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The Administration's Ethanol Package Exacerbates the Cost of the Renewable Fuel Standard

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KEY TAKEAWAYS

The renewable fuel standard (RFS) concentrates benefits to the politically connected, drives up food and fuel prices—and has unintended environmental consequences.

The Trump Administration's proposal would force more biofuels into the market regardless of the demand for the product. The proposal will punish large refiners.

Congress should repeal the RFS. Short of full repeal, the EPA should reduce ethanol-volume obligations to better comport with market realities.

In response to the renewable fuel lobby's discontent with the Environmental Protection Agency's (EPA's) small-refinery exemption to forgo biofuel-blending requirements, President Donald Trump tweeted that a new "giant package" will be "Great for all!"[1] The plan seeks to "ensure that more than 15 billion gallons of conventional ethanol be blended into the nation's fuel supply beginning in 2020," which is more than required by law.[2] The package, though not finalized, will pass 2020 and future ethanol-volume obligations on to larger refiners that do not qualify for an exemption. The EPA will adjust the targets based on a rolling three-year average of refinery exemptions granted by the EPA.

The Administration's package is *not* great for all. The renewable fuel standard (RFS) concentrates benefits on a select few, while spreading the costs among the rest of Americans. The RFS increases food and fuel

prices and results in a number of unintended consequences. The Trump Administration's proposal will exacerbate the market distortions caused by the RFS and unnecessarily pass costs to non-exempt refineries without any due process of law. Furthermore, the EPA does not have authority under the Clean Air Act to use a three-year rolling average of small-refinery exemptions to expand ethanol mandates to larger refiners.

Congress would be wise to repeal the RFS in its entirety. At the very least, the EPA should reduce blending requirements to comport with market realities. Reducing the requirements will relieve a portion of the economic burden that the RFS imposes on drivers, and prevent the unjust harm caused by shifting additional costs to refineries that do not qualify for an exemption.

If the Administration truly wants to pursue a "win-win" policy that will be great for the oil industry, the ethanol industry and, most important, for American households, it should seek a zero-tariff policy with America's trading partners. Import tariffs and counter-tariffs only serve to tax consumers and shield special interests from competition, both of which are bad for domestic economic growth. The Administration should also encourage other major biofuel-consuming countries, such as Brazil, to open their markets to American ethanol producers.

What Is the Renewable Fuel Standard?

Ethanol, the most common biofuel, is made from corn, sugarcane, potatoes, soybeans, and other biomass.[3] In the United States, the most common form of ethanol is corn-based. Before any federal mandate existed, fuel blenders used ethanol as an additive to gasoline, helping to reduce local air pollution and increasing a fuel's octane, allowing it to burn more efficiently.[4]

To ween America off of its alleged dependence on foreign oil, President George W. Bush signed the Energy Policy Act of 2005,[5] which mandated that fuel suppliers blend renewable fuels into America's gasoline supply. The RFS mandates that suppliers blend increasing amounts of renewable fuel into domestic transportation fuel each year. The Energy Independence and Security Act of 2007, which increased the RFS, set a target of 36 billion gallons of biofuels by 2022.

The RFS contains several "sub mandates" for different categories of biofuels, primarily a mandate for conventional ethanol (primarily corn-based) and advanced biofuels from non-food and non-feed sources. The conventional ethanol has a cap of 15 billion gallons. Beyond 2022, the EPA has authority to set yearly targets.[6]

Each refiner in the United States has to meet a requirement that a certain percentage of domestic sales contain blended ethanol, called a renewable volume obligation (RVO). Refiners can meet part of their requirement by buying credits or carrying over credits generated from the previous year.

Congress also empowered the EPA to waive or modify the annual requirements each year. For instance, the EPA can partly or fully waive the mandate if domestic biofuel supplies cannot fulfill the targets set by the statute, which has occurred consistently with cellulosic ethanol.[7] Furthermore, the EPA can use waiver authority if the RFS "would severely harm the economy or environment of a state, a region, or the United States."[8]

By law, the EPA must set the 2020 standards by November 30. In July 2019, the Administrator proposed targets of:

- 15 billion for conventional ethanol (maintained at the cap set by the law);
- 5.04 billion of advanced biofuel (0.12 billion gallons higher than 2019);
- 0.54 billion gallons for cellulosic ethanol (0.12 billion gallons higher than 2019); and
- 2.43 billion gallons for biomass-based diesel (maintained at 2019 level).[9]

When enacting the RFS, assumptions about oil supplies and gasoline demand have proven to be shortsighted and inaccurate, revealing the inability of the federal government to centrally plan energy markets. For instance, the advanced biofuels from non-food-based sources are the least economically competitive. The production from both advanced biofuels and cellulosic ethanol are approximately 10 billion barrels below what Congress envisioned when it set the targets.[10]

Furthermore, petroleum refiners have come up against the "blend wall."[11] Policymakers assumed an increase in gasoline demand when they set the ethanol targets, but increased fuel economy and the economic decline in the late 2000s and early 2010s slowed consumption down. Continued forced compliance with the RFS could force refiners to blend more ethanol than the market needs, imposing additional costs on drivers. The reality is that policymakers and regulators, no matter how well intentioned or well informed with data, cannot foresee how prices, consumers' preferences, or technological innovation will change over time. Beyond the fundamental

flaws of central planning, the RFS has imposed substantial economic harm and created unwanted environmental consequences.

The Economic and Environmental Costs of the RFS Mandate

Originally praised as a sound energy and environment policy, the RFS is neither. The mandate changes land-use activities, incentivizing land clearing for new crop production or substituting existing cropland to plant crops that benefit from the mandate. Consequently, the government-imposed mandate and accompanying biofuel subsidies have increased food and fuel prices, harmed rural communities, and resulted in unforeseen environmental costs.

For instance, the mandate diverts food for fuel, increasing crop and feedstock prices. Research from the University of California at Davis finds that increased demand for corn and soybeans due to the RFS increased prices by 30 percent and 20 percent, respectively.[12] Higher crop prices harm consumers multiple times over. Corn is a key ingredient for many foods and an important feedstock for animals. Consequently, families pay more for cereal, chicken, turkey, beef, and all of the other food products that rely on corn as a staple input.

The mandate also increases other crop and food prices because the policy changes how farmers use their land. Aaron Smith, the University of California–Davis economist who projects a 20 percent increase in soybean prices also estimates a roughly 20 percent increase in wheat prices because wheat acreage decreased as corn and soybean acreage increased.[13] Economists at Kansas State estimate that the mandate increased corn acreage by 7.5 million acres on existing cropland. They estimate that 60 percent of the corn crop expansion between 1999 to 2006 and 2009 to 2016 is a result of the RFS.

Consumers feel the pain of the policy at the pump, too. According to the Energy Policy Research Foundation, as well as other independent analyses, the RFS has driven up gasoline prices by between 6 cents and 9 cents per gallon.[14] From 2015 to 2018, the projected cumulative cost to consumers is between $6.5 billion and $16.2 billion per year.[15] A recent Government Accountability Office (GAO) study concluded that most Americans pay more at the pump because of the RFS.[16]

Another cost is the adverse environmental effects caused by the RFS due to land-use changes. A team of economists published a paper for the National Wildlife Foundation and found that the RFS resulted in the "conversion of 1.6 million acres of grassland, shrubland, wetland and

forestland into cropland between 2008 and 2016."[17] The changes adversely affect wildlife habitat and water resources, and increase greenhouse gas emissions.[18]

Furthermore, the land-use conversion causes more of the unwanted environmental byproducts of farming, such as increased use of fertilizers, and more soil erosion, sedimentation, and nitrogen and phosphorous runoff. The EPA acknowledges that increased renewable fuel would result in higher emissions of air pollutants such as particulate matter and nitrogen oxides and stated that "[i]n addition to air quality, there are also expected to be adverse impacts on both water quality and quantity as the production of biofuels and their feedstocks increase."[19]

When it comes to climate policy, the RFS is very ineffective. Several studies have shown that land-use conversion and increased emissions from additional farming result in higher levels of carbon dioxide released into the atmosphere compared to regular gasoline. The aforementioned GAO report found little, if any, evidence of the mandate's impact on greenhouse gas emissions.[20] At the very least, the conclusion as to whether biofuel mandates increase or decrease global greenhouse gas emissions are mixed. Nevertheless, the overall climate impact of biofuels policies measured in terms of abated warming and sea-level rise are negligible.

Small-Refinery Exemptions and Problems with the Trump Administration's New Proposal

The RFS is a significant cost to American refiners, which is why the United Steelworkers and other unions involved with refineries have voiced their frustration with the policy. Compliance with the RFS has exceeded $1 billion in some years, and for some small and mid-sized refineries, RFS compliance is one of the biggest expenses.[21] Whether small or large, refiners pass costs to consumers. If refiners absorb the financial penalty, they are allocating money for RFS compliance that could otherwise be invested in new infrastructure, innovative technologies, and new hires.

Small refineries can petition the EPA for exemptions if the refiner proves that the RFS causes "disproportionate economic hardship."[22] The Administration granted 31 waivers for 2018, significantly more than the seven the Obama Administration granted in 2015.[23] Despite complaints from the ethanol lobby that the exemptions would destroy ethanol markets, University of Illinois at Urbana–Champaign agricultural economist Scott Irwin found that "there is little if any evidence that the physical use of ethanol has declined during the last year."[24] Rather, Irwin finds that an

oversupplied market depressed ethanol prices, not the exemptions creating so-called demand destruction.[25]

Nevertheless, the exemptions angered farmers and the ethanol industry, prompting a response from the Administration. President Trump promised a plan to boost ethanol production to appease the narrow set of special interests benefiting from the RFS. The proposal would force more biofuels into the market regardless of the demand for the product. Specifically, the Administration is proposing to pass the 2020 ethanol-volume obligations to non-exempt refiners and set higher targets for larger refiners based on a three-year rolling average of the volume of the small-refinery exemptions. For the 2020 compliance year, such a proposal would mandate an additional billion gallons of ethanol blending for larger refiners.[26]

While the plan still lacks many specific details, there are numerous problems with the Administration's idea. Chief among them are that they would:

- **Exacerbate the market distortions caused by the RFS.** The small-refinery exemptions provided a welcome, albeit marginal, reprieve from the economic and environmental costs imposed by the RFS. Increasing the targets beyond what the market can bear will distort the market by artificially increasing the demand for biofuels. The compliance will harm consumers who will incur the burden of higher prices.

- **Punish complaint refiners without due process.** Re-allocating the volumes to refineries that do not qualify for small-refinery exemptions is problematic for several reasons. The proposal would punish these refineries financially, but at an even greater amount, for doing nothing but complying with the law. The statute does not grant the EPA authority to re-allocate the volumetric exemptions to non-qualifying refiners. Non-exempt refiners will incur an additional financial penalty without any due process of law.

- **Expand the federal government's control over the transportation fuel market.** The Administration's package will put more predictions and decisions in the hands of Washington regulators. Not only will the EPA have to speculate how much gasoline and diesel each refinery might produce, the agency would also have to guess which small refineries will petition for exemptions, for how much blending they might need an exemption, and which ones might demonstrate "disproportionate economic hardship." Granting or denying an

exemption petition is a complicated process. Re-allocating volume obligations to non-qualifying refineries would not only complicate the process but introduce more arbitrariness and subjectivity into the EPA's role mandating biofuel use. Using a three-year rolling average does not solve the issue of the EPA's future targets being largely guesswork.

Recommendations for Congress

The RFS has not lived up to its economic and environmental expectations. A central problem of the RFS is not the use of biofuels themselves, but that regulators in Washington explicitly mandate them and attempt to project what current and future energy markets look like. Energy markets are unpredictable and work best when the federal government intervenes least. Policy should focus on consumers, not cater to well-connected special interests. Congress should repeal the RFS and allow price signals and innovation to drive biofuels' economic viability forward. Short of full repeal, however, there are pragmatic actions policymakers should take. Congress should:

- **Use waiver authority to reduce volumetric obligations to the greatest extent possible.** The EPA should recognize its ability to reduce the volumetric targets that better comport with market realities. Ideally, the EPA Administrator should use the agency's waiver authority to reduce the volumetric renewable fuel requirements to zero to allow consumer demand to determine how valuable ethanol is. The Clean Air Act authorizes the agency to adjust the volumes set by Congress as part of an annual rule-making process. Furthermore, the statute permits that the Administrator can waive part or the entire volumetric requirement based on determinations of economic or environmental harm or insufficient domestic supplies.

- **End the trade war.** The cost of the trade war is hurting the refiners, the farmers, and the ethanol producers. All three industries have voiced their frustration over the Administration's trade policy, and for good reasons. Tariffs have increased their input costs, choked off domestic and foreign investment, and limited the ability to sell their products abroad.[27] Ultimately, the trade war adversely affects consumers, who pay higher prices for goods and services. A true win-win for the corn *and* oil industries would be to eliminate government-imposed barriers that increase production costs and reduce market access.

- **Encourage Brazil and other countries to fully lift their import quotas and lower their tariffs.** Beyond ending the trade war, the federal government should strongly encourage Brazil to further lift its import quotas and lower its tariff on imported ethanol. Brazil is the top market for U.S. ethanol producers. Recently, the Brazilian government raised its ethanol quota from 159 million to about 198 million gallons (before the 20 percent tariff applies).[28] Domestic ethanol suppliers exported 513 million gallons to Brazil in 2018, meaning that only 31 percent was tariff-free.[29] The U.S. had unwisely placed tariffs on imported biofuels, and has since reduced them. The U.S. government should eliminate any trade barriers to imported biofuels and encourage Brazil and other countries with tariffs and quotas to pursue open markets as well.

Conclusion

Political favoritism through the RFS has imposed significant harm to food and fuel consumers, the environment, the world's hungriest citizens, and the large segment of the agricultural community that does not profit from the guaranteed market share. The Trump Administration's latest proposal is another capitulation to the ethanol lobby that will exacerbate the distortions caused by the RFS and impose another financial penalty on large refiners without any sort of due process. The Administration should pursue policies that result in less government intervention, not more, by ending the trade war and opening access to markets domestically and abroad.

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