



INSTITUTE FOR ENERGY RESEARCH'S  
COMMENT ON 2014 STANDARDS FOR THE RENEWABLE FUEL  
STANDARD PROGRAM

Docket ID: EPA-HQ-OAR-2013-0479

*Institute for Energy Research*\*  
January 28, 2014

\* \* \*

INTRODUCTION

On November 29, 2013, the Environmental Protection Agency (EPA) published the proposed rule for the *2014 Standards for the Renewable Fuel Standard Program*.<sup>1</sup> The Renewable Fuel Standard (RFS) gives EPA the authority to reduce cellulosic biofuel volume “to the projected volume available during that calendar year”<sup>2</sup> to a volume “based on” the Energy Information Administration’s (EIA) estimated volume of cellulosic biofuel to be available in that year. Despite the fact that EPA has systematically overestimated actual cellulosic biofuel volumes every year by millions of gallons, and despite the fact that EIA has not released its estimate of cellulosic biofuel volume for 2014, EPA proposed a 17 million gallon cellulosic mandate for 2014. This amount is not the outcome of a neutral methodology,<sup>3</sup> but is rather an illegal, aspirational goal that EPA needs to revise.

---

\* The Institute for Energy Research (IER) is a not-for-profit organization that conducts intensive research and analysis on the functions, operations, and government regulation of global energy markets. IER maintains that freely-functioning energy markets provide the most efficient and effective solutions to today’s global energy and environmental challenges and, as such, are critical to the well-being of individuals and society.

<sup>1</sup> Environmental Protection Agency, *2014 Standards for the Renewable Fuel Standard Program*, 78 Fed. Reg. 71732, <http://www.gpo.gov/fdsys/pkg/FR-2013-11-29/pdf/2013-28155.pdf> (Nov. 29, 2013).

<sup>2</sup> (42 USC 7545(o)(7)(D)(i)).

<sup>3</sup> See *API vs. EPA*, No. 12-1139, D.C. Circuit, [http://www.cadc.uscourts.gov/internet/opinions.nsf/A57AB46B228054BD85257AFE00556B45/\\$file/12-1139-1417101.pdf](http://www.cadc.uscourts.gov/internet/opinions.nsf/A57AB46B228054BD85257AFE00556B45/$file/12-1139-1417101.pdf).

The Institute for Energy Research therefore recommends that EPA reduce the projected volume of cellulosic biofuel to 420,000 gallons (the amount of actual production in 2013 was 422,740 cellulosic RINs)<sup>4</sup> so as to reflect the actual data available on historic cellulosic biofuel production and avoid imposing unnecessary cost increases on American consumers.

### **2014 Renewable Fuel Standard: Cellulosic Biofuel**

#### **I. EPA's 2014 Cellulosic Volume Estimate is Arbitrary**

In its proposed rule, EPA has proposed reducing the total renewable fuel volumes from 16.55 billion gallons in 2013 to 15.21 billion gallons in 2014. As EPA correctly points out in the Proposed Rule, “the ethanol blendwall represents a circumstance that warrants a reduction in the mandated volumes for 2014.”<sup>5</sup> Moreover, EPA acknowledges some of the market factors which “combine to place significant restrictions on the volume of ethanol that can be supplied to and consumed in the transportation sector.”

While EPA's reduction regarding total renewable fuel volumes is commendable, EPA has once again abandoned such a reasoned approach when it comes to cellulosic biofuel.

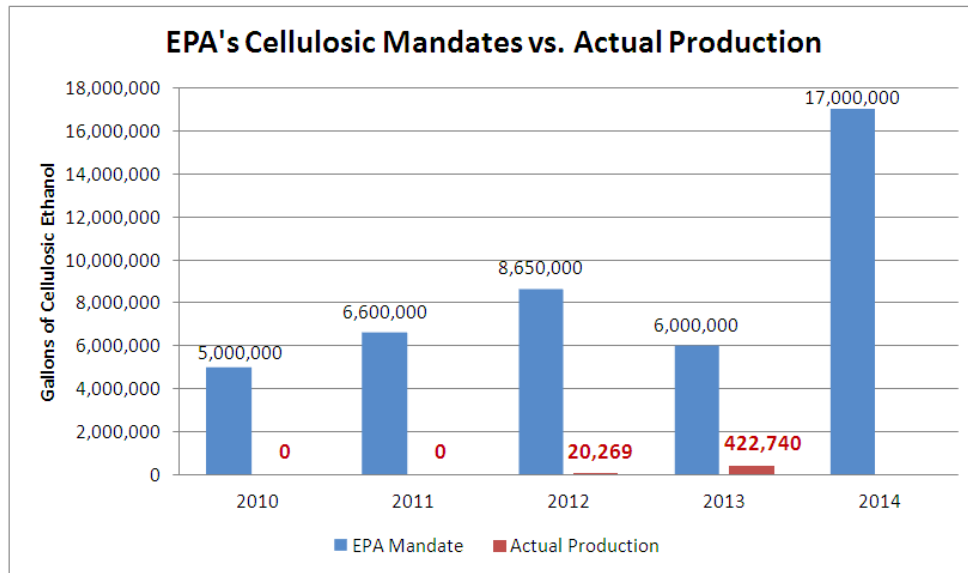
EPA's 2014 cellulosic volume standard is impermissibly arbitrary. EPA is required to base its cellulosic mandate on the EIA's estimate, but EIA has not released an estimate of cellulosic production for 2014 (or if EIA has, that estimate has not been made public).

EPA's 2014 cellulosic volume standard is also impermissibly arbitrary because it does not consider EPA's history of consistently overestimating actual cellulosic volumes by millions of gallons every year. In fact, the closest EPA has come to estimating actual cellulosic volumes was 2010—the first year EPA imposed the cellulosic volume standard.

---

<sup>4</sup> Environmental Protection Agency, *2013 RFS Data*, <http://www.epa.gov/otaq/fuels/rfsdata/2013emts.htm>.

<sup>5</sup> EPA 2014, *op. cit.*, 71755



In 2013, only 422,740 cellulosic RINs were generated, an increase from just 20,069 cellulosic RINs in 2012.<sup>6</sup> But despite these low levels of production, EPA proposed to set the cellulosic standard at 17 million gallons. As we explain below, there is no support to justify the claims made by cellulosic producers that this year they will produce large amounts of cellulosic biofuel, especially when their claims have consistently proven to be false four years running.

Furthermore, the D.C. Circuit's rejection of EPA's 2012 cellulosic standard requires EPA to set the 2014 cellulosic standard at a level that is not "aspirational" but is instead based on a "neutral methodology."<sup>7</sup> The most neutral methodology is to set the 2014 cellulosic standard at a level close to the 2013 actual volumes. Therefore, the 2014 cellulosic standard should be set near 420,000 gallons.

Lastly, on January 23, 2014, EPA sent letters to the American Petroleum Institute<sup>8</sup> and the American Fuel and Petrochemicals Manufacturers<sup>9</sup> informing them that EPA will reconsider the 2013 cellulosic standard. This was the correct action for EPA to take. Therefore, EPA should avoid a

<sup>6</sup> *Ibid.*

<sup>7</sup> D.C. Circuit, *op. cit.*

<sup>8</sup> Environmental Protection Agency, *Letter to API's Robert L. Greco III*, (Jan. 23, 2014), <http://www.epa.gov/otaq/fuels/renewablefuels/documents/api-01232014.pdf>.

<sup>9</sup> Environmental Protection Agency, *Letter to AFPM's Richard Moskowitz*, (Jan. 23, 2014), <http://www.epa.gov/otaq/fuels/renewablefuels/documents/afpm-01232014.pdf>.

similar situation in 2014 by setting the 2014 cellulosic standard at a level that is similar to actual production, instead of EPA's previous "aspirational" estimates of cellulosic production.

## **II. Relying on the Biofuel Industry's Statements is Impermissibly Arbitrary and Capricious**

In the Proposed Rule, EPA states that its projection of cellulosic biofuel production in 2014 is "based on information we have collected from [cellulosic biofuel] companies and discussions with EIA."<sup>10</sup> EPA has taken a similar approach to setting the 2010 through 2013 cellulosic standards. This methodology has proven to be arbitrary and capricious because it produced cellulosic standards that were wildly inflated four years in a row.

While the biofuel industry may have confidence in its ability to produce 17 million gallons of ethanol-equivalent cellulosic biofuel this year, the actual results over the last four years show that the industry's statements do not reflect reality.

Indeed, two of the companies that EPA expects to produce cellulosic biofuel at commercial levels in 2014—KiOR and INEOS Bio—have a long track record of offering inaccurate projections.

### ***KiOR***

KiOR's cellulosic biofuel facility in Columbus, Mississippi was one of the six facilities in the country on which EPA based its 2012 cellulosic projection. Despite assurances from KiOR that its Columbus plant would produce millions of gallons of biofuel in 2012, the facility could not muster any commercial production until March 2013.

On March 26, 2012, KiOR President and CEO Fred Cannon stated, "...we remain on target to meet our goal of first production in the second half of the year [2012]."<sup>11</sup>

Mr. Cannon went further in a July 24, 2012 article in *Biomass Magazine*, stating, "**KiOR will be fueling cars of American consumers this year**

---

<sup>10</sup> EPA 2014, *op. cit.*, p.71736

<sup>11</sup> Seeking Alpha, *KiOR's CEO Discusses Q3 2012 Results – Earnings Call Transcript*, (Nov. 8, 2012), <http://seekingalpha.com/article/992101-kiors-ceo-discusses-q3-2012-results-earnings-call-transcript?part=single>.

[2012].<sup>12</sup>

On a November 8, 2012 Earnings Call, Mr. Cannon announced that KiOR had “started production at the Columbus facility in October. He also stated, “Going forward, once we began our upgrading stage operations in the next week or so, **we are confident we will start commercial shipments from Columbus later this month.**”<sup>13</sup>

Even though KiOR is registered to issue RINs for the cellulosic biofuel it produces at its Columbus facility, EPA’s database shows that no cellulosic biofuel RINs were generated in November or December of 2012.<sup>14</sup> Indeed, the facility did not start producing cellulosic biofuel at commercial volumes until March 2013.

KIOR’s misleading statements continued throughout last year. On a conference call with investors in November 2013, Mr. Cannon claimed, “We produced 323,841 gallons of fuel in the (third) quarter, which brought us to a **total production of 508,975 gallons of cellulosic fuel through the end of the third quarter (of 2013).**”<sup>15</sup>

Mr. Cannon’s announcement does not comport with reality. Just over 420,000 cellulosic RINs have been generated through December 2013, according to EPA data.<sup>16</sup> In other words, KiOR claims it produced more cellulosic biofuel through the end of September 2013 than EPA claims has been produced *in the entire country* through December 2013.

KIOR’s wildly inaccurate projections led one investor to file a lawsuit alleging that the company made “false and misleading statements regarding the timing of projected production levels of biofuels at the company’s Columbus, Mississippi facility.” Moreover, despite the faulty projections, the investor claims KiOR “continued to reassure investors that the company remained on schedule to produce commercially meaningful levels of biofuel.”<sup>17</sup>

---

<sup>12</sup>Biomass Magazine, *KiOR renewable gasoline will fuel cars this year*, (July 24, 2012), <http://biomassmagazine.com/articles/7886/ki-or-renewable-gasoline-will-fuel-cars-this-year>

<sup>13</sup> Seeking Alpha, *op. cit.*

<sup>14</sup> Environmental Protection Agency, *2012 RFS Data*, <http://www.epa.gov/otaq/fuels/rfsdata/2012emts.htm>.

<sup>15</sup> Bloomberg, *KiOR Reports Third Quarter 2013 Results*, (Nov. 7, 2013), <http://www.bloomberg.com/article/2013-11-07/aJXnGL.O1ZbE.html>.

<sup>16</sup> EPA 2013 EMTS, *op. cit.*

<sup>17</sup> Yahoo! Finance, *KiOR, Inc. Sued by Investor*, (Aug. 26, 2013),

### *INEOS Bio*

Like KiOR, INEOS Bio has a history of providing inaccurate predictions about the progress of its cellulosic facility in Vero Beach, Florida. The company has been consistently wrong both about when construction of the facility would be completed and how much biofuel the facility would produce.

In November 2011, Ethanol Producer Magazine conducted an interview with INEOS Bio CEO Peter Williams. The article stated, “The project is on schedule and on budget so far, and if things continue to go as planned, the plant will be mechanically complete in April and will be **continuously churning out waste-based ethanol by the second half of next year [2012].**”<sup>18</sup>

The facilities were not completed by April 2012. INEOS Bio did not issue a news release on the project until July 23rd, stating, “Construction of INEOS’ \$130 million biorefinery joint venture project in the US has been completed, with **production expected to begin in the second half of 2012**, said Peter Williams, CEO of Ineos Bio, the Switzerland-based company's bioenergy business.”<sup>19</sup>

INEOS Bio did not produce any cellulosic ethanol in the second half of 2012. In a subsequent news release on August 9, 2012, the company stated, “**The Center is scheduled to begin production in the 3rd Quarter of [2012].**”<sup>20</sup>

Then in an October 31, 2012 news release, INEOS Bio stated, “**Construction on the Center was completed in June 2012, and production of advanced cellulosic bioethanol is scheduled to begin in**

---

<http://finance.yahoo.com/news/kior-inc-sued-investor-193600517.html>.

<sup>18</sup> Ethanol Producer Magazine, *Outlook 2012: Patience is a Virtue*, (Nov. 15, 2011), <http://www.ethanolproducer.com/articles/8327/outlook-2012-patience-is-a-virtue>.

<sup>19</sup> Platts, *Ineos completes construction of US biorefinery JV project*, (July 23, 2012), <http://www.platts.com/latest-news/petrochemicals/london/ineos-completes-construction-of-us-biorefinery-8550137>.

<sup>20</sup> INEOS Bio, *INEOS Bio Facility Receives Registrations from U.S. EPA for Production and Sale of Next Generation Cellulosic Ethanol*, (Aug. 9, 2012), <http://www.ineos.com/en/businesses/INEOS-Bio/News/INEOS-Bio-Facility-Receives-Registrations-from-US-EPA-for-Production-and-Sale-of-Next-Generation-Cellulosic-Ethanol1/>.

the 4th Quarter.”<sup>21</sup>

INEOS Bio produced zero gallons of cellulosic biofuel from its Florida plant in 2012, even though the company projected it would produce 3 million gallons. In fact, the facility did not start commercial production until August 2013.

The statements of KiOR and INEOS Bio, as well as other companies in the cellulosic biofuel industry, have influenced EPA’s prior projections of production. As explained above, reliance on these types of statements has led to wildly inaccurate projections.

The only other facilities on which EPA has based its 2014 cellulosic projection—Abengoa, DuPont, and Poet—have yet to produce a single drop of biofuel at commercial levels. The DuPont facility in Nevada, Iowa, is not expected to begin production until the second half of 2014, according to EPA’s Proposed Rule.

It is impermissibly arbitrary for EPA to base its 2014 cellulosic mandate on statements made by companies with a history of dramatically overestimating their cellulosic production levels. Instead, EPA should use previous year production totals as basis for making realistic projections of future production.

### **III. Commercial Scale Production of Cellulosic Biofuel Still Almost Non-Existent**

Many companies have produced cellulosic biofuel at pilot and demonstration facilities. The difficulty is with producing these fuels at a commercial scale. The only two facilities in the country currently producing commercial volumes of cellulosic biofuel—KiOR and INEOS Bio—have faced significant delays and have yet to prove that can produce anywhere near nameplate capacity. In fact, KiOR’s Columbus facility missed its second quarter production estimate by 75 percent, prompting an investor to file a lawsuit accusing the company of making “false and misleading statements and omissions.”<sup>22</sup>

Underscoring the inherent difficulty of transitioning from pilot and

---

<sup>21</sup> INEOS Bio, *INEOS Bio Facility in Florida Begins Producing Renewable Power*, (Oct. 31, 2012), <http://www.ineos.com/en/businesses/INEOS-Bio/News/INEOS-Bio-Facility-in-Florida-Begins-Producing-Renewable-Power/>.

<sup>22</sup> Yahoo Finance!, *op. cit.*

demonstration scale to commercial scale, consider that out of the six companies EPA expected to produce cellulosic biofuel in 2012, just two of those companies are included in EPA’s 2014 projection. Three of those companies—American Process Inc, KL Energy, and ZeaChem—operated demonstration facilities that have failed to make the jump to commercial production. Each of these companies is discussed below.

TABLE I.A.1-1—PROJECTED AVAILABLE CELLULOSIC BIOFUEL PLANT VOLUMES FOR 2012

Company	Location	Fuel type	Projected available volume (million ethanol-equivalent gallons)
American Process Inc .....	Alpena, MI .....	Ethanol .....	0.5
Fiberight .....	Blairstown, IA .....	Ethanol .....	2.0
INEOS Bio .....	Vero Beach, FL .....	Ethanol .....	3.0
KIOR .....	Columbus, MS .....	Gasoline, Diesel .....	4.8
KL Energy Corp .....	Upton, WY .....	Ethanol .....	0.1
ZeaChem .....	Boardman, OR .....	Ethanol .....	0.05
Total .....	.....	.....	10.45

### ***Fiberight***

In 2012, EPA projected that Fiberight’s facility in Blairstown, Iowa would produce 2 million gallons of cellulosic biofuel. The company purchased the Blairstown facility in 2009 and modifications were expected to be completed in 2011. These modifications, however, have been delayed, prompting EPA to exclude Fiberight from its 2014 projection: “Because of the uncertainty surrounding Fiberight’s funding status, the lack of progress towards the completion of the modifications at their Blairstown, Iowa facility, and their history of production delays EPA is not including any volume from Fiberight in today’s proposal.”<sup>23</sup>

### ***American Process Inc***

In 2010, American Process Inc (API) received \$22 million from the U.S. Department of Energy (DOE) to build a demonstration facility in Alpena, Michigan.<sup>24</sup> The company was also awarded \$4 million in grants from the Michigan Economic Development Corporation and the Department of Energy. EPA projected that API would produce 500,000 gallons of

<sup>23</sup> EPA 2014, *op. cit.*, 71741

<sup>24</sup> Department of Energy, *Alpena Biorefinery Pilot-Scale Project*, (Jan. 2013), [https://www1.eere.energy.gov/bioenergy/pdfs/ibr\\_arra\\_api.pdf](https://www1.eere.energy.gov/bioenergy/pdfs/ibr_arra_api.pdf).



cellulosic biofuel in 2012.<sup>25</sup>

Despite the taxpayer support, EPA dropped API from its 2013 and 2014 projections. As EPA wrote in its 2013 Final Rule:

API encountered several unexpected difficulties in commissioning their facility resulting in production delays; however they anticipate production of cellulosic biofuel from this facility in 2013. EPA has not included production from API in our projections due to the facility's history of delays, uncertain start-up date, and small potential production volume.<sup>26</sup>

API is not mentioned anywhere in EPA's Proposed Rule for 2014.

### ***KL Energy Corp***

KL Energy's demonstration facility in Upton, Wyoming was the first facility in the nation to generate cellulosic RINs, with 20,000 in 2012 (although the biofuel was exported to Brazil so the RINs were retired). The company, however, ran into hard times shortly after. The company changed its name Blue Sugars in early 2011, and in October 2012 the Wyoming facility filed for bankruptcy.<sup>27</sup>

EPA has excluded Blue Sugars, the first company in the nation to produce cellulosic biofuel at the demonstration level, from both its 2013 and 2014 cellulosic projections.

### ***ZeaChem***

DOE awarded ZeaChem up to \$25 million in January 2010 to construct a demonstration facility in Boardman, Oregon.<sup>28</sup> EPA included ZeaChem in its 2012 cellulosic projection, but the facility was not finished until October 2012 and did not begin production until March 2013. As such, EPA noted,

---

<sup>25</sup> Environmental Protection Agency, *Regulation of Fuels and Fuel Additives: 2012 Renewable Fuel Standards*, 77 Fed. Reg. 1330, <http://www.gpo.gov/fdsys/pkg/FR-2012-01-09/pdf/2011-33451.pdf> (Jan. 9, 2012).

<sup>26</sup> Environmental Protection Agency, *Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards*, 78 Fed. Reg. 49805, <http://www.gpo.gov/fdsys/pkg/FR-2013-08-15/pdf/2013-19557.pdf> (Aug. 15, 2013).

<sup>27</sup> Biofuels Digest, *Ciao, Western Biomass Energy, formerly Bule Sugars, formerly KL Energy*, (May 17, 2013), <http://www.biofuelsdigest.com/bdigest/2013/05/17/ciao-western-biomass-energy-formerly-blue-sugars-formerly-kl-energy/>.

<sup>28</sup> EPA 2012, *op. cit.*, 1327

“Given the small volume potential and high degree of uncertainty of production from this facility in 2013, we have not included any of this volume in our projected available volume for 2013.”<sup>29</sup>

In January 2012, ZeaChem received a \$232.5 million loan guarantee from the U.S. Department of Agriculture (USDA) to construct a commercial-scale facility with a nameplate capacity of 25 million gallons per year. As EPA points out in its 2013 Final Rule, “This facility, however, is not expected to begin producing cellulosic biofuel until late 2014 at the earliest. We therefore have not included any volume for this facility in our 2013 projection.”<sup>30</sup>

EPA does not mention ZeaChem anywhere in its 2014 Proposed Rule.

### ***KiOR***

EPA projected that the KiOR facility in Columbus, Mississippi would produce 4.8 million gallons of cellulosic biofuel in 2012, but the facility did not start producing until March 2013. The company claims to have produced nearly 509,000 gallons through the first three quarters of 2013,<sup>31</sup> but EPA projected KiOR would produce between 5 and 6 million gallons by the end of 2013. While the company hopes to produce 1 million gallons by the end of 2013, by EPA’s own estimates just over 420,000 RINs have been generated through December 2013.

### ***INEOS Bio***

Although EPA projected that INEOS Bio would produce 3 million gallons of cellulosic ethanol in 2012, the company’s Indian River BioEnergy Center near Vero Beach, Florida did not start producing cellulosic biofuel at the commercial level until August 2013.<sup>32</sup> Given this short track record of demonstrated production, EPA’s 2014 projection of 2 to 5 million gallons for 2014 seems unrealistic.

### ***Abengoa***

---

<sup>29</sup> EPA 2013, *op. cit.*, 49807

<sup>30</sup> EPA 2013, *op. cit.*, 49807

<sup>31</sup> Bloomberg, *op. cit.*

<sup>32</sup> Bloomberg, *Ineos Producing Commercial-Scale Cellulosic Ethanol in Florida*, (July 31, 2013), <http://www.bloomberg.com/news/2013-07-31/ineos-producing-commercial-scale-cellulosic-ethanol-in-florida.html>.

EPA's cellulosic projection for 2014 is largely dependent on the performance of one plant, Abengoa's facility in Hugoton, Kansas. While Abengoa expects the facility to begin production in early 2014, the plant has yet to produce any cellulosic ethanol at commercial scale and Abengoa admits the plant may not begin production until April.<sup>33</sup>

Given the cellulosic industry's track record of over promising and under delivering, EPA should base its projection of Abengoa's production on demonstrated performance—zero gallons. Such an estimate, as EPA correctly points out in the proposed rule, “reflects the fact that no commercial scale cellulosic biofuel facility has yet been able to achieve its target date for the first production of fuel.”<sup>34</sup> A projection of zero gallons for 2014 would be consistent with both EPA's lower-bound estimate and a refreshing nod to reality.

Out of the six companies on which EPA based its 2012 cellulosic projection, EPA expects only two of those companies to produce any cellulosic biofuel in 2014. For those two companies, EPA has overestimated how much biofuel they would actually produce and miscalculated how soon they would start producing it. Given that the cellulosic biofuel industry consistently underperforms EPA's projections, EPA should base its 2014 cellulosic mandate on actual production from the previous year, not on the hope that these facilities will produce significantly more than they did the year before.

### **2014 Total Renewable Fuel Mandate**

EPA's reduction from 16.55 billion gallons to 15.21 billion gallons as the total ethanol mandate for 2014 is a good first step and well within EPA's statutory authority. But EPA should go further in its reduction of the total renewable fuel mandate.

Under §211 of the Clean Air Act, EPA has the authority to waive the RFS in whole or in part if “that implementation of the requirement would severely harm the economy or environment of a State, a region, or the United States...”

---

<sup>33</sup> Seeking Alpha, *Abengoa's CEO Discusses Q3 2013 Results - Earnings Call Transcript*, (Nov. 11, 2013), <http://seekingalpha.com/article/1830072-abengoas-ceo-discusses-q3-2013-results-earnings-call-transcript?part=single>

<sup>34</sup> EPA 2014, *op. cit.*, 71740

The harm caused by the RFS has already occurred. The biofuel mandate increases food and fuel prices by diverting agricultural land and resources to comply with the mandate instead of producing the products most demanded by Americans. This diversion of resources is so great that Jean Ziegler, the UN special rapporteur on the right to food, has called biofuels “a crime against humanity.”<sup>35</sup>

Another harm from ethanol is the damage to engines, even at E10. According to Consumer Reports,<sup>36</sup> E10 can help destroy small engines. Marv Klowak, global vice president of research and development for Briggs & Stratton has explained that “ethanol has inherent properties that can cause corrosion of metal parts, including carburetors, degradation of plastic and rubber components, harder starting, and reduced engine life.”<sup>37</sup>

The RFS is already causing severe economic harm and EPA should go further to protect Americans from the harmful impacts of this mandate.

### **2014 Renewable Fuel Standard: Advanced Mandate**

#### **I. Majority of “Advanced” Biofuel is Sugarcane Ethanol from Brazil**

EPA has proposed to set the total advanced ethanol volumes for 2014 at 2.2 billion gallons, down for 2.75 billion gallons last year. This is a good first step, but EPA should reduce the advanced ethanol mandate further. The only mass-produced advanced ethanol is sugarcane ethanol, most of which comes from Brazil. Importing sugarcane ethanol from Brazil and then exporting corn ethanol to Brazil to make up for our imports negates any greenhouse gas (GHG) reductions caused by using advanced ethanol.

Advanced biofuels are a category of non-corn based biofuels that EPA has determined to have at least 50 percent lower lifecycle GHG emissions than conventional gasoline, as required by the Energy Independence and

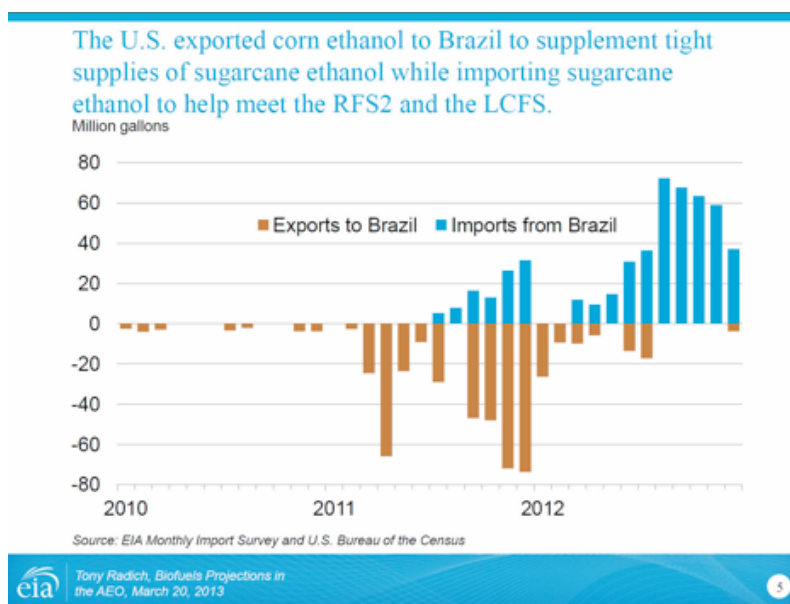
---

<sup>35</sup> Grant Ferrett, *Biofuels ‘crime against humanity*, BBC News, Oct. 27. 2007, <http://news.bbc.co.uk/2/hi/americas/7065061.stm>.

<sup>36</sup> Consumer Reports, *Gas with ethanol can make small engines fail*, Mar. 22, 2013, <http://www.consumerreports.org/cro/news/2013/03/gas-with-ethanol-can-make-small-engines-fail/index.htm>.

<sup>37</sup> *Id.*

Security Act of 2007 (EISA). Currently, sugarcane ethanol is the only mass-produced product that EPA has certified as an “advanced” biofuel. To comply with the advanced mandate, the U.S. must import the vast majority of its sugarcane ethanol from Brazil. As the following chart shows, the RFS has created an illogical trading relationship in which the U.S. imports sugarcane ethanol from Brazil and exports corn-based ethanol to Brazil.



This swap serves no purpose other than to satisfy the requirements of the U.S. advanced ethanol mandate. As EIA explains, “U.S. obligated parties [ie. U.S. refiners] prefer sugarcane ethanol over corn ethanol” because “sugarcane ethanol counts toward the RFS advanced requirement.”<sup>38</sup> Brazilian ethanol users are indifferent between corn ethanol and sugarcane ethanol.

## II. Brazil Ethanol Swaps Undermine Emission Reduction Goals

This trading relationship makes little sense from either an environmental or economic standpoint. First, sugarcane ethanol is not “advanced”—it has been used to make ethanol in Brazil since the late 1920s.<sup>39</sup> The only reason

<sup>38</sup> Energy Information Administration, *Brazil Biofuels in the Annual Energy Outlook*, (March 20, 2013), <http://www.eia.gov/biofuels/workshop/presentations/2013/pdf/presentation-06-032013.pdf>.

<sup>39</sup> Aonde Vamos, *USGA: USGA: IN 1927 THE FIRST GREAT VENTURE IN BRAZILIAN ETHANOL FUEL*, (June 2000),

sugarcane is deemed to be “advanced” is because EPA believes it has 50 percent lower lifecycle GHG emissions than gasoline.

The environmental benefits of sugarcane ethanol, however, are in dispute. The Renewable Fuels Association (RFA), for instance, disagrees with EPA’s assessment of sugarcane ethanol’s lower lifecycle GHG emissions. In a letter to former EPA Administrator Lisa Jackson, RFA claims that EPA is relying on “obsolete” data, which underestimate the lifecycle emissions of sugarcane ethanol.<sup>40</sup>

Second, while sugarcane ethanol may have lower lifecycle GHG emissions compared to conventional gasoline, any emission reductions are wiped out by what happens with sugarcane ethanol in the real world. It takes energy, and thus emissions, to transport ethanol between the U.S. and Brazil. This means the preference for sugarcane ethanol imposed on obligated parties by EISA increases the true lifecycle GHG emissions of both imported sugarcane ethanol and exported corn-based ethanol.

Indeed, a recent study by the Thomson Reuters Foundation shows that the U.S. and Brazil exchanged more than 1 billion gallons of ethanol between January 2011 and March 2013.<sup>41</sup> Over this period, this trade has produced 312,000 additional tonnes of carbon dioxide (CO<sub>2</sub>), which would require the growing of 8 million tree seedlings over the next 10 years to offset.

When EPA deems imported sugarcane ethanol an advanced biofuel, the agency must consider the lifecycle GHG emissions required to transport ethanol between the U.S. and Brazil. Swapping Brazilian sugarcane ethanol with U.S. corn ethanol actually results in *overall higher* greenhouse gas emissions—not lower emissions, which was supposed to be the point of the advanced ethanol provision in EISA.

Moreover, this ethanol swap is economically wasteful. It does nothing except increase costs and energy use required to execute the swap. Greenhouse gas emissions would be lower if EPA simply allowed resources to be allocated according to market demands, instead of manufacturing

---

[http://web.archive.org/web/20080319112800/http://www.aondevamos.eng.br/boletins/edic\\_ao07.htm](http://web.archive.org/web/20080319112800/http://www.aondevamos.eng.br/boletins/edic_ao07.htm).

<sup>40</sup> Renewable Fuels Association, *Letter to former EPA Administrator Lisa P. Jackson*, (Nov. 30, 2012), [http://ethanolrfa.3cdn.net/1224de70600ff74bb1\\_elm6ib8fp.pdf](http://ethanolrfa.3cdn.net/1224de70600ff74bb1_elm6ib8fp.pdf).

<sup>41</sup> Thomson Reuters Foundation, *Ethanol trade undermines U.S. biofuels policy*, July 3, 2013), <http://www.trust.org/item/20130703091935-47h65/>.

artificial demand by regulatory fiat.

### **Conclusion**

EPA's method of analysis has resulted in extremely inaccurate predictions for the past four years. The Proposed Rule for 2014 mandates an amount of cellulosic biofuel that, once again, likely will not exist by the end of the year. EPA should set the mandated level of cellulosic biofuel at 422,000 gallons for 2014 so as to reflect the most recent proven capabilities of the domestic cellulosic biofuel industry. Furthermore, EPA should reduce further both the overall renewable mandate and the advanced ethanol mandate. The RFS has already created severe economic harm. Continuing to import sugarcane ethanol from Brazil only to export corn-based ethanol to Brazil negates the GHG reductions advanced ethanol is supposed to achieve.