

# GOING GLOBAL 2015 ETHANOL INDUSTRY OUTLOOK



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With a second bumper corn crop in a row, totaling more than 14.2 billion bushels and driven by an eye-popping 171 bushels per acre, 2014 was a banner year for ethanol producers. The U.S. ethanol industry produced more than ever before, sold more than ever before, and experienced a period of profitability that rivals any previous year. Perhaps most significantly, 2014 witnessed the birth of cellulosic ethanol production, as Quad County Corn Processors, Abengoa BioEnergy and POET-DSM each opened commercial scale cellulosic ethanol facilities.

But falling oil prices, a relentless misinformation campaign funded by oil companies anxious about losing their monopoly over the fuel supply, and policy uncertainty in Washington D.C. represent serious challenges facing U.S. ethanol producers in 2015.

Oil prices will rise and fall on the whims of the OPEC cartel and geopolitics, but domestically produced, renewable ethanol remains the lowest cost octane source available to refiners and an important option for consumers seeking relief at the pump. Big Oil will send good money after bad, but its misinformation campaign will continue to lose credibility as myths give way to real-world experience and consumers realize the cost savings and performance benefits of higher ethanol blends. And Washington dysfunction will likely worsen with divided government, but the inexorable march of renewable fuels will continue as the U.S. ethanol industry embraces new technologies, expands its investment in infrastructure, and remains united in its vision of enhancing energy, economic and environmental security for all Americans.

The pages of the Outlook are replete with facts and charts and timely information for ethanol advocates to utilize. But, more importantly, this year's Outlook reflects an industry that is growing in spite of the hurdles thrown before it. The U.S. ethanol industry is Going Global!

U.S. ethanol remains one of the lowest cost liquid transportation fuels on the planet. Last year, approximately 825 million gallons of U.S. ethanol was shipped to 51 countries around the globe. Moreover, a record-shattering 11.3 mmt of distillers grains, almost one third of what was produced, were exported last year.

As the world sees the success of biofuels here, we are bearing witness to a global movement toward increased renewable fuel production and use. Today, there are more than 60 countries with biofuel consumption targets or mandates similar to our Renewable Fuel Standard. That is generating jobs, creating investment and lowering carbon emissions in all corners of the world. As the U.S. produces 58% of the world's ethanol, we will continue to lead here and abroad so that consumers everywhere have access to the energy and economic benefits of renewable fuel.

2015 promises to be another great year.

Sincerely,

A handwritten signature in black ink that reads "Bob Dinneen".

Bob Dinneen, President & CEO

# 2014 ETHANOL PRODUCTION

## ONE FOR THE RECORD BOOKS

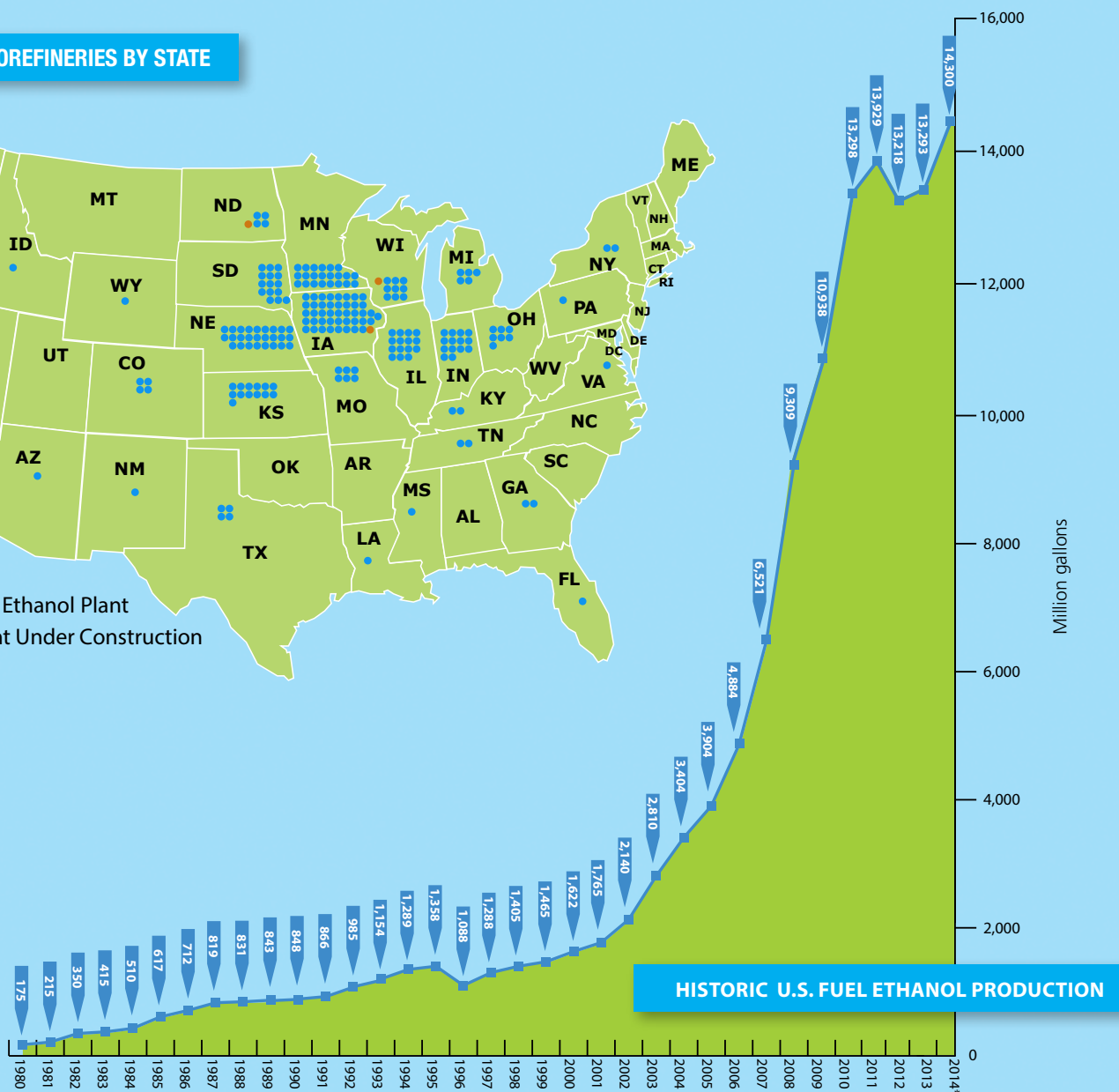
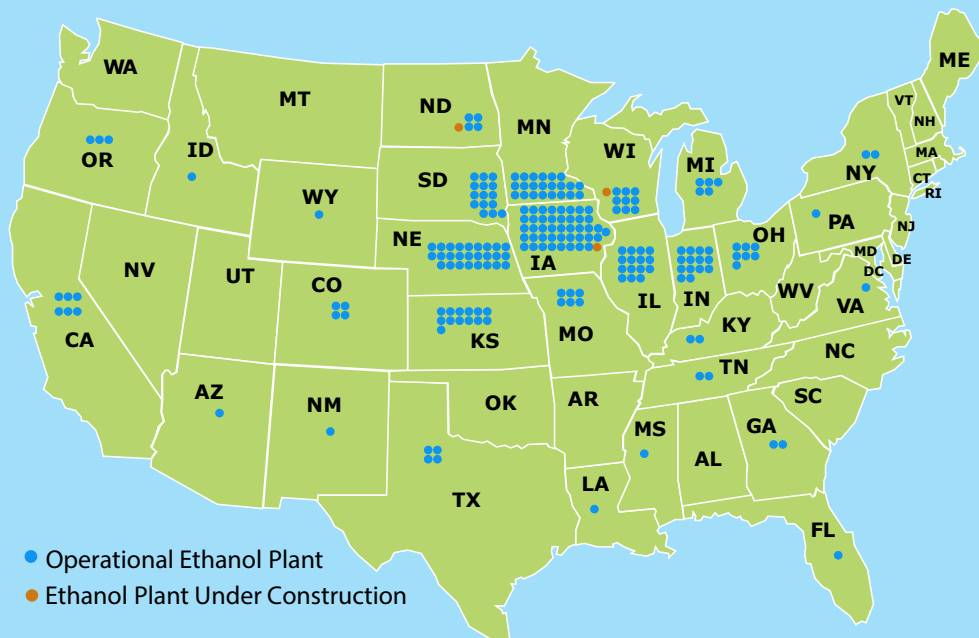
**In 2014**, America's ethanol producers proved that records are indeed made to be broken. In response to unprecedented domestic usage and surging global demand, ethanol plants in 29 states churned out a record 14.3 billion gallons of ethanol in 2014. That volume eclipsed the previous record of 13.9 billion gallons set in 2011.

After weathering the harsh effects of a 50-year drought in 2012 and early 2013, ethanol producers enjoyed a banner year in 2014. Grain was abundantly available and moderately priced,

domestic ethanol blending increased as gasoline demand crept upward, and ethanol's low price and high octane attracted new customers in the global marketplace. What's more, the first commercial-scale cellulosic ethanol facilities began producing the next generation of biofuels. It all added up to one of the most successful, exciting, and profitable years in the ethanol industry's storied history.

But challenges remained. An unlawful proposal by the Environmental Protection Agency (EPA) to reduce blending

### U.S. ETHANOL BIOREFINERIES BY STATE



Source: U.S. Department of Energy/Energy Information Administration and RFA

\*Estimated

requirements under the Renewable Fuel Standard (RFS) created a cloud of uncertainty that hung over the industry all year. By adopting the oil industry's "blend wall" concept, EPA's proposal chilled investment in biofuels and stunted growth in the use of higher-level blends like E15 and E85. Fortunately, EPA rescinded the proposal near the end of the year. Additionally, rail congestion and extreme winter weather created chaos for some ethanol producers in early 2014.

Meanwhile, trade barriers in key global markets artificially constrained demand for exports of ethanol and important co-products like distillers grains.

As 2015 began, the industry endeavored to build on the remarkable achievements of 2014, and sought to overcome remaining obstacles to increased production and use of American-made ethanol.

## U.S. ETHANOL PRODUCTION CAPACITY BY STATE

## PRODUCTION FACILITIES

(Million Gallons/ Year)

	Nameplate	Operating	Under Construction/ Expansion	Total	Installed Ethanol Biorefineries	Operating Ethanol Biorefineries	Biorefineries Under Constr./ Expansion
Iowa	3,990	3,985	30	4,020	43	42	1
Nebraska	2,044	1,991	-	2,044	26	23	-
Illinois	1,472	1,434	-	1,472	15	14	-
Indiana	1,148	1,046	-	1,148	14	13	-
Minnesota	1,147	1,129	-	1,147	22	21	-
South Dakota	1,024	1,024	-	1,024	15	15	-
Kansas	529	504	-	529	13	12	-
Ohio	528	528	-	528	7	7	-
Wisconsin	516	516	5	521	9	9	1
North Dakota	382	382	65	447	4	4	1
Texas	355	355	-	355	4	4	-
Missouri	271	256	-	271	6	6	-
Michigan	270	270	-	270	5	5	-
Tennessee	225	225	-	225	2	2	-
California	223	178	-	223	6	4	-
New York	164	164	-	164	2	2	-
Oregon	149	41	-	149	3	2	-
Colorado	125	125	-	125	4	4	-
Pennsylvania	110	110	-	110	1	1	-
Georgia	101	101	-	101	2	2	-
Virginia	65	65	-	65	1	1	-
Arizona	50	50	-	50	1	1	-
Mississippi	54	-	-	54	1	-	-
Idaho	50	50	-	50	1	1	-
Kentucky	36	36	-	36	2	2	-
New Mexico	30	-	-	30	1	-	-
Wyoming	10	10	-	10	1	1	-
Florida	8	-	-	8	1	-	-
Louisiana	1	-	-	1	1	-	-
<b>TOTAL U.S.</b>	<b>15,077</b>	<b>14,575</b>	<b>100</b>	<b>15,177</b>	<b>213</b>	<b>198</b>	<b>3</b>

***“The rest of the world is waking up to the fact that ethanol reduces air pollution, extends oil supplies, and provides cheaper sources of energy—and that gives us something to look forward to in 2015.”***

*– RFA Chairman Randall Doyal, AI-Corn Clean Fuel*

## ETHANOL EXPORTS

# A WORLD OF OPPORTUNITY

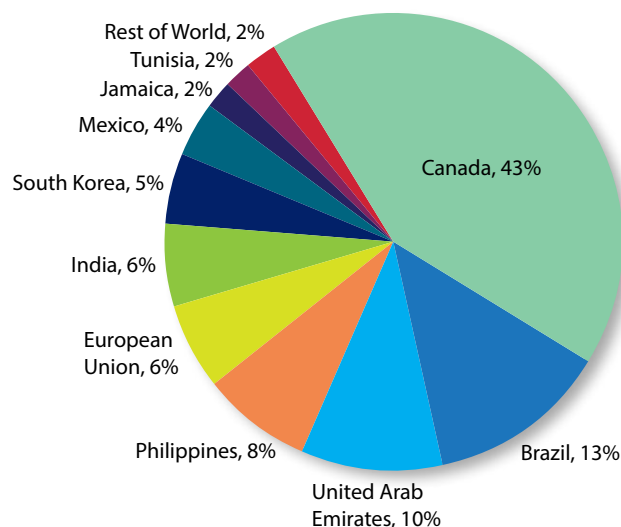
**For much** of the past four years, U.S. ethanol has been the lowest cost motor fuel and octane source on the planet. As a result, global demand is booming and American-made ethanol is rapidly finding its way into new international markets. Ethanol exports were approximately 825 million gallons in 2014, the second-highest total on record.

Canada was again the U.S. ethanol industry's top customer, as roughly 43% of total exports flowed north of the border. Brazil was the second-leading export market in 2014, taking in about 13% of total exports. The United Arab Emirates, Philippines, and Mexico were other familiar top destinations for U.S. product. And despite the European Union's punitive tariff against U.S. ethanol, approximately 50 million gallons were shipped to European countries. Meanwhile, several new markets emerged in 2014. South Korea began importing significant volumes of U.S. ethanol, as did Singapore, Panama, and Tunisia.

Despite the growth in exports in 2014, substantial market opportunities remain untapped. In fact, if the top 15 gasoline markets outside of the U.S. all used even a 5% blend, they would consume more than 6.5 billion gallons of ethanol annually. In coordination with the U.S. Grains Council and others, RFA ramped up its export market development efforts in 2014. Last year alone, RFA members and staff participated in trade missions to China, the Philippines, Singapore, South Korea, Japan, Brazil, Panama, and Peru.

### 2014 U.S. ETHANOL EXPORTS BY DESTINATION

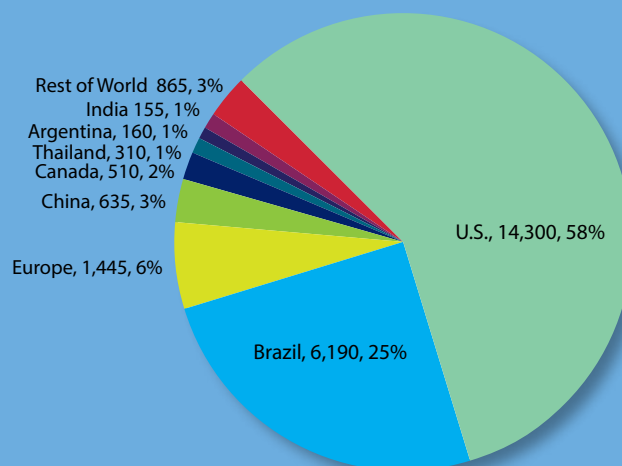
*U.S. fuel ethanol was exported to 51 countries in 2014*



Source: U.S. Dept. of Commerce, U.S. Census Bureau. Estimate based on Jan.- Nov. 2014

### 2014 GLOBAL FUEL ETHANOL PRODUCTION, BY COUNTRY

*(Country, million gallons, share of global production)*

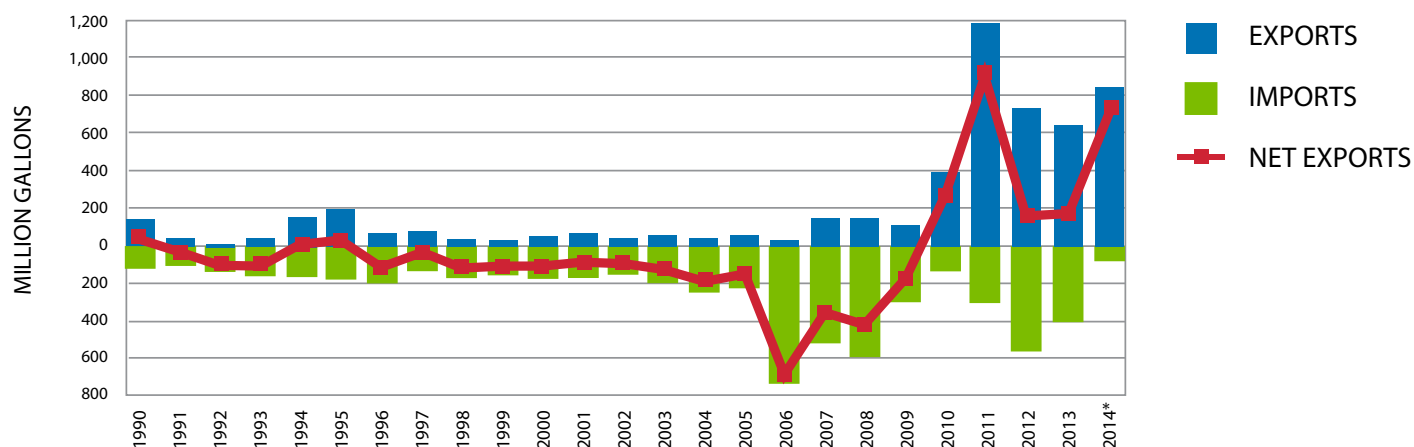


Source: RFA Analysis of Public & Private Estimates

## The Global Leader

The United States again led the world in ethanol production, accounting for nearly 60% of global output in 2014. Brazil, which produced roughly 6.2 billion gallons, was responsible for about 25% of world production, while the European Union followed with 6%. China and Canada were other leading producers.

## U.S. ETHANOL EXPORTS AND IMPORTS

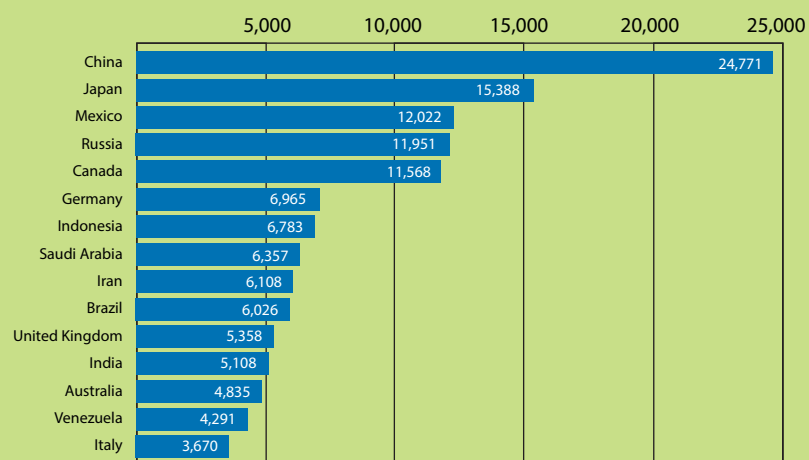


Sources: U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Statistics

\*Estimated

## TOP 15 MOTOR GASOLINE MARKETS (EXCLUDING U.S.)

Million gallons of annual consumption



Source: Energy Information Administration

***“U.S. ethanol has emerged as the lowest cost transportation fuel and octane source in the world over the past several years.”***

– The Economic Competitiveness of U.S. Ethanol, John M. Urbanchuk



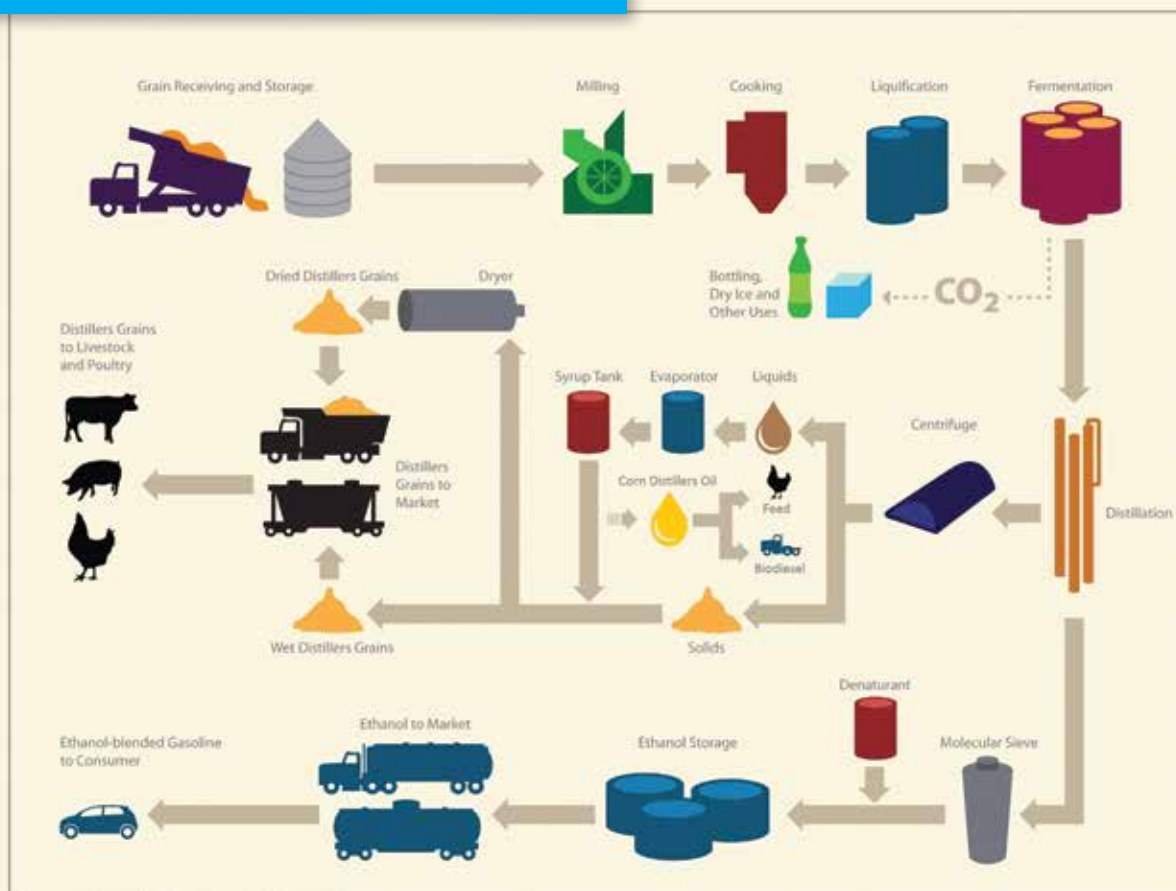
## 2014 CO-PRODUCT OUTPUT

# FEED PRODUCTION HITS HIGH MARK

**The U.S.** ethanol industry makes an enormous—and often overlooked—contribution to the global animal feed supply. In fact, one-third of every bushel of grain that enters the ethanol process is enhanced and returned to the animal feed market, most often in the form of distillers grains, corn gluten feed and corn gluten meal. Only the starch portion of the grain is made into ethanol; the remaining protein, fat, and fiber pass through the process. These nutrient-dense co-products are fed to beef cattle, dairy cows, swine, poultry, and fish in nations around the world.

As ethanol production reached record levels in 2014, so too did output of animal feed co-products. In fact, the industry produced an estimated 39 million metric tons (mmt) of feed, making the renewable fuels sector one of the largest animal feed processing segments in the United States. To put these production volumes in context, consider that the amount of feed produced by the ethanol industry in 2014 would be enough to produce nearly 50 billion quarter-pound hamburger patties—or seven patties for every person on the planet. Similarly, this amount of feed would produce enough chicken for every American to eat one normal-sized chicken breast every day for one year.

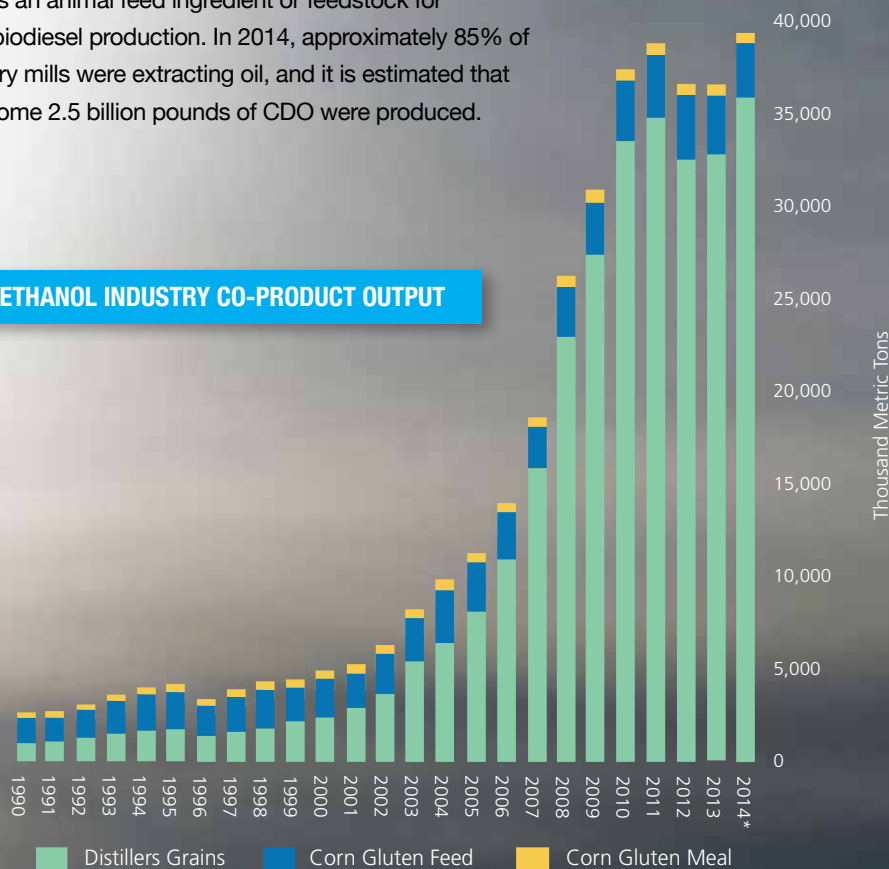
### DRY MILL ETHANOL PROCESS



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Over the past decade, the ethanol industry has also emerged as a major producer of corn distillers oil (CDO), which is used as an animal feed ingredient or feedstock for biodiesel production. In 2014, approximately 85% of dry mills were extracting oil, and it is estimated that some 2.5 billion pounds of CDO were produced.

### U.S. ETHANOL INDUSTRY CO-PRODUCT OUTPUT



Source: RFA based on U.S. Dept. of Agriculture data

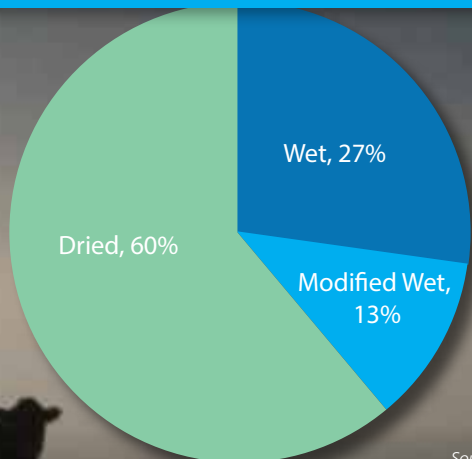
\*Estimated



*"There is no better source of protein than modified distillers grains. For all the benefits distillers have, I don't want to break away from using it. We're feeding about 30 percent distillers right now, but we have been as high as 60 to 70 percent in the past."*

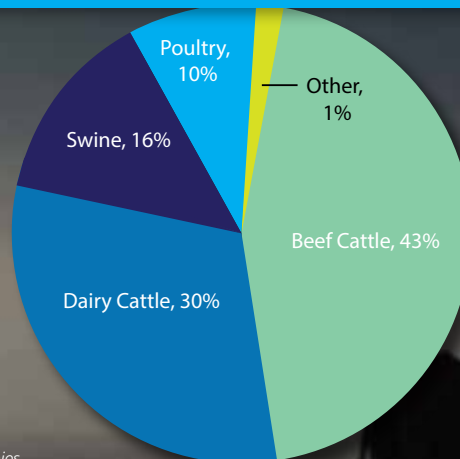
— Iowa Cattleman Brent Lorimor

### 2014 U.S. DISTILLERS GRAINS PRODUCTION BY TYPE



Source: Distillers Grains Marketing Companies

### 2014 U.S. DISTILLERS GRAINS CONSUMPTION BY SPECIES



# CO-PRODUCT EXPORTS

## FEEDING THE WORLD

**The renewable fuel industry's** 2014 export boom wasn't limited just to ethanol. Indeed, exports of distillers grains (DDGS) surged to record levels last year, while corn gluten feed and meal also saw strong global demand. Approximately 11.3 million metric tons (mmt) of distillers grains were exported, shattering the previous record of 9.7 mmt set in 2013. In fact, nearly one-third of total 2014 distillers grains production was exported.

The record export tally is even more impressive when the emergence of significant trade barriers in 2014 is considered. China—the largest market for U.S. distiller grains exports over the past four years—announced midway through the year that it would require shipments from the U.S. to be accompanied by government documents certifying that the product was entirely free of a certain GMO corn trait. Because such certification is not practical, exports to China dropped off dramatically in late 2014. Still, China served as the top export market for 2014, receiving more than 4.2 mmt of distillers grains. Fortunately, China announced approval of the trait in late December 2014, reopening the market to U.S. DDGS.

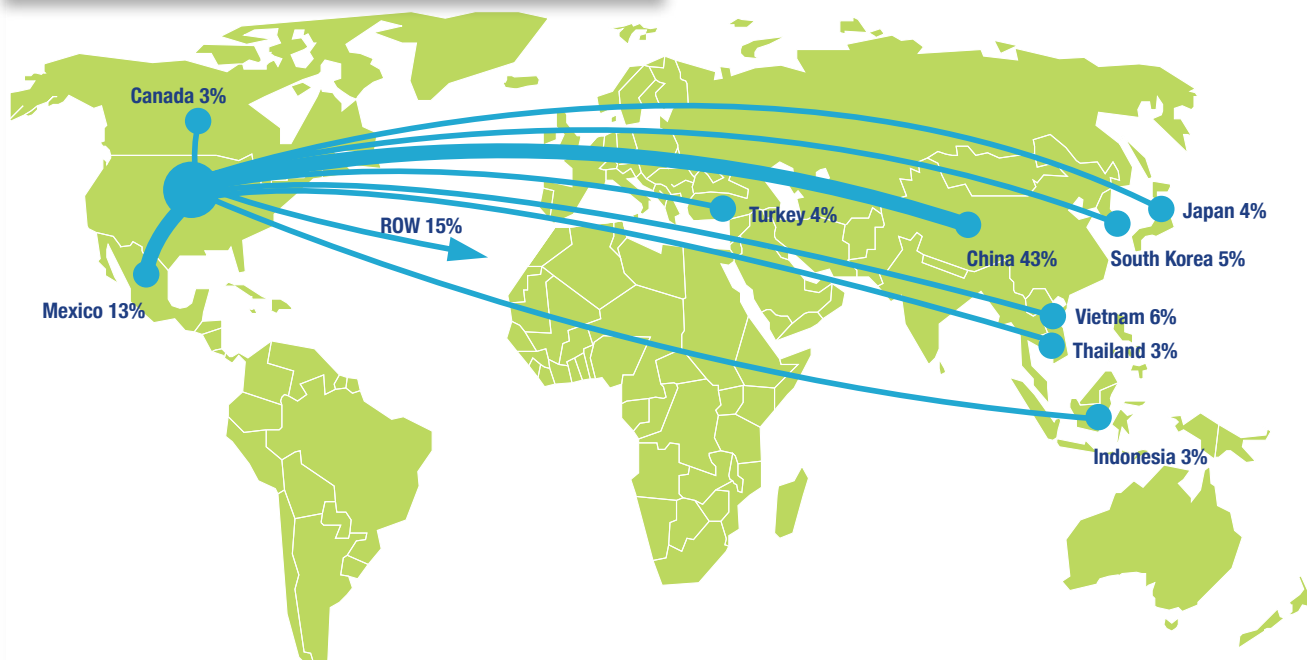
In the meantime, other export markets picked up some of the slack resulting from China's discriminatory action. Mexico was the second-leading market for distillers grains exports, followed by Viet Nam, South Korea, and Japan.

***“It's good for production, good for the animals. It's a very valid alternative.”***

*– José Romão Leite Braz (Livestock Producer, Portugal), speaking on the value of U.S. distillers grains.*



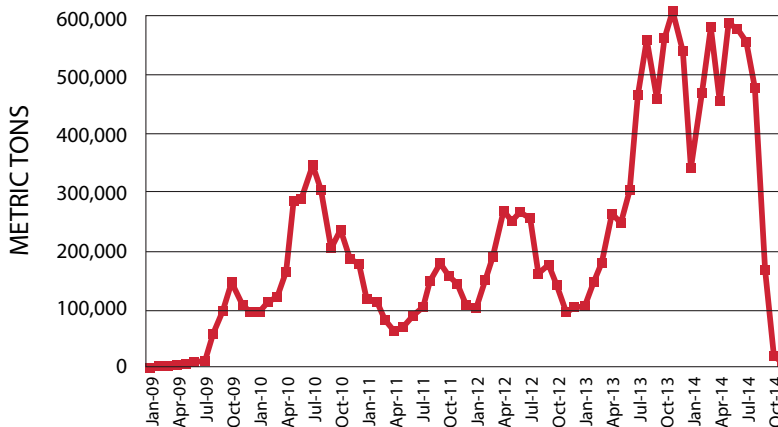
### TOP DISTILLERS GRAINS EXPORT MARKETS IN 2014



Sources: U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Statistics

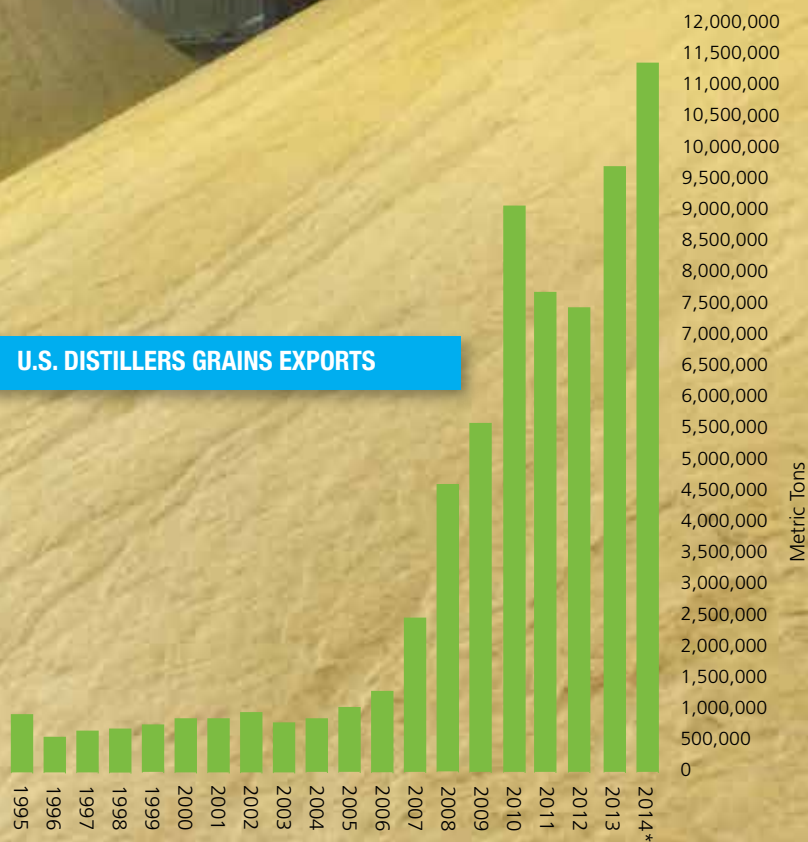
Based on Jan. - Oct. 2014

### MONTHLY U.S. DDGS EXPORTS TO CHINA



Sources: U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Statistics

### U.S. DISTILLERS GRAINS EXPORTS



Sources: U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Statistics

\*Estimated



***“We are hungry. We are 160 million people. There is an opportunity for you and an opportunity for us, too.”***

*– Manzoor Elahi (Poultry and Aquaculture Producer, Bangladesh) speaking on the prospect of increased imports of U.S. feed co-products.*

## ETHANOL'S ECONOMIC IMPACT

# LOCAL OPPORTUNITIES, GLOBAL IMPACTS

**The ethanol industry** has evolved into an invaluable economic engine for communities across the nation. In 2014, the production of 14.3 billion gallons ethanol supported 83,949 direct jobs in the renewable fuel and agriculture industries, as well as 295,265 indirect and induced jobs across all sectors of the economy. In addition, the industry added \$52.7 billion to the nation's Gross Domestic Product and paid \$10.3 billion in taxes. Collectively, ethanol producers spent \$27.8 billion on raw materials, other inputs, and goods and services. The sector's economic activity and job creation boosted household income by \$26.7 billion.

Moreover, ethanol industry jobs have proven to be stable, well-paid, fulfilling, and safe. In fact, a recent survey of ethanol industry employees found that 91% of respondents were "satisfied" with their jobs. In contrast, the jobs available in other U.S. energy sectors are often temporary, experience high turnover rates, and sometimes involve dangerous working conditions.

And as U.S. ethanol goes global, so too does the industry's economic impact. Moving more than 800 million gallons of U.S. ethanol to destinations around the world supports countless jobs related to transportation and logistics, port operations, customs administration, and other key tasks.

***"The ethanol industry has been very positive to the entire Midwest. The communities that were once becoming ghost towns are now thriving, and I am seeing young people interested in agriculture again."***

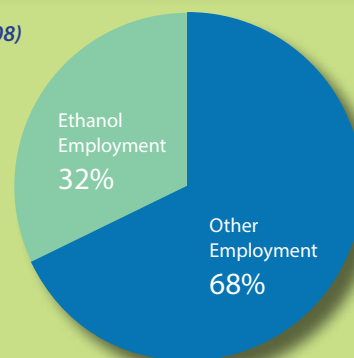
– Reed Kuper, Iowa realtor

### SHARE OF COUNTYWIDE EMPLOYMENT GROWTH DUE TO ETHANOL

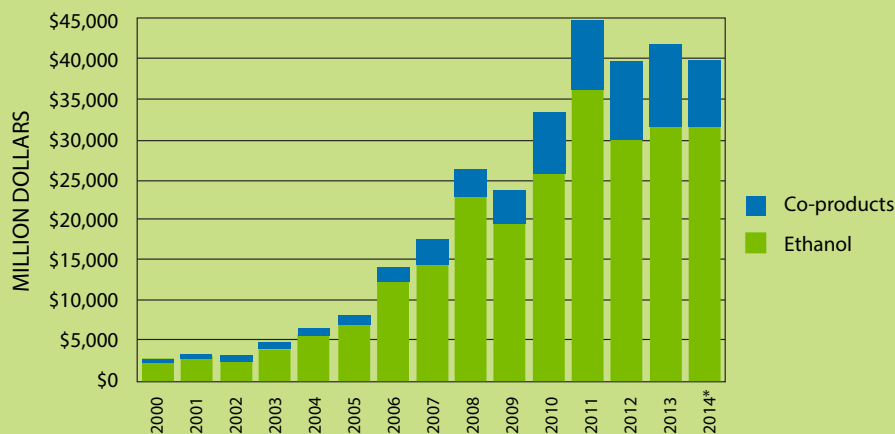
(Counties with Ethanol Plants, 2000-2008)

According to a recent USDA study, rural counties with ethanol plants can attribute **32% of county-wide employment growth** from 2000-2008 to the development and operation of the ethanol biorefinery.

Source: Brown, Weber & Wojan (2013), USDA



### GROSS VALUE OF ETHANOL INDUSTRY OUTPUT

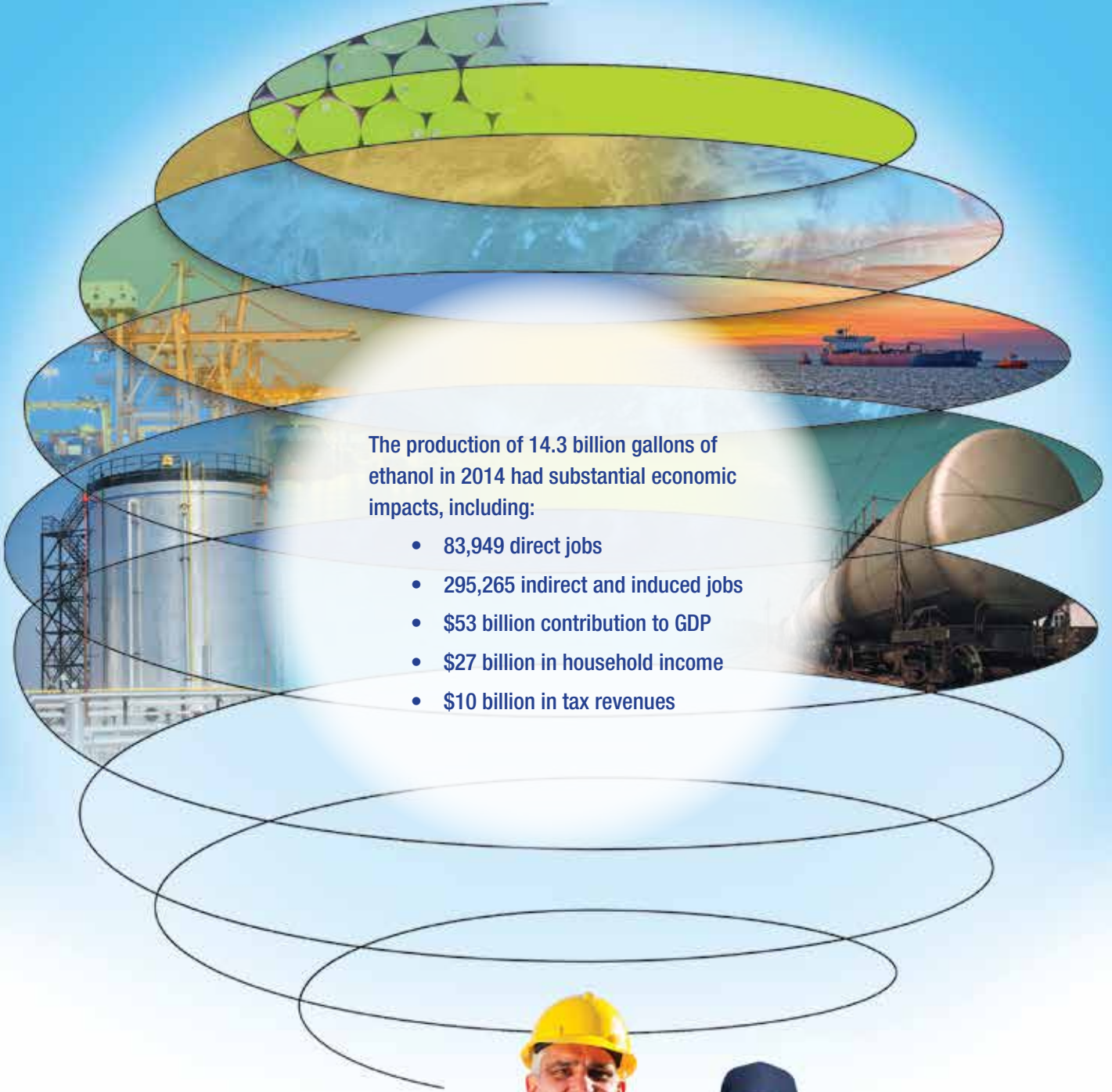


Source: RFA based on USDA

\*Estimated

***"I have witnessed firsthand the positive impact that renewable fuels have created for my bank customers and the local economies. The amount of misinformation by those interests wanting to see an end to renewable fuels is extremely troubling and damaging to the consumer and our overall economy."***

– Kevin Black, president and CEO of Heartland Bank



The production of 14.3 billion gallons of ethanol in 2014 had substantial economic impacts, including:

- 83,949 direct jobs
- 295,265 indirect and induced jobs
- \$53 billion contribution to GDP
- \$27 billion in household income
- \$10 billion in tax revenues



## ETHANOL AND ENERGY SECURITY

# THE ORIGINAL AMERICAN ENERGY RENAISSANCE

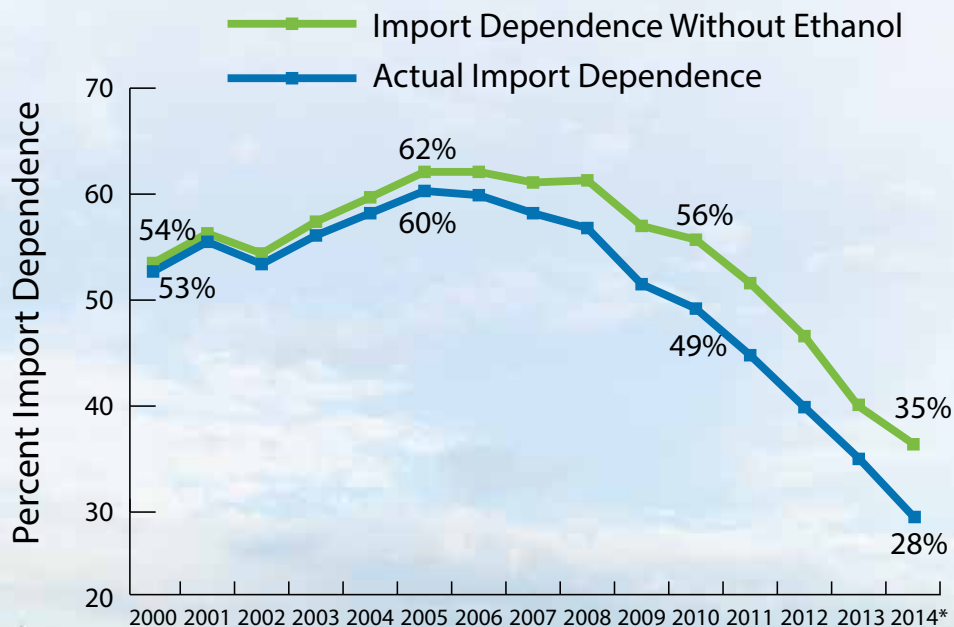
**Some political** and media pundits have described the recent fracking boom in North Dakota and Texas as an “energy renaissance.” But often overlooked in the hype over shale fracking is the fact that another U.S. energy source—ethanol—has been making enormous contributions to the nation’s fuel supply and energy security for the past several decades. Indeed, it is the ethanol industry that can proudly lay claim to beginning the Original American Energy Renaissance.

Despite the boom in domestic oil output, the U.S. remains a major importer of crude oil and petroleum products. In fact, 47% of the crude oil processed in the United States in 2014 was imported. When all petroleum products are considered, the nation relied on imports to meet 28% of its net petroleum needs in 2014. Without 14.3 billion gallons of domestic ethanol, net import dependence would have stood at 35%.

For the past five years, ethanol has constituted 10% of our nation’s gasoline supply, providing valuable octane and lowering consumer prices at the pump. In effect, the ethanol produced in 2014 displaced an amount of gasoline refined from 512 million barrels of crude oil—slightly more than the amount of oil imported annually from Saudi Arabia. It’s no wonder that OPEC is in disarray.

The recent drop in oil prices has lulled some into believing the world is awash with crude oil. But inconvenient truths remain: oil is still a finite resource that will one day be exhausted; the U.S. uses 21% of the world’s oil and petroleum products, but produces just 13%; and extraction of unconventional crude oil is more environmentally destructive and economically intensive.

### U.S. OIL AND PETROLEUM PRODUCT IMPORT DEPENDENCE WITH AND WITHOUT ETHANOL



Source: RFA based on Energy Information Administration data

\*Estimated

## HISTORIC OIL IMPORT DISPLACEMENT BY ETHANOL



Source: RFA based on Energy Information Administration data

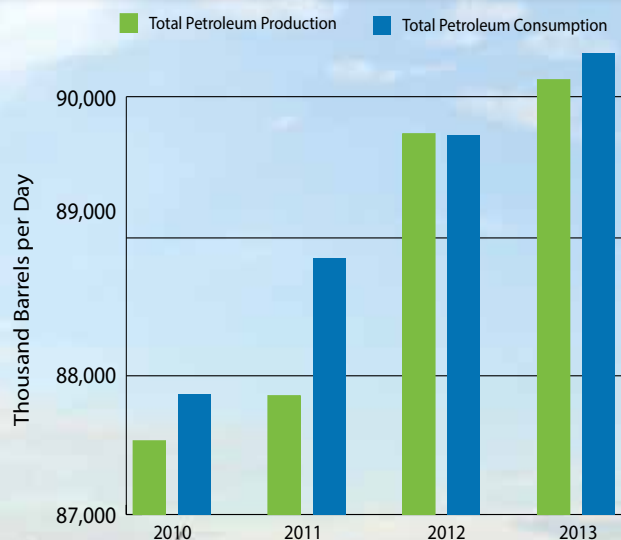
\*Estimated

## 2014 U.S. CRUDE OIL CONSUMPTION AND IMPORTS

U.S. Refinery Crude Oil Consumption	5.75 billion barrels
U.S. Crude Oil Imports	2.69 billion barrels
Percent of Crude Oil Consumption Imported	47%

Source: Energy Information Administration, estimate based on Jan.-Oct.

## WORLD PETROLEUM PRODUCTION & CONSUMPTION



Source: Energy Information Administration

***“There is...an underlying national security implication of using a wider and larger quantity of alternative fuels produced domestically. It reduces reliance on oil imports, creates more economic value and jobs in domestic economies, and expands choice, which Americans love, for the products they purchase.”***

– John Hofmeister, former president of Shell Oil Co.

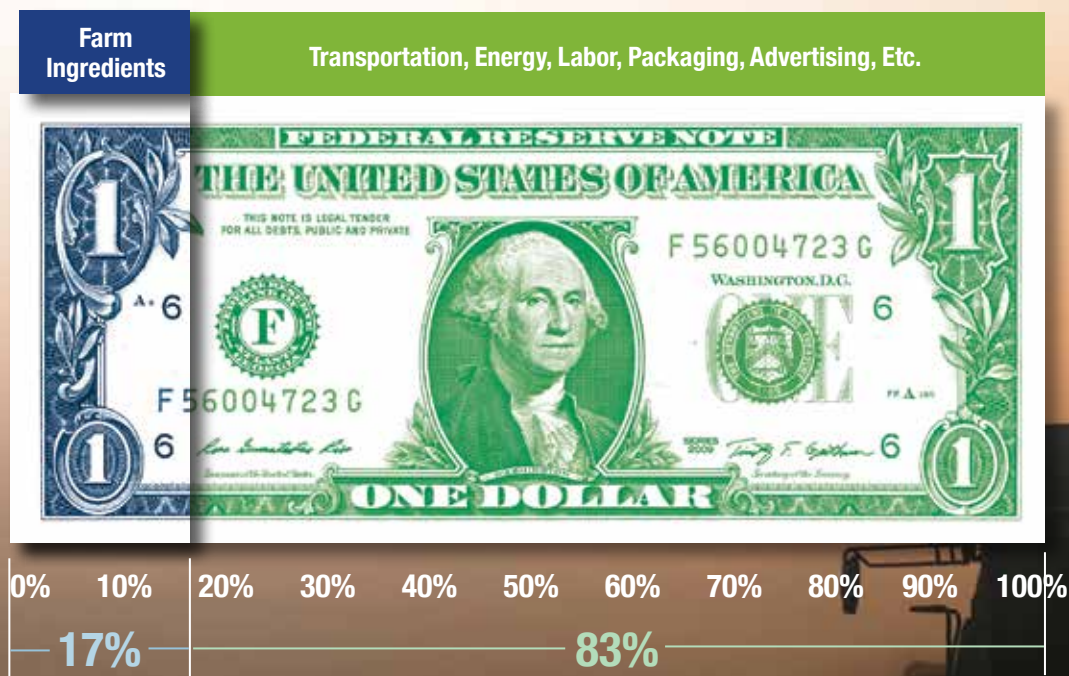
## ETHANOL AND FOOD/FEED MARKETS

# RECORD CROP BURIES FOOD VS. FUEL MYTH

**A heap** of evidence—and a mountain of corn—exposed the utter absurdity of the controverted “food vs. fuel” myth again in 2014. A record crop and yield sent corn prices to four-year lows; and more grain was available globally for food and feed use than ever before. In fact, less than 3% of the growing global grain supply was used for ethanol. Meanwhile, U.S. retail food prices progressed at historically normal rates and the share of American household income spent on food continued to shrink. Globally, the United Nations’ world food price index fell to a five-year low. All of this occurred as U.S. ethanol production reached record heights.

Still, biofuel opponents continued to cling to the ridiculous talking point that using grain for ethanol dramatically increases consumer food prices. Fast food chains and poultry processors continued to scapegoat ethanol and the RFS for rising food prices, turning a blind eye to energy costs, labor costs, drought and other key drivers. Indeed, analysis by the U.S. Department of Agriculture shows that only 17 cents of every dollar spent on food pays for the raw farm commodities and ingredients in the food. The other 83 cents pays for processing, transportation, labor, packaging, advertising and other costs.

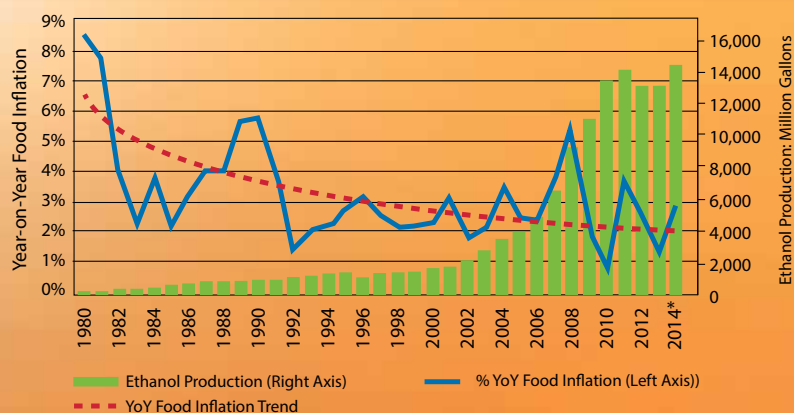
### WHAT DOES \$1 SPENT ON FOOD REALLY BUY?



Source: U.S. Department of Agriculture

Every step in the food supply chain is dependent on energy. Thus, it is no surprise that world food prices are almost perfectly correlated with global oil prices. In fact, the World Bank recently found that “most of the contribution to food price changes from 1997-2004 to 2005-2012 comes from the price of oil.”

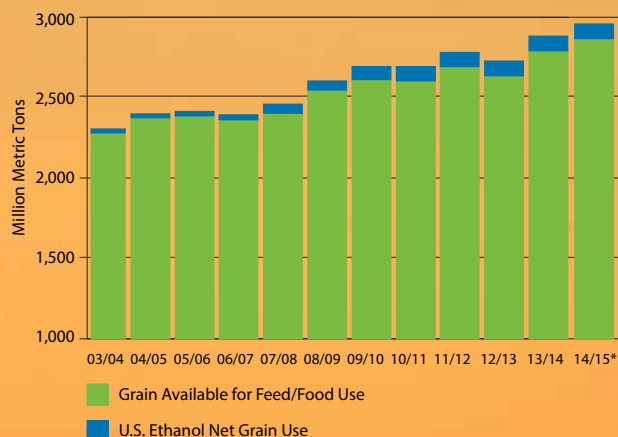
## U.S. FOOD PRICE INFLATION AND ETHANOL PRODUCTION



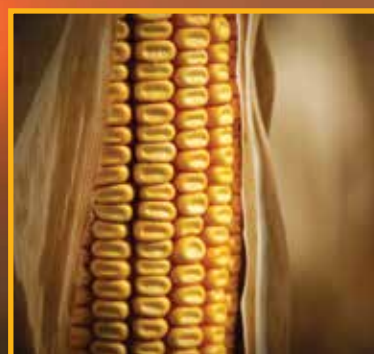
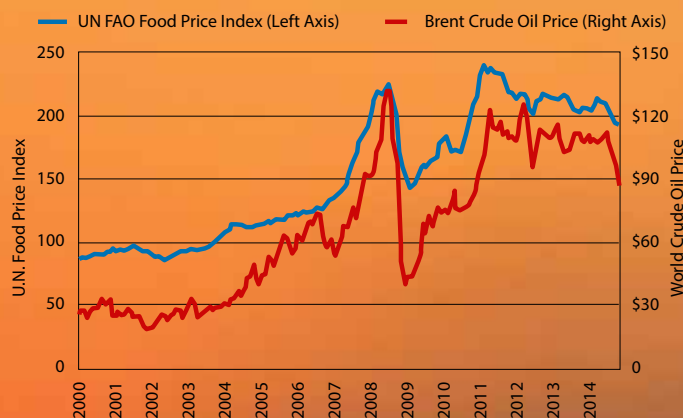
**“We’re local restaurant owners, and we’ve experienced the economic benefits of ethanol production both for our businesses and communities. When we talk about food prices going up, the real culprit isn’t corn prices...the biggest factors in food prices are marketing and transportation costs, which includes fuel. So it’s no surprise that Big Oil companies are so intent on shifting the blame.”**

– Michigan restaurateurs Brett Duffy and Sarah McGarry

## U.S. ETHANOL IMPACT ON GLOBAL GRAIN SUPPLIES



## WORLD OIL PRICES DRIVE GLOBAL FOOD PRICES



# CELLULOSIC ETHANOL

## A BRAVE NEW WORLD

**The dream of** commercial-scale cellulosic ethanol production became a reality in 2014, ushering in a new era of advanced low carbon biofuels and silencing critics who claimed “phantom fuels” would never materialize.

In September, POET-DSM held a grand opening for Project Liberty, a 20 million gallon per year (mgpy) facility in Emmetsburg, Iowa. The plant will use 285,000 tons of baled corn residue annually from within a 45-mile radius.

Less than a week later, Quad County Corn Processors in Galva, Iowa, unveiled its “Adding Cellulosic Ethanol” technology, a “bolt-on” process that converts corn kernel fiber into 2 mgpy of cellulosic ethanol per year.

In October, Abengoa raised the curtain on its state-of-the-art biorefinery in Hugoton, Kansas. The facility will generate 25 mgpy of cellulosic ethanol, as well as 21 megawatts of electricity. The plant uses 1,000 tons per day of crop residues, providing \$17 million per year of extra income for local farmers.

As 2015 began, DuPont was putting the finishing touches on its 30 mgpy cellulosic ethanol facility in Nevada, Iowa. The biorefinery, which will initially use crop residue as feedstock, was expected to begin production in the first quarter.

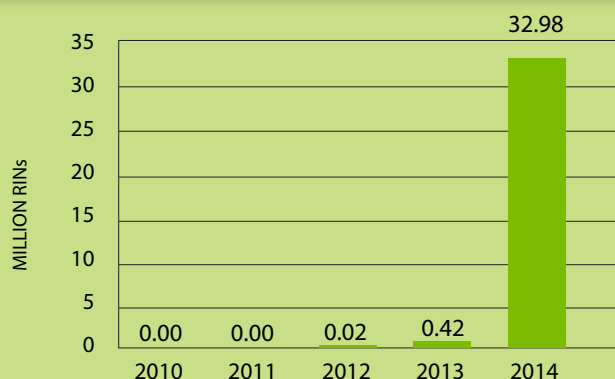


Formed in collaboration with RFA in 2011, the Advanced Ethanol Council (AEC) has quickly emerged as the leading voice for advanced and cellulosic ethanol. The Council focuses on market development and advancing and defending key policies to expand the industry, such as the RFS and tax provisions. AEC members include companies operating or developing production facilities, working to augment conventional biofuel plants with “bolt on” technologies, and developing or deploying new and innovative process technologies.

ABENGOA BIOENERGY



### CELLULOSIC BIOFUEL RIN GENERATION



Source: Environmental Protection Agency



*"This is a proud and pivotal moment for Abengoa and for the larger advanced bioenergy industry...This would have been simply impossible without the establishment of the Renewable Fuel Standard."*

—Manuel Sánchez Ortega, CEO of Abengoa



*"The Renewable Fuel Standard is working as intended. 2014 is a watershed in our history as an industry – the year we take this technology commercial – and a critical year for all parties to remain steadfast in their commitment to biofuels."*

—Jan Koninckx, global business director for Biorefineries at DuPont



*"This is an historical day in the development of plant-residue-based cellulosic ethanol as a viable, commercially attractive alternative to gasoline as we are moving from the fossil-age to the biorenewable age."*

—Feike Sijbesma, CEO and Chairman of Royal DSM



*"To the naysayers out there who believed cellulosic ethanol would never come to fruition, just take a walk around the plant today and you will see that cellulosic ethanol is truly a reality."*

—Delayne Johnson, CEO of Quad County Corn Processors

## E15 MARKET UPDATE

# A PROVEN TRACK RECORD

**E15** has come a long way since it was first introduced by a single retail station in Kansas in 2012. Today, nearly 100 stations in 16 states are selling E15 and consumers have travelled more than 100 million trouble-free miles on the fuel. Alabama, Florida, Georgia, and Tennessee were newcomers to the E15 market in 2014, and a number of other states were on the verge of joining the E15 movement as 2015 began.

And contrary to Big Oil's aggressive misinformation campaign against E15, the fuel has proven itself as a safe, economical, and popular alternative to gasoline. Not a single case has been reported of "engine damage," inferior performance, or misfueling in non-approved equipment. Moreover, E15 typically offers consumers a higher octane fuel at a lower price.

While the Environmental Protection Agency's E15 waiver allows the use of the fuel in all vehicles built since 2001 (about 85% of the current fleet), the automakers themselves have begun to explicitly approve the use of E15 in most of their vehicles. In fact, nearly 70% of new (2015) models are clearly approved for E15 by the manufacturer.

Many expect that 2015 will be the year E15 has a major breakthrough, as "Prime the Pump" and other infrastructure initiatives pave the way for rapid expansion.



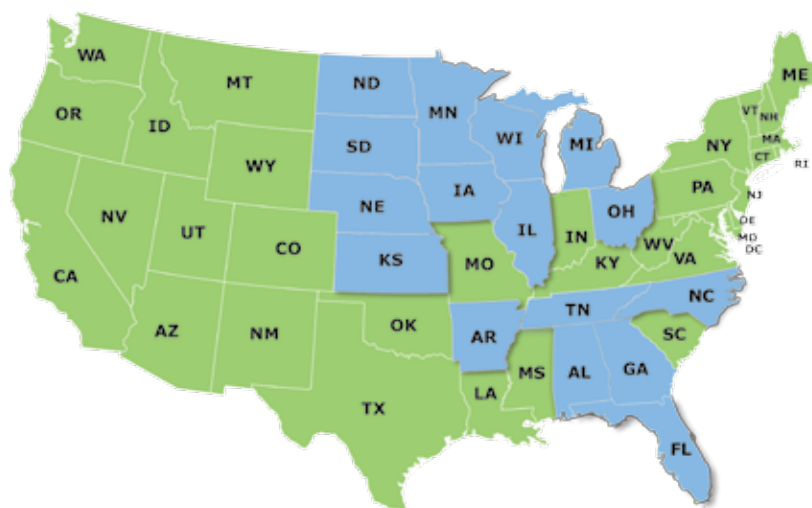
# AUTO WARRANTY TABLE

	Manufacturer Explicitly Allows E15 in All Vehicles Models
	Manufacturer Explicitly Allows E15 in Some Vehicle Models
	Approved for E15 Only by EPA

	MY 2001- 2011	MY 2012	MY 2013	MY 2014	MY 2015
Audi					
BMW					
Chrysler Group					
Chrysler					
Dodge					
Jeep					
Ford Motor Company					
Ford					
Lincoln					
General Motors Company					
Chevrolet					
Buick					
Cadillac					
GMC					
Honda Motor Company					
Honda					
Acura					
Hyundai					
Jaguar					
Kia Motors					
Land Rover					
Mazda					
Mercedes-Benz					
Nissan Motor Company					
Nissan					
Infiniti					
Porsche					
Subaru					
Toyota Motor Corporation					
Toyota					
Lexus					
Volkswagen					
Volvo					
All Others					



# E15 IS BEING SOLD IN 16 STATES



As of January 2015

# RENEWABLE SUPER PREMIUM

## A GLIMPSE INTO ETHANOL'S FUTURE

**Ethanol's** unique properties and characteristics make it an extremely valuable component of our gasoline. For more than three decades, refiners and blenders have used low levels of ethanol (10% or less) to boost the octane rating and oxygen content of finished gasoline. However, a growing body of research shows that ethanol's distinctive attributes are best utilized when it comprises 20-40% of the fuel blend.

At a 20-40% blend, ethanol can significantly increase the octane value of the fuel to "premium" gasoline levels or higher, enhancing engine performance and efficiency. Further, using more ethanol means using less hydrocarbon aromatics, like benzene, toluene, and xylene. Removing those toxic substances from gasoline greatly improves tailpipe emissions and improves air quality. As a result of these engine performance and

environmental benefits, mid-level ethanol blends are being referred to as "Renewable Super Premium," or RSP.

Many automakers view RSP, when coupled with optimized engines, as a promising pathway toward compliance with increasingly stringent federal fuel economy and tailpipe GHG regulations. When paired with downsized, high-compression, turbo-charged engines, RSP can provide the same—or better—fuel economy as gasoline. Indeed, EPA has recognized that RSP "...could help manufacturers who wish to raise compression ratios to improve vehicle efficiency as a step toward complying with the 2017 and later GHG and CAFE standards." What's more, RSP offers a clear pathway through the so-called E10 "blend wall" and facilitates compliance with the long-term requirements of the RFS.

ETHANOL'S OCTANE CONTENT COMPARED TO OTHER GASOLINE COMPONENTS

	Gasoline	n-Butane	Isobutanol	Benzene	Ethanol
Research Octane (RON)	92	91	105	101	<b>109</b>
Motor Octane (MON)	83	92	90	99	<b>90</b>
Anti-Knock Index (AKI)	87.5	91.5	97.5	100	<b>99.5</b>

Source: National Renewable Energy Laboratory

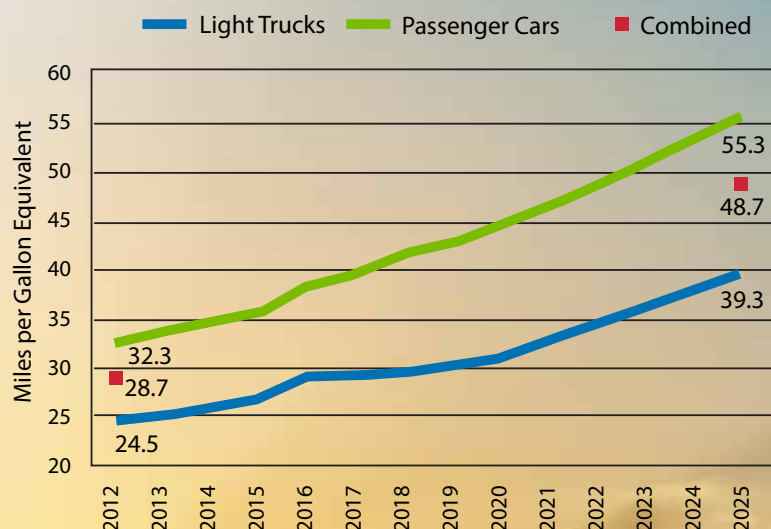
***"...a mid-level ethanol-gasoline blend (greater than E20 and less than E40) appears to be attractive as a long-term future fuel for automotive engines in the U.S."***

*– AVL Powertrain Engineering and Ford Motor Company*

***Renewable Super Premium offers "ridiculous power and good fuel economy."***

*– William H. Woebkenberg, Mercedes-Benz*

## 2012-2025 AVERAGE FUEL ECONOMY REQUIREMENTS



Source: Environmental Protection Agency

*“...it appears that substantial societal benefits could be obtained by capitalizing on the high octane rating of ethanol through the introduction of higher octane number ethanol-gasoline blends to the US marketplace.”*

– Ford Motor Company



## Spanning the Globe with Mid-Level Blends



Mid-level ethanol blends have been used successfully in other countries since the late 1970s. All vehicles in Brazil have been operating on at least E20 or E25 for more than three decades. Meanwhile, all vehicles sold in Thailand over the past five years are FFVs or at least compatible with E20. According to USDA's attaché in Thailand, “E20 is available in nearly half of total gasoline stations and E20 vehicles currently account for more than half of total gasoline vehicles.” Further, E20 in Thailand was 7% cheaper than regular E10 and 27% cheaper than premium gasoline in 2014.

## E85 MARKET UPDATE

# BREAKING THE MONOPOLY WITH E85

**The cracks** in the purported E10 “blend wall” continued to spread in 2014, as RIN credits and ethanol’s discount to gasoline again made E85 and other ethanol flex fuels an attractive option for drivers across the country. Certainly, if EPA had enforced the statutory RFS requirements for 2014, E85 would have played an even larger role in the fuel market.

The sale of RINs again allowed enterprising retailers and marketers to reduce the price of E85 for consumers. However, by proposing to set the 2014 RFS below the “blend wall,” RIN values were lower than in 2013 and investment in E85 infrastructure slowed substantially. Still, at many stations, E85 was regularly priced \$1 per gallon below the price of gasoline for much of 2014. Growth in the population of flex-fuel vehicles (FFVs) is also playing an important role in the demand for E85. Nearly half of new vehicles produced by Chrysler, Ford, and General Motors are FFVs, meaning roughly one-quarter of all new vehicles sold today are capable of using up to E85.

However, obstacles to E85 growth remain. A 2014 RFA analysis revealed that oil companies subversively prevent or discourage affiliated retailers from selling E85 through rigid franchise and

branding agreements, restrictive supply contracts, and other market-distorting tactics. The report showed independent retailers are five times more likely to offer E85 than retailers carrying an oil company brand. A separate RFA case study of the St. Louis market showed that E85 retail prices at oil-branded stations were 1% higher than E10 prices during the summer of 2014, even though local wholesale ethanol prices justified a 26% retail discount. Until these roadblocks are addressed in a meaningful way, American consumers will continue to suffer from oil’s monopoly at the pump.

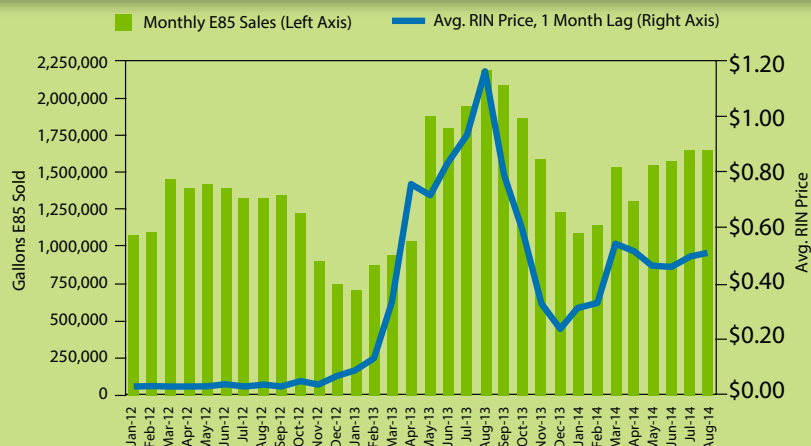


### IOWA E85 SALES



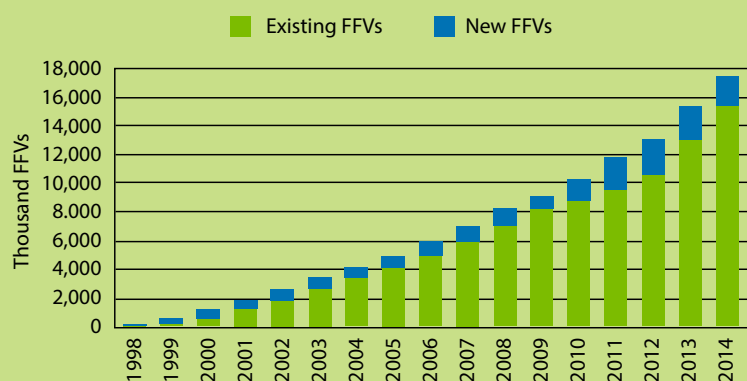
Source: Iowa Department of Revenue

### MINNESOTA E85 SALES AND RIN PRICES



Source: Minnesota Department of Commerce and OPIS

## FLEX-FUEL VEHICLES (FFVs) ON U.S. ROADWAYS



Sources: Department of Energy and RFA Analysis



# RENEWABLE FUEL STANDARD

## THE RFS AT A CROSSROADS

The so-called “blend wall” should have been decimated once and for all in 2014, as the Renewable Fuel Standard (RFS) obligations established by Congress would have broadly required refiners and blenders to move beyond E10. Alas, EPA allowed oil companies to evade statutory blending requirements by proposing to significantly reduce the RFS volume obligations. The Administration’s “U-turn” on the RFS was evidently driven by concerns that higher RIN prices would cause higher gas prices, despite a lack of any statistical evidence to substantiate such a worry. EPA’s proposal sent shockwaves through the industry, resulting in tremendous uncertainty for potential investors in second-generation biofuels, agricultural feedstock producers, gasoline blenders and retailers, and other participants in the supply chain.

Throughout the year, the industry vigorously challenged EPA’s proposal and underscored the fact that the RFS to date has been an unmitigated success. RFA and others reminded both EPA and the White House that the very intent of the RFS was to fundamentally transform the domestic fuel market, stimulate innovation and investment, and enhance energy security. The ethanol industry also contested the legality of EPA’s proposal, arguing that the statutory criteria for a waiver of the RFS had not been satisfied. Finally, EPA received comments from tens of thousands of working Americans who encouraged the Agency to enforce the law as enacted by Congress.

In the end, EPA chose not to finalize its damaging proposal in 2014 and delayed a decision until 2015. While the delay prolonged the uncertainty around the future course of the RFS, it also inferred that EPA might correct the proposal’s deficiencies and endeavor to get the program back on track. As 2015 began, the ethanol industry continued to advocate for restoring the RFS program’s ability to break the “blend wall,” transform the U.S. fuel market, and stimulate innovation.

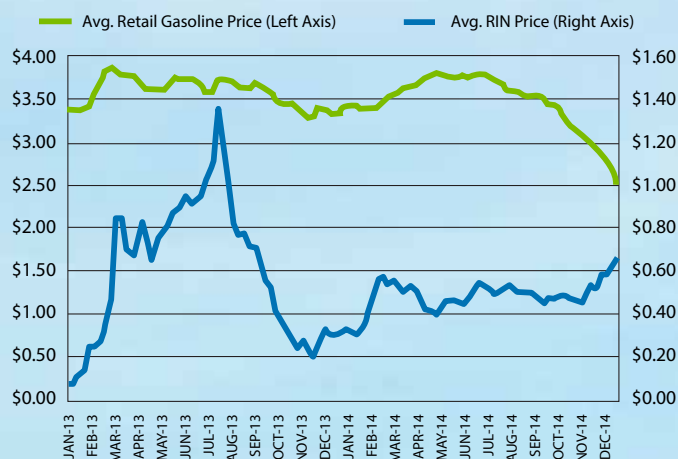
### RENEWABLE FUEL STANDARD (RFS2) STATUTORY REQUIREMENTS

(Billion Gallons)

	Total RFS	Total Advanced Biofuel	Cellulosic Biofuel	Biomass-Based Diesel*	Other Advanced Biofuel	Conventional Renewable Fuel
2008	9.00	0.00	0.00	0.00	0.00	9.00
2009	11.10	0.60	0.00	0.50	0.10	10.50
2010	12.95	0.95	0.10	0.65	0.20	12.00
2011	13.95	1.35	0.25	0.80	0.30	12.60
2012	15.20	2.00	0.50	1.00	0.50	13.20
2013	16.55	2.75	1.00	1.00	0.75	13.80
2014	18.15	3.75	1.75	1.00	1.00	14.40
2015	20.50	5.50	3.00	1.00	1.50	15.00
2016	22.25	7.25	4.25	1.00	2.00	15.00
2017	24.00	9.00	5.50	1.00	2.50	15.00
2018	26.00	11.00	7.00	1.00	3.00	15.00
2019	28.00	13.00	8.50	1.00	3.50	15.00
2020	30.00	15.00	10.50	1.00	3.50	15.00
2021	33.00	18.00	13.50	1.00	3.50	15.00
2022	36.00	21.00	16.00	1.00	4.00	15.00

\*Biomass-based diesel volume must be 1 BG minimum beginning in 2012

### RIN PRICES AND GAS PRICES: NO CONNECTION



Source: Energy Information Administration and OPIS

“Changes in prices of renewable identification numbers (RINs) did not cause changes in retail gasoline prices.”

– Informa Economics

## SOUNDING OFF ON EPA'S 2014 RFS PROPOSAL

***"As a veteran (who served in Iraq and Afghanistan) I know that EPA's proposed changes to the RFS would not only undermine our ability to pursue a diverse energy sector, they would also hinder military readiness. When it comes to creating a more secure energy future – and at a time when these clean, homegrown fuels are taking off – we shouldn't be hobbling the industry."***

*– former Army Captain Michael Breen*

***"We oppose EPA's proposal to reduce the use of ethanol and biofuels in the 2014 RFS. The proposed reduction will have significant impacts on farmers, their income and our dealers and their employees if the proposal is adopted."***

*– North American Equipment Dealers Association*

***"...the RFS has been effective and RIN values have provided the encouragement and incentive for the demonstrated increase in the use of E85 and biodiesel. The growth of E85 and biodiesel can help the nation achieve reductions of ozone precursors, particulate matter, carbon monoxide, toxics and greenhouse gas emissions."***

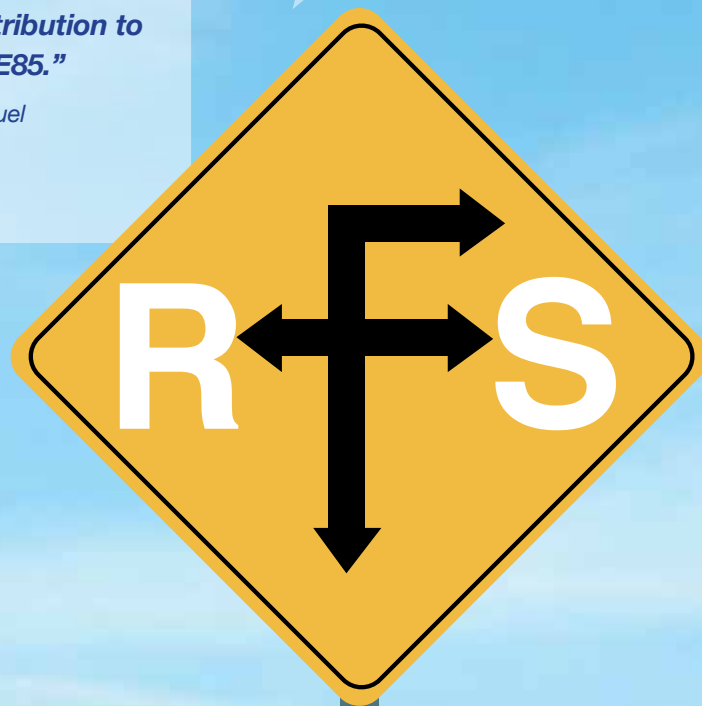
*– Harold Wimmer, National President and CEO of the American Lung Association*

***"This act has put the future growth of the renewable fuel industry in the hands of the fossil fuel competition, which have in the past and continue to use their control of transportation fuel distribution to limit demand for E85."***

*– Steve Walk, Protec Fuel Management*

***"We oppose the proposed rule and support growth in this industry which has created much needed jobs and stronger economies across the Midwest. As our economy continues to recover from the Great Recession, we must not put in place policies that weaken our manufacturing base and the middle class."***

*– Bob King, President of United Automobile, Aerospace and Agricultural Implement Workers of America*



# CORN PRODUCTION AND SUSTAINABILITY

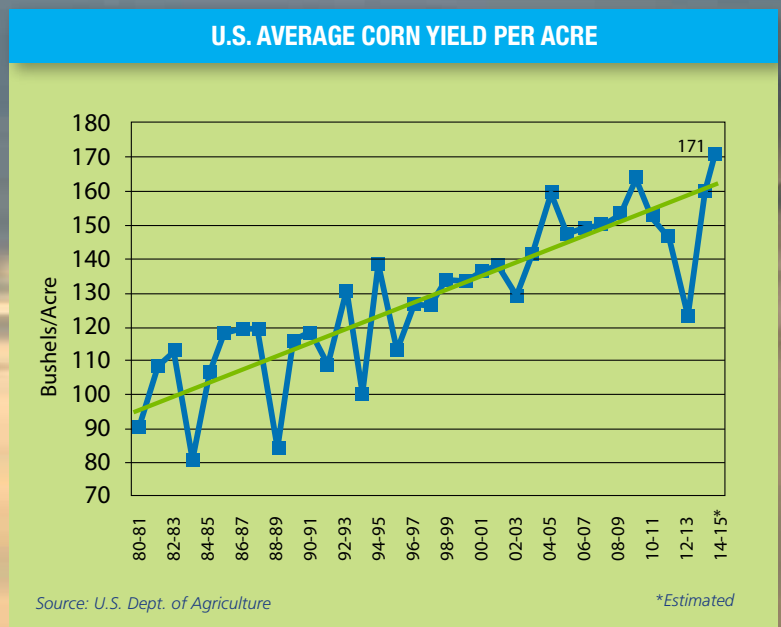
## BIGGER CROPS, SMALLER IMPACTS

**As biofuel** producers churned out a record volume of ethanol in 2014, America's farmers were busy harvesting a record corn crop of 14.2 billion bushels. Not only was it the first time in history that corn production surpassed 14 billion bushels, but farmers also topped 170 bushels per acre (bpa) as the national average yield for the first time ever. In fact, the average yield of 171 bpa was more than six bushels higher than the previous record set in 2009.

A generation ago, this type of productivity was unimaginable. In the early 1990s, average yields were in the 100-120 bpa range, and total corn production averaged about 7.5 billion bushels per year—roughly half of 2014's record haul. Record farm profits over the past decade—driven in large part by growth in corn ethanol demand—enabled farmers to re-invest in new technologies and equipment, which in turn led to unprecedented gains in productivity and efficiency.

*“...the primary land use response of the world's farmers in the last 10 years has been to use available land resources more efficiently rather than to expand the amount of land brought into production. This finding is not new...but this finding has not been recognized by regulators who calculate indirect land use.”*

– Iowa State University Economists  
Bruce Babcock and Zabid Iqbal

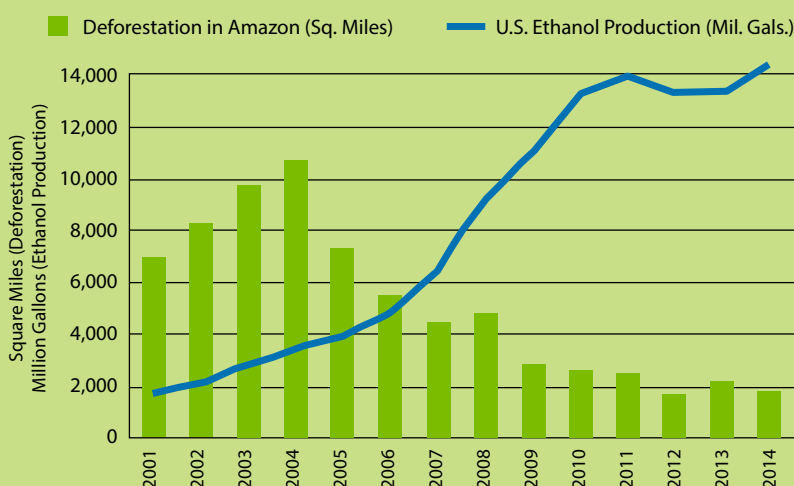


Critics of agriculture and ethanol often fail to acknowledge that this tremendous increase in corn production has been achieved in an environmentally sustainable way. Indeed, fertilizer and pesticide use per bushel of corn has been greatly reduced, water use for irrigation has decreased, on-farm energy use has fallen, and the amount of land in the United States dedicated to crop production has continued to drop.

Further, real-world data has disproven the alarmist theories that increased corn production would exacerbate the hypoxia zone in the Gulf of Mexico and accelerate deforestation and loss of grassland via “indirect land use change.” In fact, the hypoxia zone was nearly 40% smaller in 2014 than in 2001, while the 2014 Amazon deforestation rate was 83% lower than the peak rate in 2004.

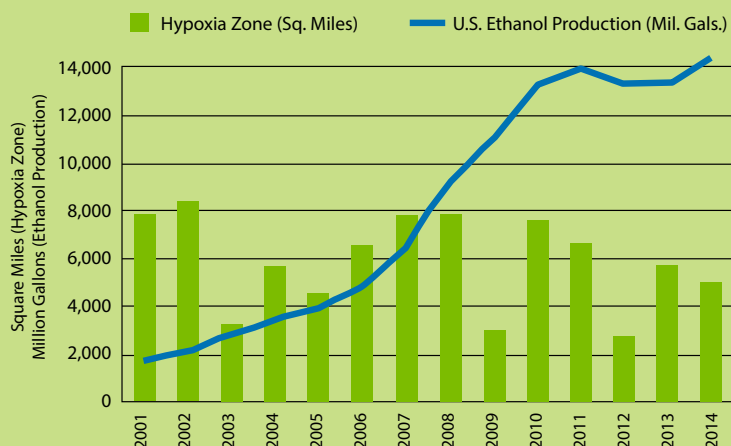


### AMAZON DEFORESTATION RATES VS. U.S. ETHANOL PRODUCTION



Source: National Institute for Space Research (Brazil) and RFA

### SIZE OF GULF OF MEXICO HYPOXIA ZONE VS. U.S. ETHANOL PRODUCTION



Source: Louisiana State University and RFA

***“America’s farmers are doing our part, working hard and smart on our farms to bring in a good crop. It is critical for Washington to remove obstacles and clear a path now so we can sell America’s biggest and most versatile crop at a good and fair price.”***

*– Chip Bowling, Maryland farmer and president of the National Corn Growers Association*

# ETHANOL AND THE ENVIRONMENT

## CLEAN FUELS FOR A CLEANER PLANET

**When** it comes to environmental impacts, ethanol and crude oil are moving in distinctly opposite directions. Over the past two decades, the environmental impacts of producing ethanol have been greatly reduced. Meanwhile, the ecological impacts of petroleum extraction, refining and use continue to worsen, as oil producers have become increasingly reliant on unconventional sources such as tar sands and tight oil from fracking.

The amount of thermal energy required to make a gallon of ethanol has fallen 36% since 1995, while electricity use is down 38%. At the same time, producers are getting 12% more ethanol out of every bushel of corn. Meanwhile, water use has been cut in half since 1998.

The result of these improvements is a smaller carbon footprint and an increase in energy efficiency. According to the Department of Energy's GREET model, average corn ethanol reduces greenhouse gas (GHG) emissions by 34% compared to gasoline—even when hypothetical land use emissions are considered. Without indirect emissions, average corn ethanol decreases GHG emissions by 44%. Further, USDA's latest research shows that 1 unit of energy invested in the corn ethanol production process results in the production of 2.3 units of usable energy in the form of ethanol.

ETHANOL INDUSTRY "VITAL STATISTICS"

	Current Industry Average	Change Since 1995
Natural Gas Use	<b>23,862</b> BTU/gallon	<b>-36%</b>
Electricity Use	<b>0.75</b> kWh/gallon	<b>-38%</b>
Consumptive Water Use	<b>2.7</b> gals. water/gal. ethanol	<b>-53%</b>
Ethanol Yield (Undenatured)	<b>2.82</b> gals. ethanol/bushel corn	<b>+12%</b>
DDG Yield (@10% moisture)	<b>16.7</b> lbs./bushel corn	<b>-6%</b>
Distillers Corn Oil Yield	<b>0.53</b> lbs./bushel corn	<b>n/a</b>
Ethanol Energy Balance	<b>1 : 2.3</b> BTU in: BTU out	<b>+96%</b>
Ethanol GHG Reduction (Including Land Use Change)	<b>-34%</b> Compared to Gasoline	<b>n/a</b>
Ethanol GHG Reduction (Excluding Land Use Change)	<b>-44%</b> Compared to Gasoline	<b>n/a</b>

Sources: Mueller & Kwik (2013); Wang et al (2013); Shapouri et al (2010)

In contrast, new sources of crude oil are often 15-20% more carbon intensive than conventional crude oil and require more energy for extraction. And according to the Alberta government, 8-10 barrels of water are required to produce one barrel of crude oil from bitumen tar sands. What's more, a recent EnergyWire analysis showed that the U.S. oil and gas industry was responsible for more than 7,660 spills, blowouts, and leaks in 2013—an average of about 21 incidents per day.

## Ethanol: The Clean Air Choice

In addition to reducing GHG emissions, ethanol is the best tool available to reduce tailpipe emissions of other harmful pollutants. Adding ethanol to gasoline reduces tailpipe emissions of the following pollutants:

- **Carbon monoxide**, which can cause harmful health effects by reducing oxygen delivery to the body's organs.
- **Exhaust hydrocarbons**, which contribute to ozone, irritate the eyes, damage the lungs, and aggravate respiratory problems.
- **Air toxics like benzene**, which can cause cancer and reproductive effects or birth defects.
- **Fine particulate matter**, which can pass through the throat and nose and enter the lungs, causing serious health effects.

*The use of ethanol in gasoline in 2014 reduced CO<sub>2</sub>-equivalent greenhouse gas emissions from transportation by 39.6 million metric tons—equivalent to removing 8.4 million cars from the road for an entire year.*

– RFA analysis using GREET Model

*“As the average carbon intensity of petroleum is gradually increasing, the carbon intensity of corn ethanol is declining. Corn ethanol producers are motivated by economics to reduce the energy inputs and improve product yields.”*

– Stefan Unnasch, Life Cycle Associates

# RFA COMMITTEES, EDUCATION AND OUTREACH

## ACTION, ADVOCACY, AND EXPERIENCE

**Since 1981**, the RFA has proudly served as the ethanol industry's national trade association. The Association advances policy and regulatory initiatives that support industry growth, educates key decision-makers, serves as the voice of the industry through public and media relations efforts, and provides the technical foundation to move the industry forward. RFA's Board of Directors is solely comprised of ethanol producers who are ascribed one vote per company. In addition, a broad cross-section of RFA producer, associate, and supporting members participate on standing committees that address issues important to the industry.



**The RFA Technical Committee** focuses on fuel specifications and standards development by ASTM International, National Conference of Weights and Measures, ISO, Canadian General Standards Board, and other organizations. Committee members monitor technical issues impacting day-to-day plant operations, such as storage and handling, transportation, and fuel quality, as well as state and regional regulations and international blending practices.

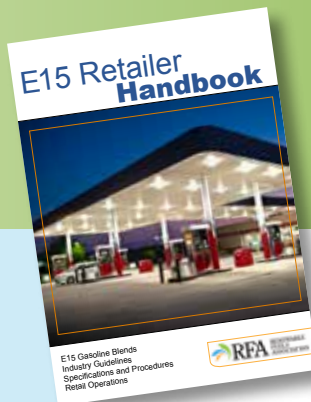
**The RFA Co-Products Committee** focuses on issues relevant to co-products from ethanol production, including distillers grains, corn distillers oil, corn gluten, carbon dioxide and other products. Committee members address operational and regulatory issues concerning production, storage and handling, transportation, international trade, animal nutrition, and animal feed safety.

**The RFA Plant & Employee Safety Committee** leads the industry in advocating safe practices in ethanol production, storage and handling, transportation, and use. Committee members monitor and share information on hazardous materials, safety standards, and federal and state safety regulations. The Committee also supports continuing education for every link of the ethanol supply chain.

**The RFA Environmental Compliance Committee** examines and educates industry stakeholders on the implementation of environmental regulations for production, storage and handling, and transportation of ethanol. The committee tackles complex regulatory issues and provides guidance to members.

**The RFA Export Committee** assesses opportunities and challenges in growing international demand for U.S. ethanol. The group advocates for free and fair trade policies, examines technical and regulatory barriers, interacts with U.S. trade officials, and monitors data and trends in the global trade.

**The Renewable Fuels PAC** builds a stronger voice for American-made renewable fuels on Capitol Hill. Organized and operated by RFA members and staff, this Political Action Committee promotes consistent and forward-looking public policy essential to the growth and evolution of the industry by focusing on federal election activity.



## RFA in Action

RFA knows that increasing the demand for American-made ethanol and its co-products requires targeted methods of education and outreach to industry stakeholders, customers, consumers and key decision-makers. On a daily basis, RFA staff engages on multiple fronts to accomplish the Association's mission.

**Public Policy:** Advocates for ethanol on Capitol Hill, and participates in industry coalitions like Fuels America.

**Technical:** Actively influences standards development, represents industry at technical forums, and provides technical guidance to member companies.

**Regulatory:** Interacts with regulators and provides comments to agencies to ensure regulations are science-based and workable for industry.

**Research:** Sponsors third-party studies and conducts internal research to establish the scientific foundation needed to advance the policy, regulatory and public relations objectives of the industry.

**Marketing:** Conducts major ethanol promotions, such as Sturgis Rally; educates marketers and retailers on ethanol benefits; undertakes consumer outreach through promotional events and social media.

**Safety:** Trains and educates industry operators and first responders on safety issues.

**Trade:** Teams with U.S. Grains Council and Growth Energy to promote ethanol and co-product exports through trade missions and outreach.

### Communications and Public Relations:

Tailors messaging and disseminates information on ethanol to media, policymakers, regulators, opinion leaders, consumers, and industry stakeholders.

**FUELS AMERICA**  
IT'S ALREADY GROWING





## D.C. OFFICE

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<b>Missy Ruff</b>	Technical Services Manager
<b>Robert White</b>	Vice President, Industry Relations

*Staff bios are available at [www.EthanolRFA.org/pages/staff](http://www.EthanolRFA.org/pages/staff).*



The Renewable Fuels Foundation (RFF) is dedicated to meeting the education, research and strategic planning needs of the U.S. fuel ethanol industry. The goal is to assure a growing and healthy renewable fuels industry well into the future. The focus of the RFF is toward academia, industry and public policy makers as we address issues related to new uses, new feedstocks and new technologies that will impact the future of ethanol.

## BOARD OF DIRECTORS

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[www.betatechoppproducts.com](http://www.betatechoppproducts.com)

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Colorado Corn Growers Association

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[www.fcsamerica.com](http://www.fcsamerica.com)

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Illinois Corn Marketing Board

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Indiana Corn Marketing Council

[www.incorn.org](http://www.incorn.org)

Innospec Fuel Specialties

[www.innospecinc.com](http://www.innospecinc.com)

Inspectorate America Corporation

[www.inspectorate.com](http://www.inspectorate.com)

INTL FCStone

[www.intlfcstone.com](http://www.intlfcstone.com)

Iowa Corn Growers Association

[www.iowacorn.org](http://www.iowacorn.org)

Iowa Renewable Fuels Association

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Kansas Corn Commission

[www.ksgrains.com](http://www.ksgrains.com)

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[www.katzen.com](http://www.katzen.com)

Kenan Advantage Group, Inc.

[www.thekag.com](http://www.thekag.com)

Kentucky Corn Promotion Council

[www.KYCorn.org](http://www.KYCorn.org)

Kinder Morgan Inc.

[www.kindermorgan.com](http://www.kindermorgan.com)

Lallemand Biofuels & Distilled Spirits

[www.ethanoltech.com](http://www.ethanoltech.com)

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[www.lansingtradegroup.com](http://www.lansingtradegroup.com)

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Michael Best & Friedrich, LLC

[www.michaelbest.com](http://www.michaelbest.com)

Midwest Laboratories, Inc.

[www.midwestlabs.com](http://www.midwestlabs.com)

Minnesota Bio-Fuels Association

[www.mnbiofuels.org](http://www.mnbiofuels.org)

Minnesota Corn Research & Promotion

Council

[www.mncorn.org](http://www.mncorn.org)

Monsanto

[www.monsanto.com](http://www.monsanto.com)

Motiva Enterprises LLC

[www.motivaenterprises.com](http://www.motivaenterprises.com)

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[www.murexltl.com](http://www.murexltl.com)

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National Corn Growers Association

[www.ncga.com](http://www.ncga.com)

National Sorghum Producers

[www.sorghumgrowers.com](http://www.sorghumgrowers.com)

Nebraska Corn Board

[www.nebraskacorn.org](http://www.nebraskacorn.org)

Noble Group

[www.thisishnoble.com](http://www.thisishnoble.com)

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[www.norfalco.com](http://www.norfalco.com)

North Dakota Corn Council

[www.ndcorn.org](http://www.ndcorn.org)

Ohio Corn Marketing Program

[www.ohiocorn.org](http://www.ohiocorn.org)

PhibroChem

[www.phibrochem.com](http://www.phibrochem.com)

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[www.pineng.com](http://www.pineng.com)

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[www.prxgeo.com](http://www.prxgeo.com)

Renewable Products Marketing Group

[www.rpmgllc.com](http://www.rpmgllc.com)

South Dakota Corn Utilization Council

[www.sdcorn.org](http://www.sdcorn.org)

Syngenta

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[www.transmontaigne.com](http://www.transmontaigne.com)

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[www.uswaterservices.com](http://www.uswaterservices.com)

United Sorghum Checkoff Program

[www.sorghumcheckoff.com](http://www.sorghumcheckoff.com)

## Supporting Members

Agricultural Retailers Association

[www.aradc.org](http://www.aradc.org)

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[www.bemidjistate.edu](http://www.bemidjistate.edu)

Bismarck State College

[www.bsc.nodak.edu](http://www.bsc.nodak.edu)

Colorado Farm Bureau

[www.colofb.com](http://www.colofb.com)

Corn Marketing Program of Michigan

[www.micorn.org](http://www.micorn.org)

Distillers Grains Technology Council

[www.distillersgrains.org](http://www.distillersgrains.org)

Ethanol Producers and Consumers

[www.ethanolmt.org](http://www.ethanolmt.org)

Great Falls Development Authority, Inc.

[www.gfdevelopment.org](http://www.gfdevelopment.org)

Iowa Central Fuel Testing Laboratory

[www.iowafuelab.com](http://www.iowafuelab.com)

Jamestown/Stutsman

Development Corp.

[www.growingjamestown.com](http://www.growingjamestown.com)

Kansas Association of Ethanol

Processors

[www.ethanolkansas.org](http://www.ethanolkansas.org)

Kentucky Energy & Environment Cabinet

- Department for Energy

[www.eec.ky.gov](http://www.eec.ky.gov)

Maryland Grain Producers Utilization

Board

[www.marylandgrain.com](http://www.marylandgrain.com)

Michigan State University – Department

of Agricultural, Food and Resource

Economics

[www.afre.msu.edu](http://www.afre.msu.edu)

Milano – The New School

[www.newschool.edu/milano](http://www.newschool.edu/milano)

Minnesota Department of Agriculture

[www.mda.state.mn.us](http://www.mda.state.mn.us)

Mississippi State University – Department

of Forestry

[www.cfr.msstate.edu/forestry](http://www.cfr.msstate.edu/forestry)

Missouri Corn Growers Association

[www.mocorn.org](http://www.mocorn.org)

Morton College

[www.morton.edu](http://www.morton.edu)

National Corn-to-Ethanol Research

Center

[www.ethanolresearch.com](http://www.ethanolresearch.com)

Nebraska Corn Growers Association

[www.necga.org](http://www.necga.org)

New Jersey Gasoline C-Store Automotive

Association (NJGCA)

[www.njgca.org](http://www.njgca.org)

South Dakota Corn Growers Association

[www.sdcorn.org](http://www.sdcorn.org)

Steele-Waseca Cooperative Electric

[www.swce.coop](http://www.swce.coop)

Sugar Processing Research Institute

[www.sprinc.org](http://www.sprinc.org)

Texas Renewable Energy Industries

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