



BRAZILIAN SUGARCANE INDUSTRY ASSOCIATION

ETHANOL • SUGAR • ELECTRICITY

August 17, 2018

Via Electronic Mail ([a-and-r-docket@epa.gov](mailto:a-and-r-docket@epa.gov))

Air and Radiation Docket and Information Center  
U.S. Environmental Protection Agency  
Mailcode 2822T  
1200 Pennsylvania Ave, N.W.  
Washington, D.C. 20460

**Re: *Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020*, 83 Fed. Reg. 32,024 (July 10, 2018)**

**Docket No. EPA-HQ-OAR-2018-0167**

To Whom It May Concern:

The Brazilian Sugarcane Industry Association (“UNICA”) appreciates the opportunity to comment on the proposed rule entitled *Renewable Fuel Standard Program: Standards for 2019 and Biomass-Based Diesel Volume for 2020*, 83 Fed. Reg. 32,024 (July 10, 2018) (hereinafter “Proposed Rule” or “Proposal”).

Brazil is the world’s largest sugarcane producer and the second largest producer and exporter of ethanol, responsible for about 22 percent of the world’s ethanol production in 2017. Brazil currently produces more than seven billion gallons of sugarcane ethanol each year and typically makes between 400 million and 800 million gallons of its annual production available for exports.<sup>1</sup> Despite these volumes, only one percent of Brazil’s arable land is currently devoted to the production of sugarcane ethanol.<sup>2</sup> Brazil’s innovative use of ethanol in transportation and biomass for power cogeneration has made sugarcane a leading source of renewable energy in

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<sup>1</sup> UNICA, [2018 RFS Fact Sheet and Frequently Asked Questions](#) at 2 (July 17, 2018) (hereinafter UNICA FAQ).

<sup>2</sup> *Id.* at 4. Nor is the small amount of arable land used for sugarcane production located in ecologically sensitive areas. The Brazilian government has established an Agro-Ecological Zoning program that, among other things, prohibits sugarcane production in the country’s most ecologically sensitive areas, including the Amazon and Pantanal wetlands and the upper Paraguay River basin. The vast majority of sugarcane produced for ethanol production is harvested in South-Central Brazil, over 1,500 miles from the edge of the Amazon. *Id.*

Brazil, representing 17.4 percent of the country's total energy supply.<sup>3</sup> In 2017, Brazil replaced 36 percent of its gasoline needs with sugarcane ethanol.<sup>4</sup>

Brazilian sugarcane ethanol is one of the most climate-friendly biofuels available on the market today. In 2010, EPA determined that Brazilian sugarcane ethanol achieved an average reduction in lifecycle GHG emissions of 61 percent compared to a gasoline baseline. 75 FR 14790–91. More recently, the California Air Resource Board (“CARB”) recognized a pathway for Brazilian sugarcane ethanol (App. T2R-1050) that had lifecycle emissions savings greater than 66 percent. Even greater reductions in GHG emissions may be possible. Indeed, recently introduced production techniques and developing technologies may make sugarcane ethanol a carbon *negative* fuel in the foreseeable future.<sup>5</sup> UNICA and its members continue to work to achieve the greatest possible reductions in the lifecycle GHG emissions of sugarcane ethanol.

UNICA is the largest representative of Brazil's sugar and ethanol producers. Its members are currently responsible for more than 50 percent of Brazil's ethanol production and 60 percent of Brazil's sugar production. UNICA serves as a source for credible scientific and economic data about the competitiveness of sugarcane biofuels. UNICA also works to encourage the continuous advancement of sustainability throughout the sugarcane industry and to promote ethanol as a clean, reliable alternative to fossil fuels.

UNICA has been a supporter of EPA's Renewable Fuel Standards Program (“RFS2”) since the program's inception. UNICA is also an active supporter of California's Low Carbon Fuel Standard. Given sugarcane ethanol's superior environmental performance, regulated parties continue to rely on it to comply with these programs. Over the past six years, nearly 1.3 billion gallons of Brazilian sugarcane ethanol were consumed by American vehicles. During this time, sugarcane ethanol accounted for six percent of the U.S. advanced biofuel supply.<sup>6</sup>

UNICA has consistently participated in EPA's rulemakings under the RFS2 program by submitting comments. These comments build on UNICA's comments in response to prior rulemakings, especially the rulemakings establishing renewable fuel standards for 2014–2016, 2017, and 2018.<sup>7</sup> Among other things, these comments:

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<sup>3</sup> Fed. Govt. of Brazil, Ministry of Mines & Energy, Energy Research Office, [Brazilian Energy Balance—2017](#), at 14 (May 2018).

<sup>4</sup> *Id.* at 26.

<sup>5</sup> Andre Faaij, *Biofuel Conversion Technologies*, 159, 169, in *SUGARCANE ETHANOL: CONTRIBUTIONS TO CLIMATE CHANGE MITIGATION AND THE ENVIRONMENT* (Peter Zuubier & Jos Van de Vooren eds. 2008).

<sup>6</sup> UNICA FAQ at 1.

<sup>7</sup> See [UNICA's Comments on Proposed Renewable Fuel Standards for 2018](#); [UNICA's Comments on Proposed Renewable Fuel Standards for 2017](#); [UNICA's Comments on Proposed Renewable Fuel Standards for 2014–2016](#).

- Explain why EPA should not use the full extent of its cellulosic waiver authority, but should instead allow non-cellulosic advanced biofuels like sugarcane ethanol to “backfill” the shortfall in cellulosic volumes;
- Explain why, in light of the statutory reset provision, EPA should avoid reducing the advanced biofuel volume by 20 percent or more (i.e., below 10.5 billion gallons);
- Reiterate UNICA’s longstanding position that EPA should provide additional incentives for the production of especially climate-friendly advanced biofuels;
- Provide updated data and information about Brazil’s sugarcane ethanol industry, and explain why Brazil’s producers have the capacity to supply significantly more than 100 million gallons of sugarcane ethanol to the United States under the right market conditions;
- Explain why concerns about possible “fuel shuffling” are misplaced;
- Request that EPA offer notice and the opportunity to comment on how it intends to use the small refinery exemption in 2019; and
- Request that EPA perform a quantitative analysis of GHG impacts of the rule and the various alternatives considered.

Given UNICA’s extensive experience with and knowledge of sugarcane ethanol production, its continuing partnership with EPA, and its interest in supporting successful implementation of the RFS2 program, UNICA respectfully requests that EPA carefully consider these comments as it evaluates the Proposed Rule.

## COMMENTS

### **A. EPA Should Not Use the Full Extent of its Cellulosic Waiver Authority**

EPA proposes to find that 381 million gallons of cellulosic biofuel will be produced in 2019.<sup>8</sup> Pursuant to Section 211(o)(7)(D)—often called the cellulosic waiver provision—EPA is required to reduce the reduce the statutory volume for cellulosic biofuels (8,500 million in 2019) to account for the projected shortfall. EPA “may also reduce the applicable volume of renewable fuel and advanced biofuels . . . by the same or lesser value.”

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<sup>8</sup> UNICA appreciates the fact that EPA has included sugarcane cellulosic ethanol in its estimate of cellulosic biofuel volumes that will be available in 2019. UNICA agrees with EPA’s estimate as to the volumes of cellulosic biofuel that will be made available from its member mills, as they align with the efforts and investments that our members are putting into the production of this biofuel.

EPA proposes to adopt the maximum reduction in advanced biofuel volumes permitted under the cellulosic waiver provision—i.e., a reduction of 8.12 billion gallons. This would result in an advanced biofuel volume for 2019 of 4.88 billion gallons. 83 FR 32025. In addition, EPA proposes to adhere to its longstanding view that advanced biofuel and total renewable volumes should be reduced in an equal amount. This would result in a total renewable volume of 19.88 billion gallons. *Id.*

UNICA agrees with EPA’s longstanding view that, when the cellulosic waiver authority is used, the volumes of total renewables and the advanced biofuels should be reduced by an equal amount. Any other approach would promote conventional biofuels at the expense of advanced biofuels, contrary to Congress’ environmental objectives.

However, UNICA disagrees with EPA’s proposed position that the advanced biofuel volume should be reduced to the same extent as the cellulosic volume. Before the 2018 RFS, EPA had always allowed non-cellulosic advanced biofuels to “backfill” the cellulosic volume requirement. *See* 83 FR 32038. The approach was upheld by the D.C. Circuit. *See API v. EPA*, 706 F.3d 474, 480–81 (D.C. Cir. 2013) (upholding EPA’s decision not to use its cellulosic waiver authority, in light of evidence that “other sources of advanced biofuels, in particular imported sugarcane ethanol, could make up for” the projected shortfall in cellulosic biofuel). Increasing reliance on non-cellulosic advanced biofuels like Brazilian sugarcane ethanol to compensate for insufficient volumes of cellulosic biofuel is fully consistent with Congress’ purpose of promoting advanced biofuels. And as explained more fully below, under the right market conditions and with appropriate regulatory incentives, the advanced biofuel industry—including Brazil’s sugarcane ethanol industry—could produce enough advanced RINs to compensate for the cellulosic shortfall.

Finally, UNICA agrees that, in light of the facts currently before the agency, EPA cannot use the general waiver authority provided by CAA § 211(o)(7)(A). There is no evidence that obtaining a sufficient quantity of advanced renewable fuels would “severely harm the economy or environment” of a State, a region, or the United States. Nor is there any risk that there will be inadequate supply of advanced biofuels. As explained more fully below, under the right market conditions, supplies of advanced biofuels could substantially exceed the target contained in the Proposal. Moreover, the availability of carryover RINs counsels against any reduction under the inadequate supply provision.<sup>9</sup>

## **B. EPA Should Not Reduce the Advanced Biofuel Volume by More than 20 Percent**

Consistent with the statutory purpose of promoting advanced biofuels, EPA should *increase* the proposed volumes of advanced renewable biofuel to backfill the shortfall in cellulosic volumes. In no case should EPA establish final standards for advanced biofuels that are 20 percent or more below the statutory volume.

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<sup>9</sup> *Americans for Clean Energy* does not prevent EPA from considering the availability of carryover RINs in deciding whether to exercise its general waiver authority. *See Americans for Clean Energy v. EPA*, 865 F.3d 691, 716 n.5 (2017).

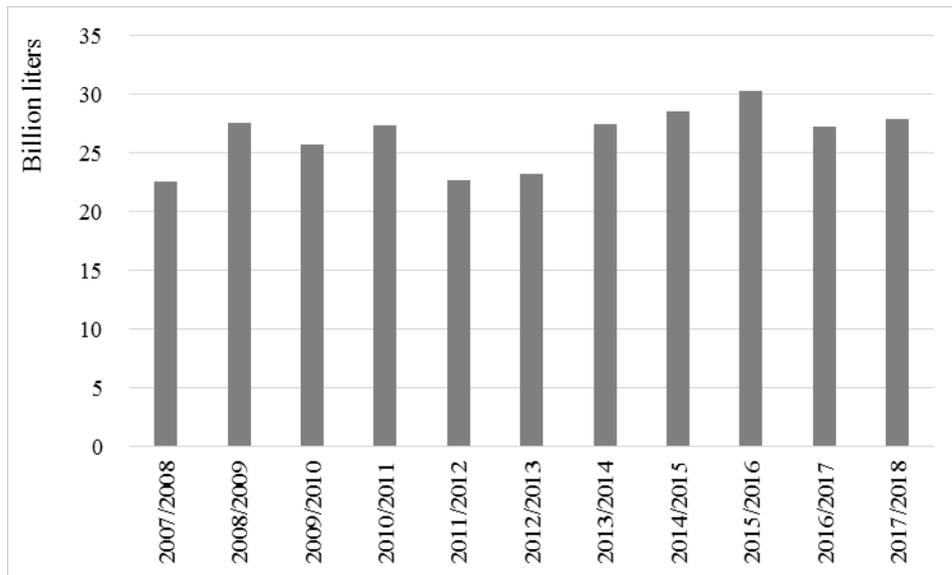
Section 211(o)(7)(F) provides that if EPA reduces any applicable volume requirement by at least 20 percent in two consecutive years, or at least 50 percent in a single year, “the Administrator shall promulgate a rule (within 1 year after issuing such waiver) that modifies the applicable volumes set forth in the table concerned for all years following the final year to which the waiver applies.”

In its comments on the 2014–2016, 2017, and 2018 RFS proposals, UNICA expressed its concern that EPA’s proposed volumes for advanced biofuels might trigger one or both of the conditions for statutory reset. UNICA explained that uncertainty about whether EPA might act under Section 211(o)(7)(F) was discouraging growth in the advanced biofuel industry. Nonetheless, EPA failed to explain its understanding of Section 211(o)(7)(F), or to take any action that would assuage concerns that action under this provision might be imminent.

Once again, EPA proposes volumes for advanced biofuels that could trigger one or both of the conditions for statutory reset. The proposed volume of advanced renewables is less than 50 percent of the statutory volume, potentially triggering the second condition for reset. The first condition could also be triggered, insofar as this would also mark the *fourth* consecutive year that EPA had reduced the applicable volume requirement for advanced renewables by 20 percent or more. EPA must demonstrate that it remains committed to promoting the advanced biofuel industry to the full extent intended by Congress, and clarify that it has no intention of triggering the statutory reset provision. To that end, EPA should establish final standards for advanced renewables that are at least 81 percent of the statutory volume (i.e., at least 10.5 billion gallons).

There are several considerations that demonstrate that obligated parties can reasonably comply with a 10.5 billion gallons target for advanced biofuels. First, under the right market conditions, the advanced biofuel industry—in particular, Brazil’s sugarcane ethanol industry—has the potential to greatly increase the supply of advanced biofuels to the U.S. market. Brazil currently produces more than 7 billion gallons of sugarcane ethanol each year (Figure 1), and typically makes between 400 million and 800 million gallons of its annual production available for exports (Figures 2 and 3). However, Brazil could export considerably greater volumes of sugarcane ethanol to the United States. For example, Brazil exported a record of 1.35 billion gallons to the United States in one year (2008) and 164 million gallons in one month (September 2008). This shows that EPA is underestimating the volume of sugarcane ethanol that can be made available to the U.S. market under the right conditions.

**Figure 1. Brazilian Ethanol Production.**



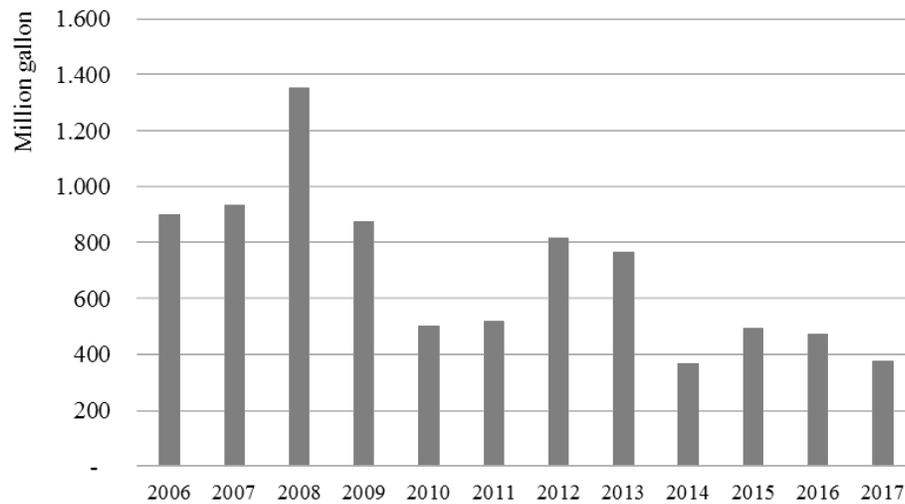
Source: UNICA, MAPA.

**Figure 2. Brazilian Ethanol Exports per Civil Year (2013–2018).**

Country	2013	2014	2015	2016	2017	2018*
<b>Total</b>	<b>766.896</b>	<b>368.277</b>	<b>491.826</b>	<b>473.792</b>	<b>374.842</b>	<b>191.069</b>
United States	432.350	190.002	241.814	207.808	258.246	110.677
Korea	96.024	111.271	123.980	169.869	74.797	57.641
Japan	32.628	23.951	12.749	21.455	22.187	11.760
Netherlands	37.873	2.021	16.811	21.549	11.973	5.060
Colombia	2.487	109	2.228	4.075	2.666	2.780
<i>Others</i>	<i>165.535</i>	<i>40.924</i>	<i>94.245</i>	<i>49.036</i>	<i>4.973</i>	<i>3.151</i>

Source: SECEX. \*Jan–July.

**Figure 3. Brazilian Ethanol Exports per Civil Year (2006–2017).**



Source: SECEX.

Second, obligated parties can draw upon an estimated 640 million carryover RINs to comply with their advanced biofuel obligations. EPA is permitted to consider these RINs in setting the final volume requirement for advanced renewable biofuel. *See Monroe Energy, LLC v. EPA*, 750 F.3d 909, 916 (D.C. Cir. 2014) (“EPA reasonably concluded that the availability of carryover RINs was certainly relevant to its decision whether to reduce the volume for total renewable fuel.”) (internal quotation marks omitted; alterations incorporated). Moreover, this approach properly balances the need to retain compliance flexibility with the statutory purpose of promoting the use of advanced biofuels.

Third, as explained more fully in the next section, EPA can provide additional compliance flexibility for obligated parties by creating a new incentive multiplier for advanced biofuels like sugarcane ethanol that are especially climate friendly. Such a multiplier would increase the number of advanced RINs available for compliance with the 2019 target, while effectuating Congress’ purpose of promoting climate-friendly fuels and eliminating uncertainty associated with the possibility of statutory reset.

In sum, the reduction in advanced biofuel volumes proposed by EPA is neither necessary nor consistent with Congress’ purpose in creating RFS2. Rather than approving such a significant reduction in advanced biofuel volumes, EPA should explore regulatory options (i.e., the use of an incentive multiplier for especially climate-friendly advanced biofuels) that will allow regulated parties to comply with the volume targets established by statute.

### **C. EPA Should Establish an Incentive Multiplier to Promote Continuous Improvement in GHG Performance**

Section 211(o)(5)(A)(i) requires EPA to adopt regulations that provide “for the generation of an *appropriate* amount of credits by any person that refines, blends, or imports gasoline that contains” more than the required volume of total renewable or advanced biofuels.

As the Supreme Court has explained, the term “appropriate” is “the classic broad and all-encompassing term that naturally and traditionally includes consideration of all the relevant factors.” *Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015) (citation omitted). Congress’ use of the capacious term “appropriate” constitutes a delegation to EPA to establish a formula for credit generation that will best effectuate the purposes of the RFS2 statute. Now that dramatic increases in domestic oil and gas production have rendered concerns about energy independence less pertinent, the most important purpose of the statute is to reduce greenhouse gas emissions.

EPA has already exercised its discretion under Section 211(o)(5)(A)(i) to establish “equivalence values” for various fuels, which act as a multiplier for fuels that have a higher energy content per gallon. For example, existing regulations provide that every gallon of biodiesel will generate 1.5 RINs. 40 C.F.R. § 80.1415(b)(2). Thus, even though certain biodiesels may cause greater GHG emissions than sugarcane ethanol on a *per BTU* basis, biodiesels currently generate 1.5 times the number of RINs as sugarcane ethanol.

UNICA has repeatedly urged EPA to move away from this energy-content based approach, in favor of an approach that hews more closely to Congress’ purpose of reducing lifecycle GHG emissions. EPA could do that by adopting a new incentive multiplier program for the most climate-friendly biofuels. For example, EPA could exercise its authority to provide an “appropriate amount of credits” by allowing advanced biofuels to generate an additional half-a-RIN for every 10 percent reduction in their lifecycle GHG emissions below 50 percent. Under such an approach, a fuel that achieved a 60 percent reduction in lifecycle GHG emissions would generate 1.5 RINs per gallon, a fuel that achieved an 80 percent reduction would generate 2.5 RINs per gallon, and a fuel that achieved a 100 percent reduction would generate 3.5 RINs per gallon. This approach would help reduce the advanced biofuel shortfall, and provide incentives for *continuous* improvement in GHG performance.

A helpful analogy is the incentive multiplier EPA has adopted for advanced vehicles as part of its motor vehicle GHG emission standards program. Under this rule, manufacturers must achieve a particular fleet-wide average emission rate each year. The fleet-wide average is generally determined by taking the weighted average of the emissions associated with each vehicle produced by the manufacturer. 40 CFR § 86.1865-12. However, EPA regulations create an incentive multiplier of up to 2.0 for electric and other advanced vehicles, which effectively allows manufacturers to double-count these vehicles for purposes of determining their fleet-wide average. § 86.1866-12. Although the Clean Air Act does not specifically contemplate such a multiplier, EPA determined that it served the statutory purpose by “provid[ing] temporary regulatory incentives to promote the penetration of certain ‘game changing’ advanced vehicle technologies into the light duty vehicle fleet[.]” 77 FR 62628.

Similarly, the fact that Section 211(o)(5)(A)(i) does not specifically provide for an incentive multiplier for improved environmental performance does not preclude EPA from determining that such a multiplier would be “appropriate.” Certainly, establishing such a multiplier is preferable to additional waivers of statutory volume requirements as a way to deal with projected shortfalls in production of advanced and cellulosic biofuels.

As an alternative, EPA could allow producers of non-cellulosic advanced biofuels that achieve emissions reductions comparable to those achieved by cellulosic biofuels (i.e., at least 60

percent below the baseline lifecycle greenhouse gas emissions) to generate cellulosic RINs when EPA determines that the statutory volume for cellulosic fuels cannot otherwise be met.

#### **D. Brazil Can Export Significantly More than 100 Million Gallons of Sugarcane Ethanol to the United States**

EPA estimates that only 100 million gallons of imported sugarcane ethanol will be available in 2019. 83 FR 32040. The Proposal explains that it would be inappropriate to assume a significantly higher volume of imported sugarcane ethanol in light of the following: (1) “high variability in ethanol import volumes in the past,” including the fact that only 77 million gallons of imported sugarcane ethanol reached the U.S. market in 2017, (2) “increasing gasoline consumption in Brazil,” (3) “variability in Brazilian production,” (4) the existence of the E10 blendwall, and (5) “the fact that imported sugarcane ethanol typically costs more than corn ethanol.” 83 FR 32040–32041. EPA also explained that trends in the global sugar market might cause sugar production to increase in Brazil, “with a concurrent reduction in Brazilian production of ethanol.” 83 FR 32041.

As the following comments demonstrate, EPA has greatly underestimated the amount of Brazilian sugarcane ethanol that can be made reasonably available for the U.S. market in 2019, in part because some of its factual assumptions (e.g., about global sugar prices) are incorrect. UNICA respectfully requests that EPA update its analysis to provide a more accurate estimate of Brazil’s capacity to export sugarcane ethanol to the United States.

##### **1. EPA Overstates the Significance of Past Variability in Ethanol Import Volumes**

Brazil currently produces more than seven billion gallons of sugarcane ethanol each year, and typically makes between 400 million and 800 million gallons available for exports. However, under the right market conditions, Brazil could export considerably greater volumes. For example, Brazil exported a record of 1.35 billion gallons in one year (2008) and 164 million gallons in one month (September 2008), proving that significantly greater volumes of sugarcane ethanol could be made available to the U.S. market under the right conditions.

EPA states that “imports of sugarcane ethanol reached just 77 million gallons” in 2017. 83 FR 23040. In fact, more than 258 million gallons reached the U.S. market that year, according to Brazil’s Foreign Trade Ministry (“SECEX”). The discrepancy between the two estimates is likely due to the fact that SECEX includes ethanol exported for fuel as well as ethanol exported for production of ethyl tert-butyl ether (“ETBE”). Ethanol is generally supplied to ETBE producers pursuant to long-term contracts, which mean that this ethanol generally cannot be redirected to fuel uses in response to short-term variations in ethanol prices. However, because ethanol can be redirected from ETBE production to fuel when existing supply contracts

expire, the full export volume provides an accurate estimate of Brazil's long-term capacity to export fuel ethanol.<sup>10</sup>

SECEX data shows that, despite conditions that have generally disfavored utilization of Brazilian sugarcane ethanol—including EPA's use of its cellulosic waiver authority to reduce advanced biofuel volumes four years in a row, the consequent reduction in the price differential between advanced and conventional RINs, and the extensive use of corn ethanol—Brazil has exported at least 190 million gallons of sugarcane ethanol to the United States in each of the last five years. In the first six months of this year, Brazil has already exported 90.5 million gallons to the United States. Clearly, the estimate that appears in the Proposal is too low.

Data from the recent past demonstrates that Brazil has been able to export volumes of 200 million, 500 million, and even one billion gallons of sugarcane ethanol to the United States under the right market conditions. Significantly, the deadline for finalizing the Proposal coincides with the end of the current sugarcane harvest season in Brazil. A strong signal from EPA in November will provide the mills with the notice they need to make more sugarcane ethanol available for export to the United States during the 2018/2019 harvest.

## **2. Annual Variation in Brazil's Hydrous Ethanol Consumption Does Not Materially Affect the Volume of Sugarcane Ethanol that Can Be Made Available to the U.S. Market**

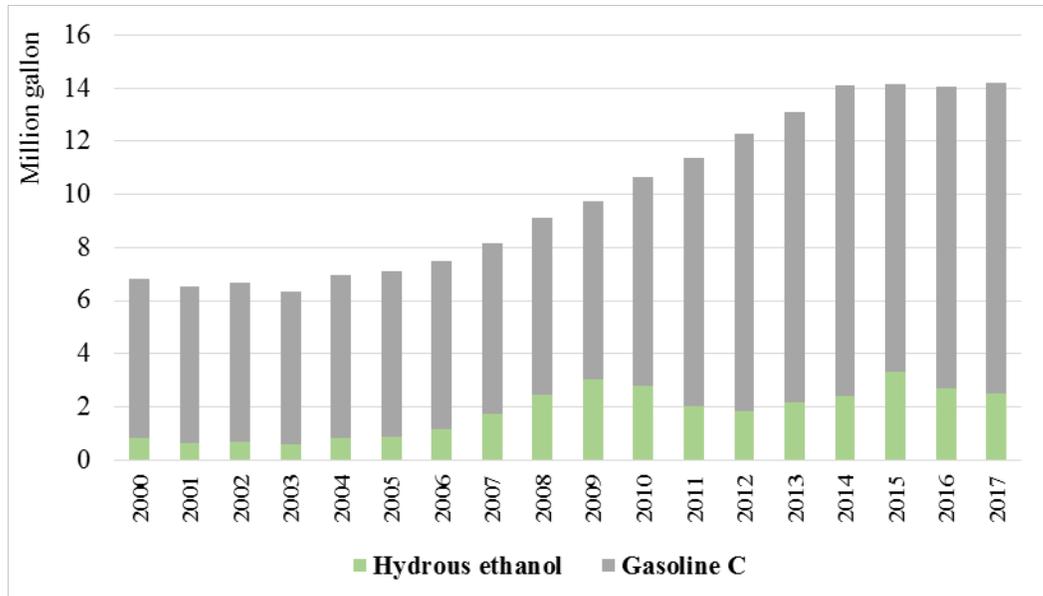
While Brazil has fully integrated sugarcane ethanol into its transportation fuel mix, replacing 36 percent of its gasoline needs with ethanol, it has done so without significant impact to its ability to export high volumes of sugarcane ethanol. This is because about 65 percent of the Brazilian fleet is composed of flexible fuel vehicles ("FFVs"), which can run on either E27 or E100. This flexibility allows ethanol producers to dehydrate part of the hydrous ethanol production in order to fulfill export contracts. Thus, the industry can direct greater volumes of sugarcane ethanol to the international market when it is economical to do so.

In recent years, the consumption of hydrous ethanol in Brazil has varied very little. The amount of ethanol consumed in Brazil's light fuels has been decreasing, from 12.5 million liters in 2015 to 10.2 million liters in 2016 and 9.5 million in 2017. Although data from the first five months of 2018 suggest that consumption may be rebounding to 2015 levels, hydrous ethanol consumption in 2018 is still lower than that in the same period since 2014. In any event, the annual variation has not been significant enough to materially impact EPA's estimate.

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<sup>10</sup> It is worth mentioning that Japan is considering certain policy changes related to ETBE imports that would result in more sugarcane ethanol becoming available on the U.S. market. Although UNICA continues to oppose these changes, EPA should take this situation into account in evaluating the volume of Brazilian sugarcane ethanol that is likely to be available.

**Figure 3. Otto Cycle Fuel Consumption in Brazil (2000–2017).**



Source: ANP.

### **3. Brazil’s Experience Demonstrates that it is Possible to Overcome the E-10 Blendwall**

The so-called “E10 blendwall” does not justify derogating from Congressional intent and reducing statutory volumes of advanced biofuels. In recent rulemakings, refiners and other critics of the RFS2 program have consistently argued that the transportation fuel market cannot absorb a fuel blend containing more than 10 percent ethanol, due to the inability of older vehicles to use higher ethanol blends and a lack of infrastructure for delivering these blends to consumers.

The so-called blendwall is showing serious cracks. Vehicles built after 2001 can use gasoline containing up to 15 percent ethanol without voiding their warranty.<sup>11</sup> Accordingly, the number of vehicles that are unable to use higher ethanol blends is diminishing every year. Concerns about insufficient infrastructure are also fading. As Growth Energy recently explained, there are currently 1,374 retail locations in 29 states selling E15, usually at per-gallon prices that are 3–10 cents *below* that of regular gasoline.<sup>12</sup>

Brazil’s experience offers a powerful example of how government policies and the market can interact to promote advanced biofuels and the technologies and infrastructure to use

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<sup>11</sup> UNICA FAQ at 3.

<sup>12</sup> See [Growth Energy’s Retail Partners Call on Trump for RVP Relief](#) (May 7, 2018).

them. Brazil requires that its gasoline contain at least 27 percent ethanol. The Brazilian vehicle sector has responded by developing flexible fuel vehicles that can use blends of up to 100 percent ethanol. As a result, Brazil has replaced 36 percent of its gasoline needs with ethanol.

In sum, the so-called blendwall is no barrier to increased utilization of sugarcane ethanol in the United States. Where there's a will, there's a way.

#### **4. EPA Should Acknowledge its Role in Determining the Relative Prices of Sugarcane Ethanol and Corn Ethanol**

EPA lists “the fact that imported sugarcane ethanol typically costs more than corn ethanol” as a factor limiting the volume of sugarcane ethanol that is reasonably available to the U.S. market. 83 FR 32041. But the agency does not acknowledge its own role in shaping the market for different types of ethanol. As UNICA explained in a prior comment, the value of sugarcane ethanol

can be measured by the price differential between a RIN generated by sugarcane ethanol (D5) and a RIN generated by conventional ethanol (D6). D5 RINs can be used to meet advanced fuel and total renewable fuel compliance requirements; D6 RINs can only be used for the latter. When the price differential between a D5 and D6 is high enough, imports increase as there is a premium paid by compliance entities seeking D5 RINs for compliance purposes . . . . When the price differential is low, compliance entities may simply choose to blend more conventional ethanol, and there is no incentive for blenders to import sugarcane ethanol. . . . If the D5/D6 RIN spread is wide enough and if the rules are transparent and long-lasting, one could reasonably expect Brazilian exports to the United States to expand even in the short term.<sup>13</sup>

If EPA continues to reduce the statutory volume requirements for advanced biofuels, the price differential between D5 and D6 RINs will remain small. By contrast, if EPA were to aggressively pursue Congress' goal of promoting advanced biofuels—for example, by adopting an incentive multiplier for especially climate-friendly biofuels—the cost of imported sugarcane ethanol would decrease relative to corn ethanol.

#### **5. Long-term Trends in the Global Sugar Market Favor Increased Production of Sugarcane Ethanol**

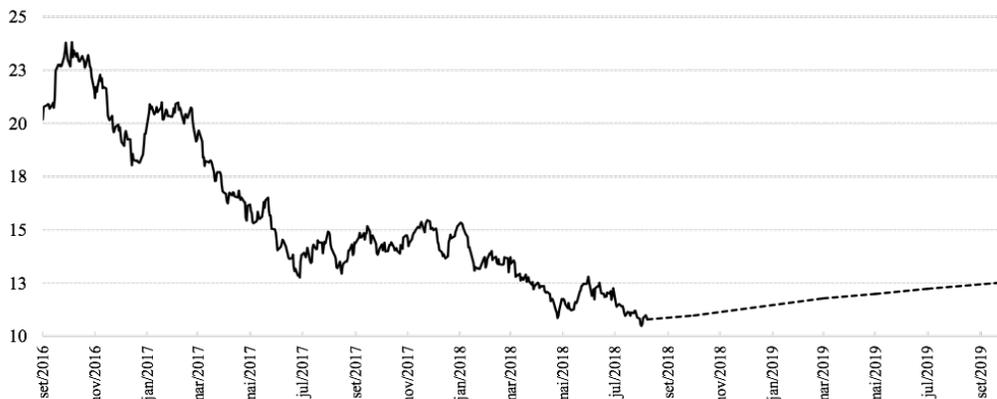
Relying on two outdated analyses, the Proposal explains that trends in the global sugar market might cause sugar production to increase in Brazil, “with a concurrent reduction in Brazilian production of ethanol.” 83 FR 32041. In fact, long-term trends strongly favor increased production of sugarcane ethanol. Global sugar prices are in free-fall (Figure 4) and are expected to continue to drop as demand growth slows and new, subsidized production comes

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<sup>13</sup> See [UNICA's Comments on Proposed Renewable Fuel Standards for 2017](#) at 11–12.

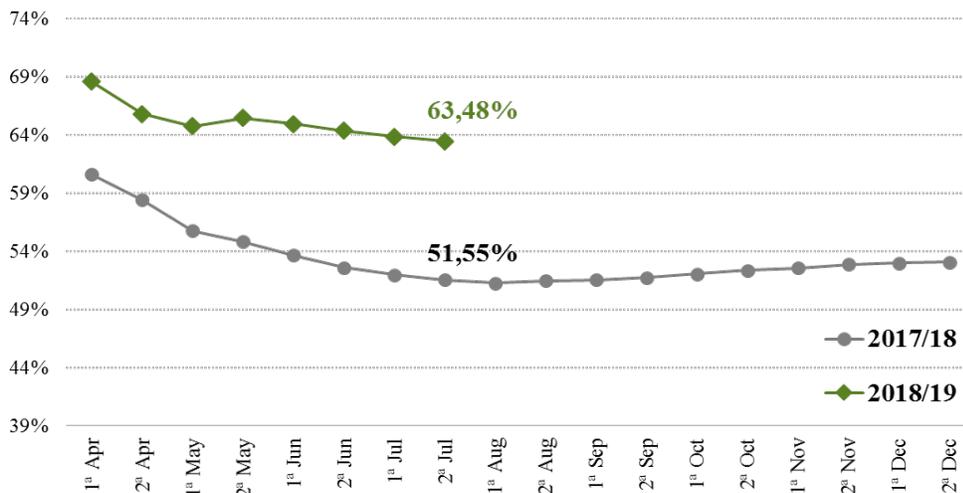
online in South Asia.<sup>14</sup> These developments have made it more profitable for Brazilian millers to switch from sugar to ethanol production. Thus, it is no surprise that the percentage of Brazilian sugarcane destined for ethanol production has increased by about 10 percent over the last year (Figure 5).

**Figure 4. Sugar Prices in the international Market (U.S. Dollars/lb).**



Source: Nybot.

**Figure 5. Percent of Sugarcane Destined for Ethanol Production in South-Central Region—Bi-Weekly Period (UNICA data).**



<sup>14</sup> See Marvin G. Perez, *Sugar Prices ‘Doomed to Stay Low’ as the World Battles its Sweet Tooth*, SYDNEY MORNING HERALD (July 11, 2018); Global Alliance for Sugar Trade Reform & Liberalisation, *Governments Urged to Act to Save Sinking Sugar Price* (July 19, 2018).

Moreover, even if global sugar price went up substantially, the capacity of crushing equipment limits the amount of sugar that can be processed in Brazil. Since 2006, the split between sugar and ethanol production has never varied by more than 10 percent, due to the existence of this technical limitation.<sup>15</sup> In sum, trends in the global sugar market do not support reducing the projected volume of sugarcane ethanol that will be available in 2019; to the contrary, they strongly support an *increased* projection.

#### **E. EPA's Concerns About Fuel Shuffling are Misplaced**

EPA has previously raised concerns that creating strong incentives for the use of imported sugarcane ethanol in the United States would result in “fuel shuffling,” whereby Brazil would export greater volumes of sugarcane ethanol, only to import greater volumes of corn ethanol for domestic use. These concerns do not provide a valid reason for deviating from the RFS2’s purpose of promoting the use of advanced biofuels like sugarcane ethanol in the United States.

International trade in ethanol is influenced by a variety of factors, including agricultural subsidies, biofuels policy, tax and tariff considerations, and the relative strength of different currencies. For this reason, it is difficult to say with any certainty how a particular policy will influence international trade in ethanol. However, it is clear that a certain amount of fuel shuffling will occur *no matter what EPA does under the RFS2 program*. If EPA declines to adopt policies that require greater volumes of sugarcane ethanol, Brazilian companies may simply export sugarcane ethanol to the United States *for re-export* to countries that provide more favorable treatment for advanced biofuel, and then import the same volume of corn ethanol for domestic use as it would have if the sugarcane ethanol had been consumed in the United States. In this case, the emissions related to fuel shuffling will be greater than they would have been if EPA had set higher targets for sugarcane ethanol.

Given the many factors that affect the international ethanol trade, EPA should not modify its targets for advanced biofuels based on concerns about fuel shuffling unless it first undertakes a full economic analysis of the issue. Absent such analysis, it is simply not possible to know whether a particular policy will result in increased emissions from international trade in ethanol. Rather than engaging in speculation on the matter of fuel shuffling, EPA should set targets based on Congress’ intent to increase domestic demand for advanced biofuels like sugarcane ethanol. In the long run, this higher demand will result in a reduction in worldwide emissions, because higher prices for climate-friendly biofuels will result in increased production of these fuels.

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<sup>15</sup> See [UNICA's Comments on Proposed Renewable Fuel Standards for 2017](#) at 14, explaining: “the Brazilian sugar industry possesses some flexibility in its production and can produce both sugar and sugarcane ethanol. However, this flexibility is limited by the capacity of the crushing equipment to about 10 percent of the sugarcane processed. If the price of sugar went up substantially, a mill could not shift all its production to sugar. It would continue to make the ethanol demanded by the market.”

Two additional points deserve mention. First, to the extent EPA is concerned the GHG emissions associated with transporting sugarcane ethanol from Brazil to the United States, those emissions are *already* considered in EPA’s estimate of the lifecycle emissions associated with Brazilian sugarcane ethanol. *See* 75 FR 14790. Even when these transportation emissions are considered, Brazilian sugarcane ethanol is one of the most climate-friendly biofuels on the market today. Consistent with Congress’ goal of combatting GHG emissions, EPA should adopt policies that support the continued growth of this industry.

Second, emissions associated with transportation of ethanol from Brazil to the United States are insignificant compared to total lifecycle emissions associated with this fuel, and certainly compared to the lifecycle emissions of gasoline. For example, CARB concluded in 2009 that the emissions associated with transport and distribution of sugarcane ethanol to California were only 1.9 percent of the fuel’s lifecycle emissions.<sup>16</sup>

As the foregoing shows, emissions from fuel shuffling are too minor—and too loosely related to EPA’s policy choices—to warrant deviation from Congress’ goal of promoting increased use of advanced biofuels like sugarcane ethanol.

#### **F. EPA Should Offer Notice and the Opportunity to Comment on How It Intends to Use the Small Refinery Exemption in 2019**

EPA’s aggressive use of the small refinery exemption (Section 211(o)(9)(B)) has created considerable uncertainty for advanced biofuel producers. As two academic commentators recently explained:

A seemingly obscure provision of the RFS that allows the EPA to exempt small refineries in the U.S. from RFS compliance could have surprisingly large impacts on mandate levels and RINs prices in 2018. Small refineries are defined by the RFS as those with a daily processing capacity of 75,000 barrels or smaller. A blanket exemption of all small refineries would remove about 10 percent of total refining capacity from RFS obligations. The EPA has previously signaled that it would not adjust the percentage standards for any exemptions issued after a final annual rulemaking. Since the 2018 percentage standards have been finalized, this could effectively provide a backdoor procedure for reducing all of the 2018 RFS volume mandates without waiving the requirements. The reduction in the conventional ethanol mandate could be large enough to push the mandate below

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<sup>16</sup> *See* [Detailed California-Modified GREET Pathways for Brazilian Sugarcane Ethanol](#) at 6; *see also* *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070, 1083 (9th Cir. 2013) (“Brazilian ethanol produces fewer [transportation-related] emissions than the 7,500 miles it travels would suggest because ocean tankers are very efficient”).

the E10 blend wall, which could potentially drive D6 ethanol RINs prices back down to the pre-2013 level of just a few cents per gallon.<sup>17</sup>

Issuance of a large number of exemptions in 2019 would lead to a program completely different from the one EPA has set forth in the Proposal. EPA should be candid with the public about how it intends to use the small refinery exemption, and allow interested parties to submit comments on its proposed approach.

If EPA intends to issue a large number of exemptions in 2019, those exemptions should apply *only* to total renewable obligations, and not to advanced or cellulosic biofuel obligations. Nothing in Section 211(o)(9)(B) or the cases construing it prevents EPA from determining that the “disproportionate economic hardship” could be alleviated by lifting the most burdensome mandate—the requirement to blend or obtain credits for conventional biofuels—while leaving in place the less burdensome and more environmentally significant mandate to blend or obtain credits for advanced and cellulosic biofuels.

#### **G. EPA Should Perform a Quantitative Analysis of GHG Impacts**

Although a key purpose of the RSF2 program is “to reduce greenhouse gas emissions,” *Americans for Clean Energy v. EPA*, 864 F.3d 691, 696 (D.C. Cir. 2017), EPA has inexplicably declined to estimate the GHG impacts of the various alternatives it considered. 83 FR 32051 (“we do not have a quantified estimate of the lifecycle GHG . . . benefits” for the Proposal). EPA’s failure to consider the relative GHG impacts of various alternatives prevents the agency from making an informed decision as to which of the alternatives best advances the statutory purpose. Failure to consider GHG impacts may lead the agency to inappropriately dismiss regulatory options that would lead to greater use of climate-friendly biofuels like sugarcane ethanol. EPA must provide an analysis of the quantitative GHG impacts of its final rule and any other alternatives under consideration.

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<sup>17</sup> Jonathan Coppess & Scott Irwin, [\*Another Wrinkle in the RFS: The Small Refinery Exemption\*](#), 7 FARMDOC DAILY 224 (Dec. 7, 2017).

**CONCLUSION**

UNICA appreciates the opportunity to comment on the Proposal, and stands ready to provide EPA with any additional information it needs.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "E. Farina", enclosed in a thin black rectangular border.

Elizabeth Farina

CEO

A handwritten signature in grey ink, appearing to read "Leticia Phillips", enclosed in a thin black rectangular border.

Leticia Phillips

Representative – North America