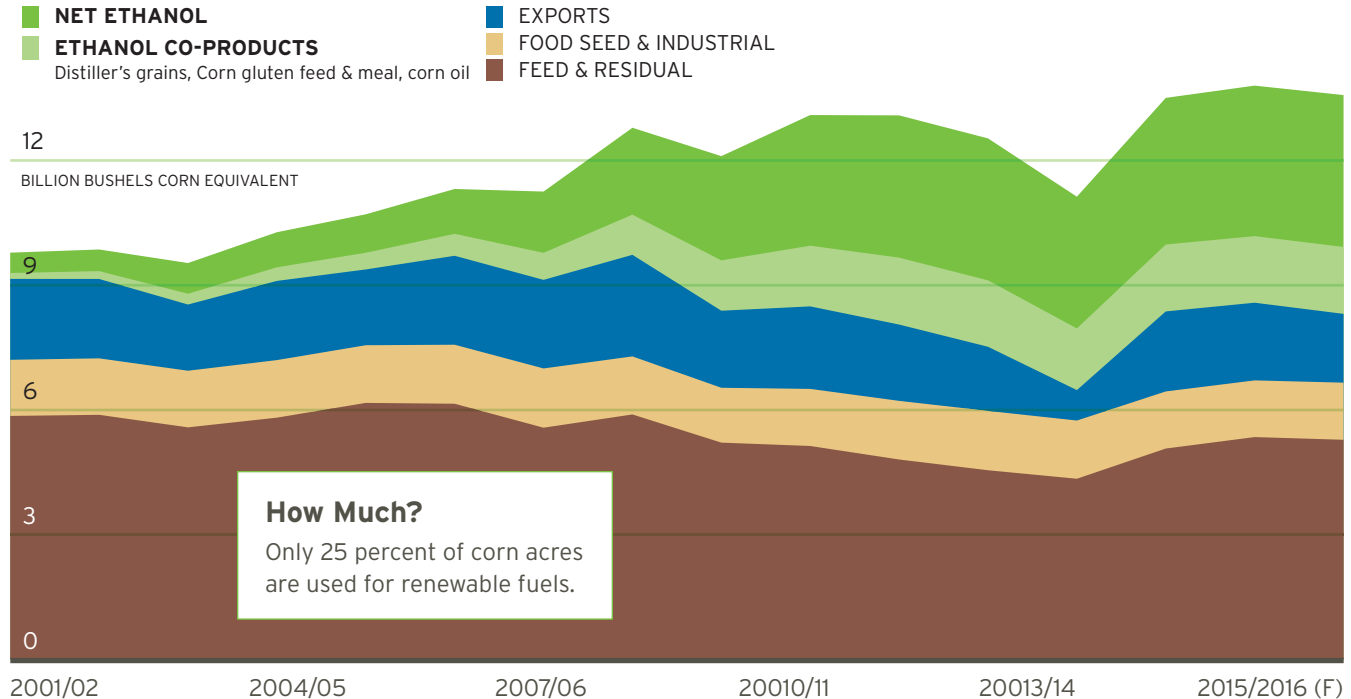
High-Tech Delivers High-Yields

As Technology Evolves, Corn Yields Continue to Rise



Where Does America's Corn Go?

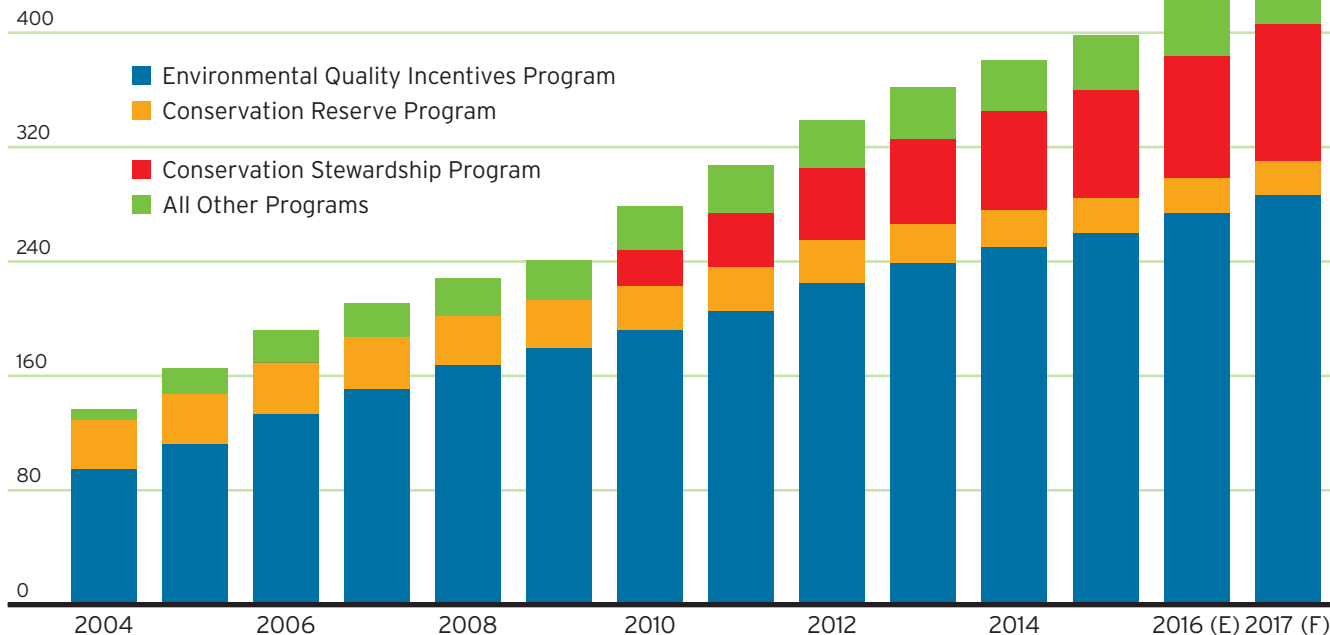
We've Got Plenty to Go Around



Farmers Continue to Expand Conservation Efforts

USDA Conservation Acres Continue to Rise

FARM BILL CONSERVATION PROGRAMS
CUMULATIVE ACRES ENROLLED (MILLIONS)



E15: Safe, Effective and Approved

E15 will lower the price at the pump for more than 84 percent of cars on the road today



BENEFITS OF E15

Even with the recent decline in crude oil prices, E15 still costs between 5-10 cents less per gallon than regular gasoline, which allows consumers to save money and get an octane boost.

E15 could also create 136,000 jobs and billions more in economic activity.

E15 FACTS

E15 is currently sold more than 20 states. Major retailers that have added or announced that they are adding E15 include Sheetz, Kum & Go, MAPCO, Minnoco, Murphy Oil and Protec.

More testing was performed on E15 than any other fuel ever approved under the Clean Air Act. The U.S. Department of Energy's Oak Ridge National Laboratory

tested 86 vehicles for more than 6 million miles before EPA approved E15. That testing found no issues with emissions equipment and engine durability.

E15 is approved for all automobiles 2001 and newer, which represent over 84 percent of the vehicles on the road today. Despite critics' claims that warranties will be invalidated, conservative analysis shows that there will be 150 million vehicles in 2016 where warranties will not be an issue.

Fueling motorcycles and other small engines with E15 is expressly prohibited by law.

Lap After Lap on American Ethanol

America's Renewable Fuel is Revolutionizing a Sport

NASCAR® is approaching 10 million competition miles on Sunoco Green E15™, a biofuel blended with 15 percent American Ethanol made from American-grown corn that reduces emissions.

10 MILLION MILES EQUATES TO
402 LAPS
AROUND THE EARTH



The Market is Embracing E15

Major Retailers Driving Growth in E15



186 MILLION MILES

Have been driven so far by American Drivers
using E15 since introduction



248% INCREASE

In stations adopting E15 from 2014 to 2016

COMMERCIALLY VIABLE

Many nationwide retailers are implementing E15 in their stations' offering



MAPCO



**MURPHY
USA**



THORNTONS

Ethanol & Small / Marine Engine Performance

More than 95 percent of U.S. gasoline contains up to 10 percent ethanol to boost octane or meet air quality requirements

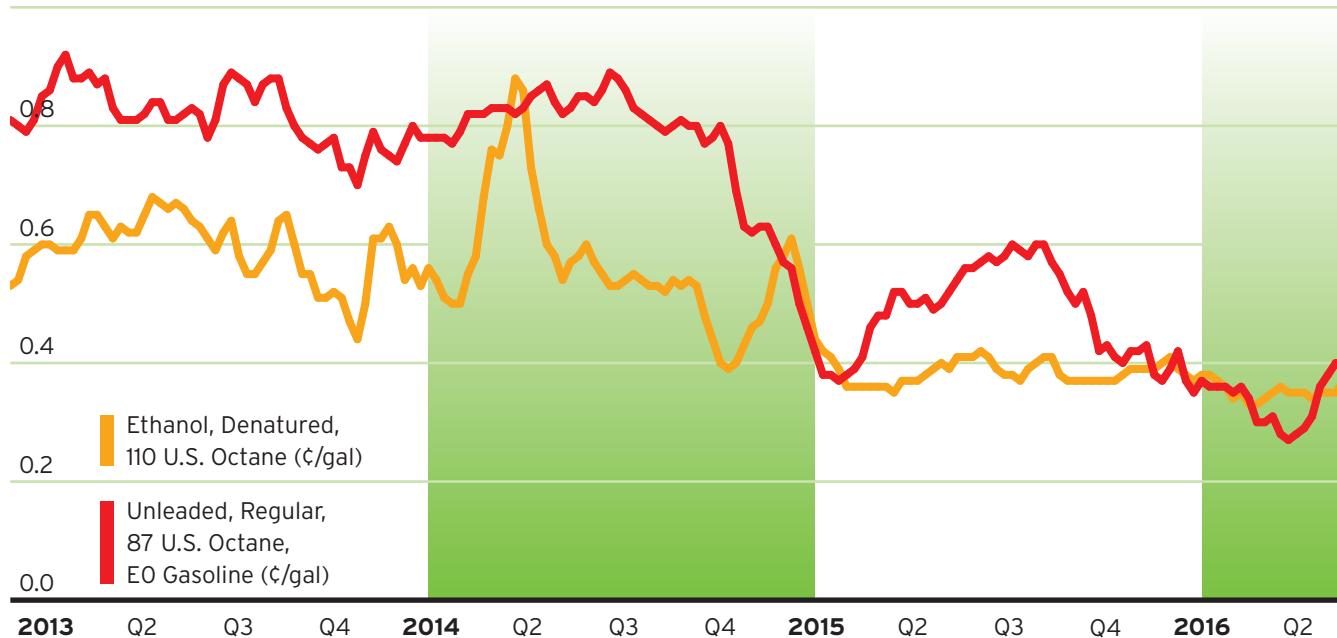
- Almost all small, marine and off-road engines **can handle E10** and are expressly approved for use in their owner's manuals.
- E15 is not approved for small, marine and off-road engines. EPA has formalized a misfueling mitigation rule specifically meant to **prevent consumer misfueling**.
- E10 is available at every E15 station in the country. In fact, **many locations around heavy boating locations have non-oxygenated gasoline** as a choice for small, marine and off-road operators.
- Recreational marine vessels account for **less than one percent** of U.S. gasoline consumption.
- While ethanol is clean and renewable, oil spills can harm marine ecosystems for decades. **Ethanol is biodegradable.**



Keeping Prices at the Pump Low

Ethanol is the Most Cost Effective Octane Additive for Gasoline

U.S. CENTS PER UNIT OF OCTANE
1.0



Your Dollar at the Grocery Store

Marketers, Not Farmers, Drive Food Prices

American farmers receive about \$0.17 of the consumer food dollar, with the balance going to food processing, transportation and food company profits.

Americans still spend only about 10 percent of their disposable income on food, the lowest rate in the developed world.



Average distance food travels to store shelf:

1,500 miles

Cost to get a truckload of corn flakes to the store

\$677

The value of corn in an 18 oz box of corn flakes

\$0.05

3¢ CORN VALUE

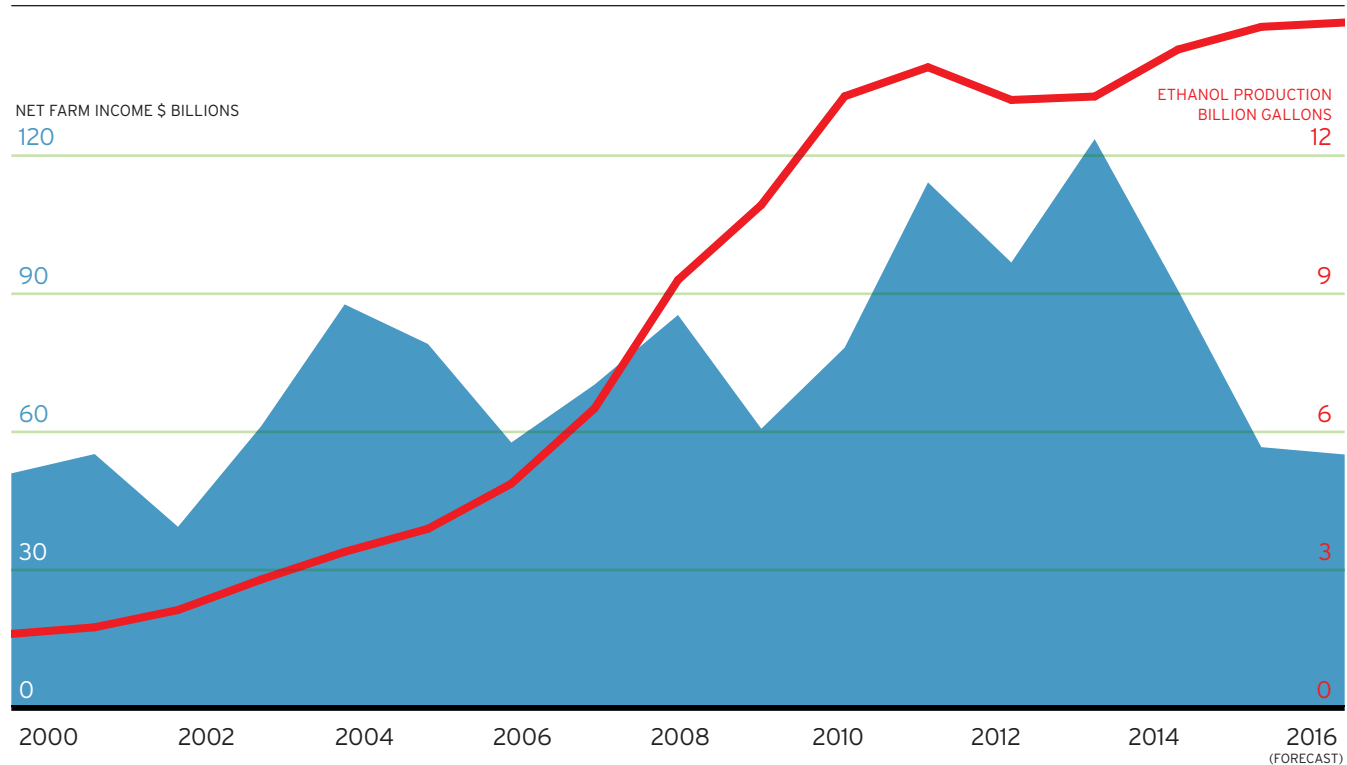


FARM SHARE

MARKETING SHARE

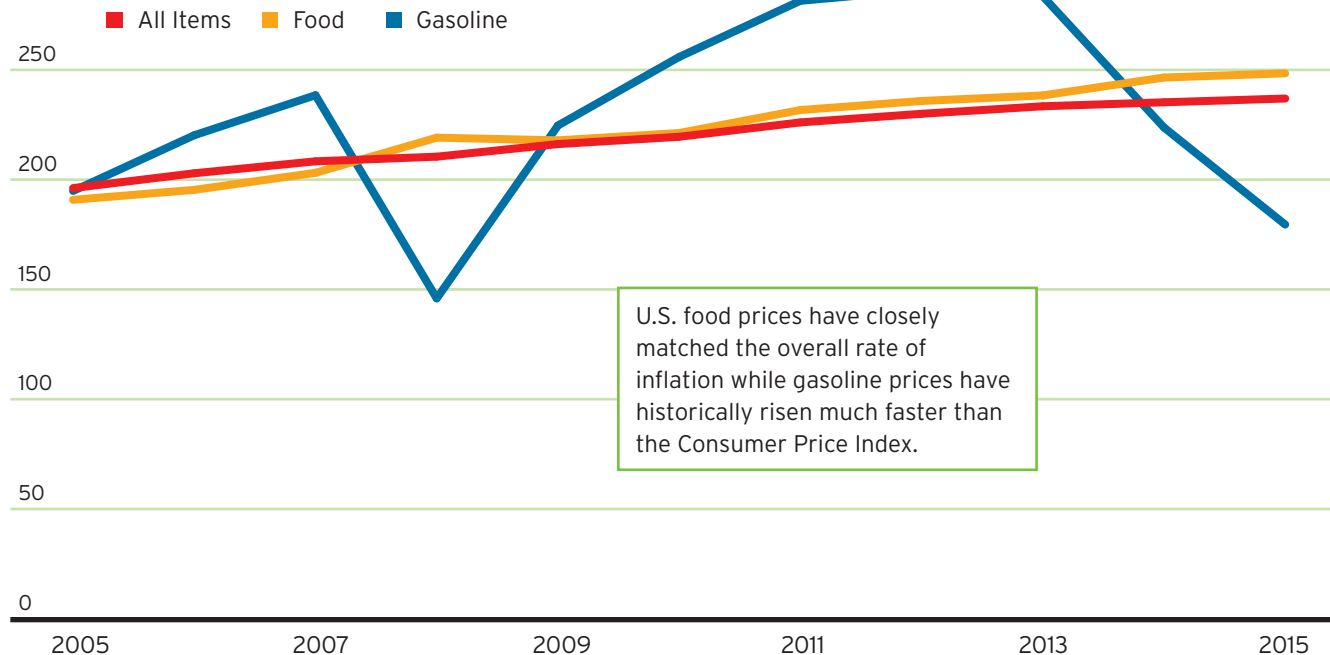
The American Farmer Benefits

Net Farm Income is Closely Tied to Increased Ethanol Production



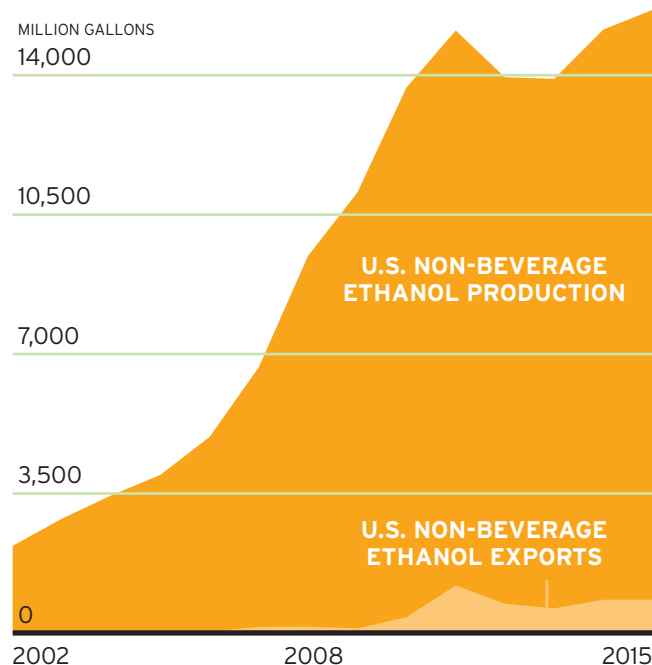
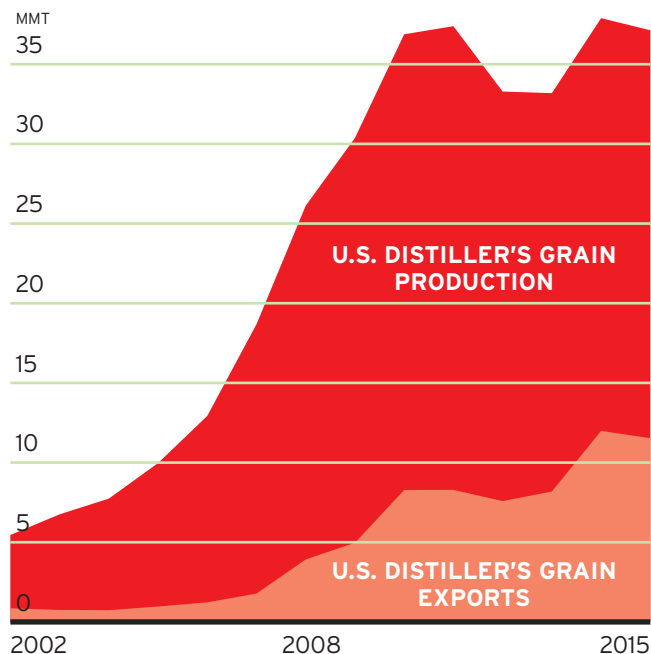
Gasoline Prices Unpredictable

U.S. Consumer Gasoline Prices Have Generally Risen Faster Than Food Prices



Growing Market Overseas

U.S. Exports of Ethanol and Distiller's Grains Are Increasing





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