



Renewable Fuel Standard (RFS)

Renewable Fuel Standard (RFS) prices are surging. 2021 is on track to be the most expensive year for the program by a long shot. Refineries and consumers are bearing the impact of these historic costs.

What is the RFS?

The RFS program was created in 2005 and expanded in 2007 as part of the Energy Independence and Security Act. The program requires that transportation fuel (gasoline and diesel) contain minimum volumes of renewable fuels, and those volume mandates typically increase every year. Conventional corn ethanol (which gets blended into gasoline) accounts for the lion's share of RFS compliance.

How does the RFS work?

Individual refineries are the "obligated parties" under the RFS. That means each refining facility is required to prove that enough biofuels are being added to gasoline and diesel fuel each year. The way refineries submit their proof to the Environmental Protection Agency (EPA) is by turning in a sufficient slate of renewable identification numbers (RINs).

RINs are acquired by whoever blends ethanol into wholesale gasoline. One gallon of ethanol blended = one D6 conventional ethanol RIN. However, blending generally isn't done at refineries. It's typically done at separate fuel terminals, by non-obligated parties, closer to the point of final sale to consumers.

Because of this structure, refineries must often buy RINs second-hand on the open market. Ethanol RIN market prices have broken records this year, and one reason is because they're in short supply.

If we're running out of RINs, why can't we just use more ethanol?

There's a limit to how much ethanol our gasoline supply can absorb.

Ethanol is chemically different from gasoline and can't travel through pipelines along with refinery wholesale gas (which is why it's typically added at terminals rather than refineries). Additionally, most vehicle, power equipment and recreational engines are only able to handle gasoline blends with a maximum of 10% ethanol (called E10). If gasoline consumption was higher, like Congress thought it would be, this 10% limit would not be an issue, but because we're using less gasoline overall, it's a major hurdle. For example, fifteen billion gallons of ethanol into a smaller pool of gasoline is more than our infrastructure can handle.

We're in danger of running out of RINs.

Every year biofuel mandates increase in size, beyond consumer demand and infrastructural capacity, the supply of RINs for sale tends to go down and the price for remaining RINs climbs higher. We're seeing this play out in 2021. The number of second-hand RINs available for purchase is dwindling rapidly, and many believe the RIN bank could completely zero out in the near future.



Renewable Fuel Standard (RFS) *continued*

When Congress passed the RFS, they believed gasoline and diesel consumption in the United States would continue rising for decades. But today, the projections from 2007 are about 20% off, meaning drivers are using about 40 billion gallons less gasoline. That simple fact is at the root of many RFS problems.

RFS Costs Are Unsustainable

RFS compliance costs are unsustainable. Though most people have never heard of RINs, they have felt their impact: According to OPIS, RIN purchasing is adding more than 20-cents to the wholesale cost of each gallon of gasoline and diesel leaving refineries.

These RFS bills add up to billions of dollars per year, threatening good-paying American jobs and critical refining capacity—both of which are important for energy security and consumer costs.

2021 has seen unprecedented RFS price surges and RIN market volatility

Total compliance costs for 2021 are on a trajectory to reach between \$25 and \$30 billion.

RFS makes each gallon of gasoline and diesel more expensive to produce, adding as much as 30-cents per gallon earlier this year.

Compliance is frequently the second-largest operating expense for refineries, exceeding payroll and benefits and trailing only the cost of crude oil.

President Biden, EPA Administrator Michael Regan, Congress and regulators need to take a serious look at the current state of the RFS program and take steps to reform it so that compliance costs don't put refineries out of business or threaten America's energy security.

To learn more about the need to fix the RFS program, visit afpm.empower.org.