Potential Impacts of the EPA's Proposed RFS Requirements for 2017

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The U.S. Environmental Protection Agency (EPA) released their proposed targets for the 2017 Renewable Fuel Standard (RFS). Their proposal also included the 2018 target for biomass-based diesel use. The latest proposal seeks to build on the 2014-2016 standards that were finalized toward the end of 2015. The year-over-year increases remain modest, however, as the EPA plans to invoke its general and cellulosic waiver authorities to waive large portions of the overall, advanced, and cellulosic RFS mandates.

This bulletin presents a snapshot of biofuel and related market impacts that might arise if these RFS targets were adopted and continued to grow at a moderate pace going forward. The results below were obtained using the FAPRI-MU stochastic model[1] and are compared to the results of the 2016 Baseline Outlook (see [FAPRI-MU Report #02-16](#)).

As can be seen in Table 1, the proposed standards for 2017 do not differ much from the requirements that were assumed in the earlier FAPRI-MU release. The EPA cites slow growth in renewable fuel distribution infrastructure, particularly as it relates to ethanol-gasoline blends such as E15 and E85, as one reason for constraining the targets' growth in the near term. In the modified baseline, we continue to assume modest linear growth rates for each of the standards beyond 2017. Based on the slightly higher starting point, the RFS standards we assume toward the end of the projection period are also higher. We continue to assume, however, that the maximum contribution from conventional ethanol toward the overall RFS requirement is held at 15 billion gallons.

Comparison of RFS percent standards for in recent FAPRI publications

	2017 Proposed	2025 Assumed	2017 March Baseline	2025 March Baseline
Overall	10.44%	11.24%	10.20%	11.00%
Advanced	2.22%	2.30%	2.02%	2.10%
Biomass-based diesel	1.67%	1.90%	1.64%	1.84%
Cellulosic	0.173%	0.573%	0.178%	0.578%

Note: We assume the maximum contribution from conventional ethanol toward the overall requirement is held at 15 billion gallons for the projection period.
Sources: EPA (2016); FAPRI-MU (2016)

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1. The FAPRI-MU system of structural supply and demand equations represents major agricultural commodities and commodity products, including biofuels, with a focus on the U.S. The results of any given projection, however, depend on given various conditions, such as variations in crop yields or petroleum prices. If conditions change, then FAPRI-MU projections follow a different path. The stochastic model draws randomly those conditioning factors to generate 500 different projection paths. The results presented here are a summary of those 500 outcomes.

Summary:

This bulletin presents a snapshot of biofuel and related market impacts that might arise if these RFS targets were adopted and continued to grow at a moderate pace going forward.

For more on this topic, see these FAPRI-MU publications:

Report #02-16
2016 U.S. Baseline Briefing Book

Bulletin #09-15
How Hard Will EPA Push the Accelerator on Biofuel Expansion? What Could it Mean for RIN Prices and Compliance Costs?

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Figure 1. Near-term stochastic ranges and comparisons to March Baseline average. *Note: The red points depict the stochastic average of outcomes generated for the March Baseline. The results using the new EPA proposal are represented by boxes that span the 25th and 75th percentiles, a middle bar that shows the stochastic average, and upper and lower bars that represent the 90th and 10th percentiles, respectively.*

(a) Corn price

(c) Conventional RIN price

(c) Biodiesel RIN price

(d) Soybean oil price
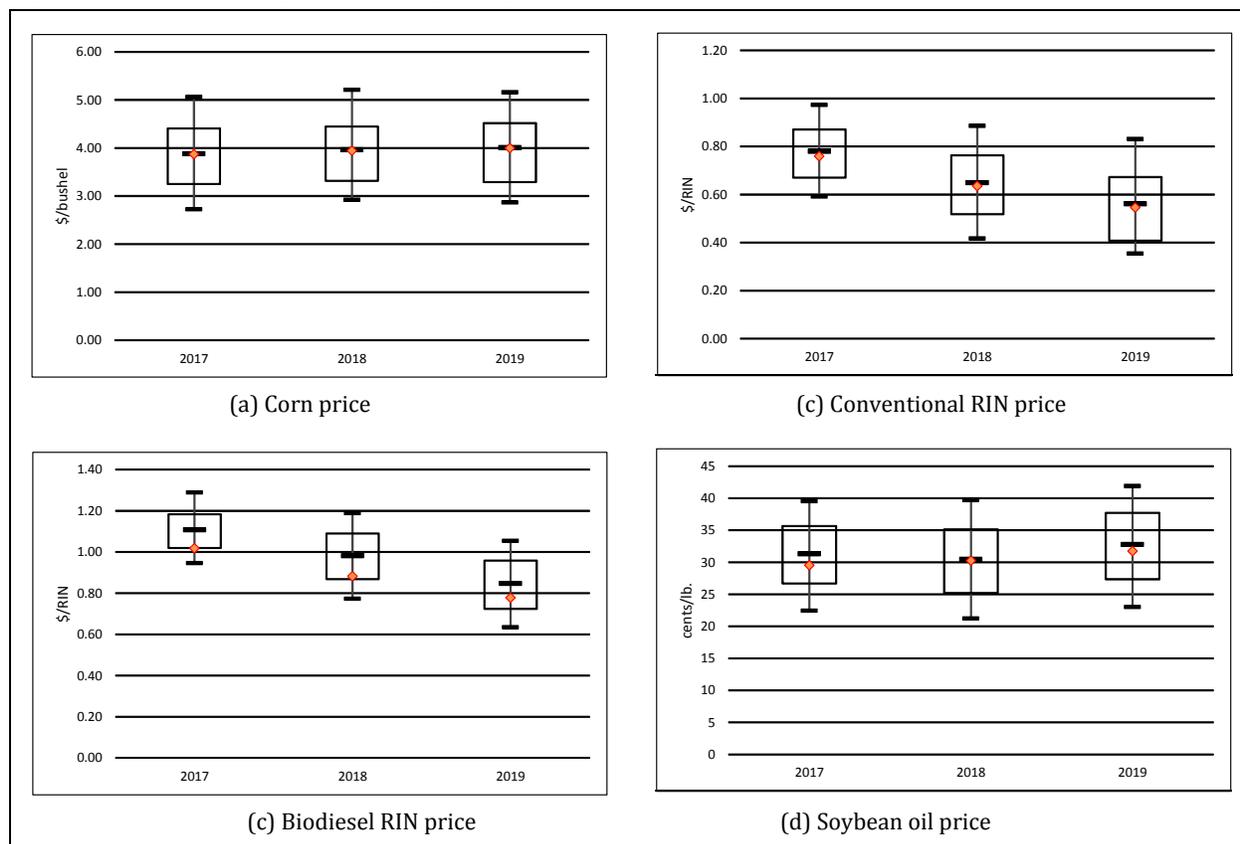
Overall, the near-term market impacts relative to the baseline averages we prepared in March are vanishingly small in most cases. In panels (a) and (b) in figure 1, the average corn prices rise from $3.88 to $4.01 per bushel while conventional RIN prices fall from $0.76 to $0.55 per RIN. Those represent differences from the baseline by $0.01-$0.02 per unit in each case. Biodiesel RINs, shown in panel (c), tend to be higher on average by about $0.10 per RIN, though they follow a downward trend similar to the baseline and fall from $1.11 to $0.85 per RIN. This suggests that the current RFS requirements for biomass-based diesel are quite binding, in and of themselves, and even small future increases in the mandate might have a pronounced effect on those RIN prices. Although, the biodiesel requirements increase under the new RFS proposal, panel (d) shows only modest impacts on the average soybean oil prices, which fluctuate in 31 to 33 cents per lb. range. This is due in large part to the expansion of biodiesel produced from feedstocks other than soybean oil. Producers have multiple feedstocks to choose from, so the impacts are spread out among the various feedstock markets.

As with any market projection, there are numerous assumptions made, and their surrounding uncertainties leave open the possibility of market impacts that look much different than those shown here. The RFS standards we apply are only proposals at this point. The final standards are likely to be somewhat different, and the growth of future requirements is a key assumption we make that will have a large impact on the market effects we might see going forward. On the biodiesel side, we continue to assume the blenders tax credit expires at the end of 2016, so it is not having any impact on the results above. If it were be extended again, or if it were changed to a producer credit, the biodiesel impacts for the projection period might look much different.