

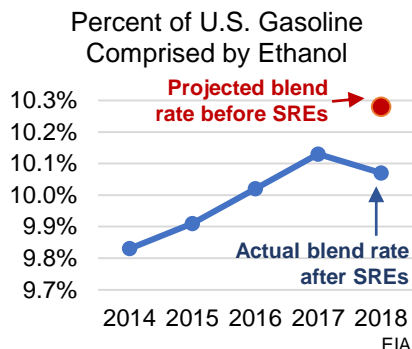
# Evidence of Demand Destruction from Small Refiner Exemptions

## Domestic Ethanol Demand is Down

U.S. ethanol consumption in 2018 was nearly 300 million gallons (mg) below the level forecast by the EIA at the start of the year and more than 100 mg lower than in 2017. **This was the first decline in consumption in more than 20 years.**

The U.S. ethanol blend rate—the average content of ethanol in the gasoline pool—fell to 10.07% in 2018 from 10.13% in 2017. This was **far below expectations** at the start of 2018, when EIA had forecasted an implied ethanol blend rate of **10.26%**. The U.S. ethanol industry had ramped up production in anticipation of demand that did not materialize due to SREs.

### Ethanol blending has fallen



- In January 2018, EIA projected 2019 domestic ethanol use at **14.82 billion gallons (bg)**
- By August 2019, EIA had cut projected 2019 domestic use to **14.37 bg**, a difference of **450 mg**
- EIA "...assumes that growth in higher-level ethanol blends is limited in the near-term by recent **Small Refinery Exemptions** that **reduced volumes of renewable fuel required under the RFS...**"

### Minnesota Dept. of Commerce data show E15 sales fell as RIN prices plunged

- E15 sales between December 2018 and May 2019 were **down 13%** compared to the same period a year earlier. RIN prices dropped 67% in the same period.

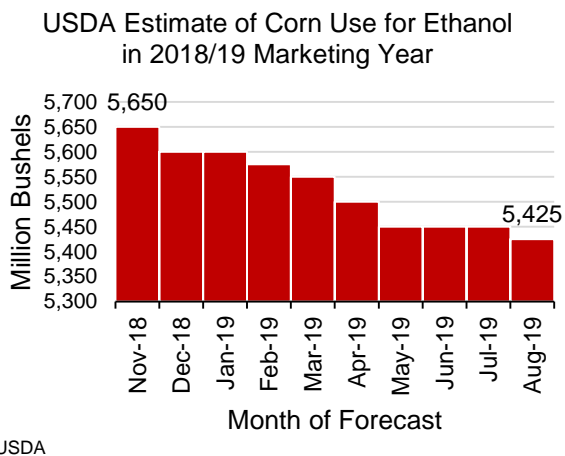
## Corn Use for Ethanol is Down

In the wake of 2016 and 2017 SREs being announced in 2018, the USDA has continually reduced its estimate of the amount of corn used by ethanol plants, as more plants announce they are idling production.

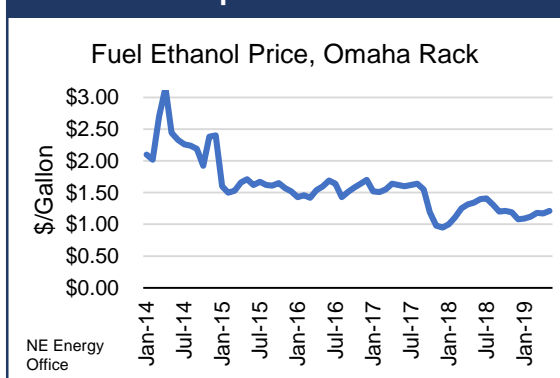
USDA has reduced its estimate of corn use for ethanol in the 2018/19 marketing year by **225 million bushels**—roughly equivalent to the entire Michigan corn crop.

Corn prices have **fallen 48 cents per bushel**—or 12 percent—since EPA announced 31 more SREs on August 9.

### Corn demand has fallen



### Ethanol prices have fallen



## Ethanol Prices are Down

Demand has two components—quantity and price—and SREs affected both.

In the wake of massive SREs in early 2018, ethanol prices plummeted in an attempt to buy back demand and maintain as much market share as possible.

In the absence of SREs, ethanol prices would have been higher by an average of **24 cents/gallon** in 2018. This cut industry revenues by **\$3.9 billion**.

## Ethanol Plants are Closing

As ethanol demand has softened, prices have fallen and profit margins have turned negative.

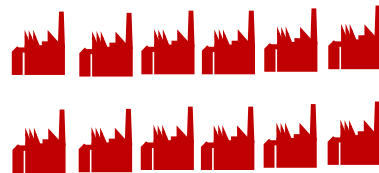
As a result, plants have been forced to idle or shut down permanently. Since the first quarter of 2018—when EPA began massively expand SREs—at least **15 ethanol plants have idled production or permanently closed.**

Each plant directly employs 40-50 workers and supports hundreds more indirect jobs. More than **2,500 jobs** have been by recent closures.

## Plants are closing and jobs are being lost

**12**

plants  
have  
idled



**3**

Plants permanently  
closed



## Demand Destruction is Taking a Toll on Ethanol Producers

**Recent financial filings and earnings calls have detailed the demand destruction and economic hardship caused by SREs.**

*“The EPA has granted over 2.6 billion gallons of small refinery exemptions over the last two years to the oil industry, approving all 54 requests in that timeframe, which is unprecedented. **Abuse of the RFS has dampened demand for our product.**” — Pacific Ethanol CEO Neil Koehler*

*“Small refinery exemptions issued by the EPA have absolutely hurt this industry as domestic blending is lower than last year. **While the EPA says blending is not being impacted, they are dead wrong.**” — Green Plains Renewable Energy CEO Todd Becker*

*“With negative margins in the industry persisting, you’re starting to see smaller ethanol refineries shut down now. The small refinery exemptions are out there—**that’s a negative for the industry here.**” — Ray Young, ADM*

*“Crush spreads have also been affected by low RIN prices, which we believe is **a result of the EPA issuing hardship waivers** to a significant amount of refineries causing a requirement for less RINs overall.” — Executive Chairman Stuart Rose, REX American Resources Corp.*

*“The federal government is sitting at **a decision point about the small refinery exemptions...** If we just enforced federal law the supply/demand of ethanol will dramatically improve, resulting in a significant improvement in margins for the ethanol industry.” — Aemetis CEO Eric McAfee*

*“...we continue to see very tight margins. The industry has become dependent on continued export demand to offset the **EPA induced shift in demand due to small refinery waivers.**” — SIRE CEO Mike Jerke*

*“Most importantly for ethanol in the near term, EPA continues to grant extensive small refinery exemptions. This **demand impact is immediate** and demonstrates the ongoing support of the current administration for the fossil fuel industry and continuing hostility towards the ethanol industry.” — Lincolnway Energy*

*“If SRE waivers continue to be granted and ethanol supplies remain greater than ethanol demand, it could **negatively impact ethanol prices** and could **negatively impact our profitability** for the remaining quarters of 2019 and beyond.” — Golden Grain Energy*

*“Increased waivers of small refiner RVOs by the US EPA, as well as uncertainty regarding the potential RFS reset, will **contribute to the projected tight margins.**” — Granite Falls Energy*

*“Management attributes this decrease in ethanol prices with decreased ethanol demand **due to small refinery exemptions from the RFS** issued by the EPA during 2018 and 2019.” — Homeland Energy Solutions*

*“The practice of granting RFS waivers has continued into our 2019 fiscal year which has continued to **negatively impact ethanol demand.** Management expects this negative impact to continue so long as the EPA issues these small refinery exemptions from the RFS.” — Red Trail Energy*