



# The Renewable Fuel Standard

## Strengthening Energy Independence and the U.S. Farm Economy for 20 Years



August 2025

## The Renewable Fuel Standard at Twenty

**Lower gas prices. More energy independence. Stronger farms. Cleaner air. These results are the proven outcomes of a landmark bipartisan energy policy established twenty years ago, and which continues to deliver benefits today.**

2025 marks the 20th anniversary of the Renewable Fuel Standard, a policy born through the Energy Policy Act of 2005 and expanded in the Energy Independence and Security Act of 2007. Created to promote energy independence and reduce petroleum consumption, the RFS requires transportation fuel sold in the U.S. to contain a minimum volume of renewable fuels each year.

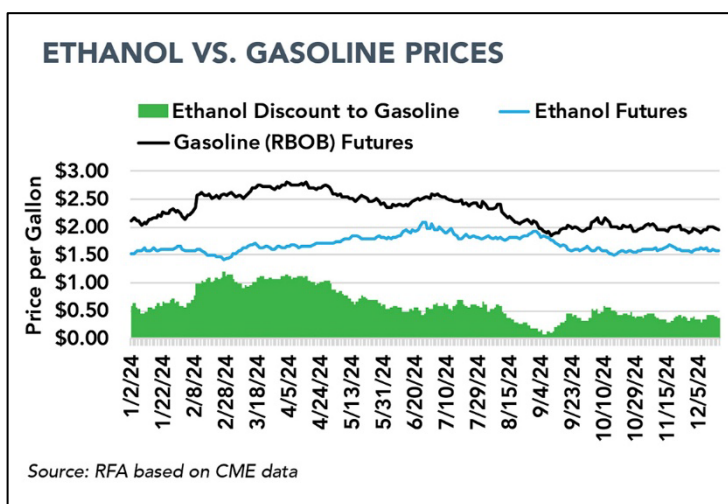
### Lower Gas Prices

One of the most immediate and tangible benefits of the Renewable Fuel Standard has been its impact on fuel prices at the pump.

Prices for ethanol, the most commonly used renewable fuel under the RFS, have consistently traded below the price of gasoline blendstock for the past 20 years.

By requiring that a portion of gasoline include renewable fuels, the RFS introduces a lower-cost component into the fuel supply, helping to keep a lid on prices at the pump.

Numerous independent studies have confirmed this result. For example, a [2023 academic study](#) found that between 2019 and 2022, ethanol blending **lowered pump prices by an average of 77 cents per gallon**, with the range across models spanning \$0.32 to \$1.74 per gallon. Even when crude



oil prices are lower, the inclusion of ethanol continues to exert downward pressure on gasoline prices by expanding the overall fuel supply and increasing competition in the market.

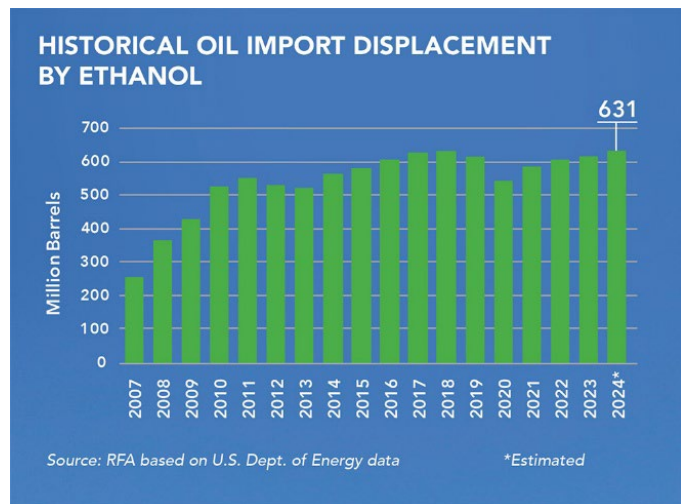
Further, a June 2025 report by Hoekstra Trading LLC points out that [ethanol's octane value](#) is a key driver for lower fuel costs: "If ethanol was removed from the U.S. gasoline pool, replacing its current octane contribution with refinery octane would increase refining cost and the wholesale cost of gasoline by 39 cents per gallon or \$54 billion/year."

The economic mechanics are straightforward. Ethanol adds lower-cost volume to the nation's fuel pool, effectively increasing supply and reducing reliance on petroleum. In times of geopolitical instability—such as conflicts in oil-producing regions or supply chain disruptions—domestic ethanol production serves as a stabilizing force, helping to insulate American consumers from global price shocks.

## Made in America

At its core, the RFS was established to enhance American energy security, and it has succeeded.

Ethanol used by American drivers is produced almost entirely within the United States, relying on domestic crops, technology, and infrastructure. This has helped reduce dependence on foreign oil, a strategic priority since the early 2000s when oil imports were high and global tensions threatened fuel supply chains.



By encouraging domestic fuel production, the RFS helps keep more energy dollars circulating within the U.S. economy. Instead of sending billions of dollars overseas to import petroleum, we grow and refine renewable fuel at home. U.S.-produced ethanol **displaced the need for approximately 630 million barrels** of imported crude oil in 2024 alone. Today, ethanol accounts for approximately 10.5 percent of the nation's gasoline supply, up from just 2.8 percent in 2005 when the RFS was first adopted.

The United States has always been the world's leading producer of ethanol, and now accounts for over half of global production, generating **over 16 billion gallons in 2024**. This homegrown fuel industry supports national interests not only by diversifying energy sources but by building a resilient,

self-reliant infrastructure. That independence is more critical than ever in an era of rising global uncertainty, where energy is both an economic and geopolitical lever.

## Supporting the Farm Economy

Few policies have had as significant an economic impact on rural America as the Renewable Fuel Standard. Corn ethanol in particular has become a major driver of rural development, revitalizing small towns and farming communities across the Midwest and beyond.

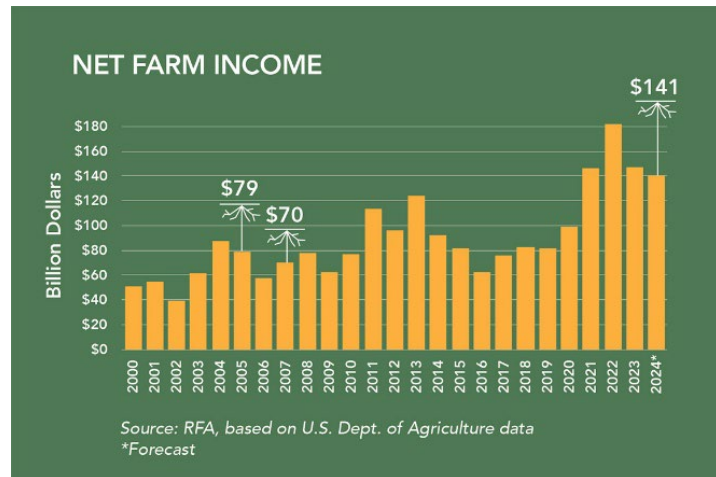
In recent years, the ethanol industry has purchased more than 5.5 billion bushels of corn from America's farmers, accounting for roughly one-third of total

U.S. corn demand. This consistent, high-volume market helps sustain commodity prices and provides farmers with a reliable income stream. In turn, this supports the broader agricultural economy, from seed and fertilizer suppliers to equipment dealers and transport companies. Moreover, tens of thousands of farmers nationwide are also investors in local ethanol biorefineries, meaning they share in the revenues that those facilities generate.

S&P Global Commodity Insights recently noted that the RFS greatly boosted corn cash receipts through higher prices and production levels while also contributing to farmland value appreciation and farm sector wealth buildup. Farmer **cash receipts for corn increased a cumulative \$270 billion** between 2005 and 2024, and average **Corn Belt farmland value per acre is \$2,990 above the national average**.

The [economic ripple effects](#) of this policy success are considerable. The U.S. ethanol industry **supported over 300,000 American jobs** and **added more than \$50 billion to the nation's GDP** in 2024. Many of these jobs are in rural areas where employment opportunities may otherwise be limited.

Beyond the numbers, ethanol biorefineries often serve as economic anchors in small towns, providing high-paying, skilled jobs in communities that might otherwise suffer from population loss and economic decline. Tax revenue from these plants funds schools, roads, and emergency services, helping sustain the social fabric of rural life.



## Helping the Air and the Environment

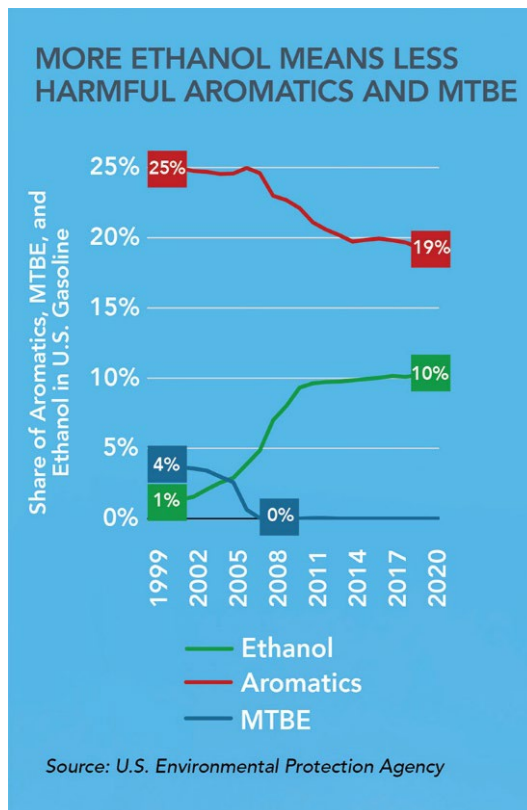
As a secondary objective, the RFS was also designed to reduce greenhouse gas (GHG) emissions and improve air quality—and here, too, it has delivered. Ethanol burns cleaner than gasoline, producing fewer tailpipe emissions of carbon monoxide, particulate matter, and toxic air pollutants. When used in higher-blends like E15 or E85, ethanol’s air-quality benefits become even more pronounced.

From a full lifecycle perspective, ethanol offers substantial GHG reductions compared to conventional gasoline. Modern **corn ethanol reduces GHG emissions by 45–55 percent**, according to recent estimates from the Department of Energy, California Air Resources Board, Oregon Department of Environmental Quality, Harvard University and others.

S&P Global Commodity Insights reports that, over the lifetime of the RFS, the U.S. ethanol industry has contributed to **a reduction of over 788 million metric tons** (MMT) of GHG emissions. Other studies have tracked similar or even better results, such as a [2021 report](#) by Life Cycle Associates that concluded that from 2008–2020, the use of all biofuels under the RFS has resulted in **cumulative savings of 980 MMT** of carbon dioxide-equivalent greenhouse gas emissions.

It's not just in the area of greenhouse gas emissions that we are seeing ethanol’s environmental benefits. EPA data show that as ethanol use has increased over the past two decades, the most harmful components of gasoline—namely aromatics and MTBE—have been significantly reduced. [A 2021 study](#) by the Hormel Institute, University of Minnesota, and the Energy Resources Center at the University of Illinois Chicago demonstrates that using more ethanol in our fuel can **significantly reduce cancer risk** by displacing the most dangerous and toxic chemicals in gasoline. And testing of 20 vehicles by the University of California, Riverside in 2022 found that simply replacing E10 (gasoline blended with 10 percent ethanol) with E15 (gasoline containing 15 percent ethanol) provides the following [emissions benefits](#):

- **Particulate matter reductions of 18 percent**
- **Hydrocarbon gas emissions reductions of 5 to 8 percent**
- **Carbon monoxide reductions of 17 percent**
- **Nitrogen oxide reductions of 3 percent**



Follow-up research by the Hormel Institute in 2025 found ethanol blends, particularly the E15 blend, are [the better choice](#) when it comes to fuel oxygenate additives to avoid harmful chemicals that are linked to air pollution and cancer: Our results are consistent with findings by other investigators showing that ***BTEX exposure levels can be significantly reduced by adding ethanol to gasoline.*** BTEX refers to a group of four “aromatic” hydrocarbon compounds that have been extensively linked to health risks: benzene, toluene, ethylbenzene, and xylenes.

## A Policy with Enduring Value

The Renewable Fuel Standard’s success speaks for itself. It has helped lower fuel prices for American consumers, reduced our dependence on foreign oil, revitalized rural economies, and cut greenhouse gas and particulate emissions—all while building a domestic energy sector that is cleaner and more competitive, diverse and resilient.

Like any major public policy, the RFS has faced challenges, including fluctuating market dynamics, regulatory uncertainty, and evolving environmental priorities. But the core value proposition remains clear: By investing in American-made renewable fuels, the RFS supports our national interests economically, environmentally, and socially.

As the United States continues to chart a course toward a more secure and diversified energy future, the RFS can continue to serve as a foundational model—a policy that bridges economic development and environmental responsibility. Far from being a relic of early-2000s energy policy, as some opponents claim, the RFS is a living example of how thoughtful bipartisan legislation can deliver long-term, multi-dimensional benefits.

In celebrating two decades of the RFS, we also look ahead—to new innovations in production methods and fuel technologies that will continue to lower emissions, support farmers, and deliver value to everyday Americans. ***The Renewable Fuel Standard is about a future fueled by American innovation.***



Learn more at [www.EthanolRFA.org](http://www.EthanolRFA.org)