



# Growth Energy Comments on EPA's Proposed Renewable Fuel Standard Program: Standards for 2018 and Biomass-Based Diesel Volume for 2019

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## I. INTRODUCTION AND EXECUTIVE SUMMARY

Growth Energy respectfully submits these comments on the Environmental Protection Agency’s proposed rule entitled “Renewable Fuel Standard Program: Standards for 2018 and Biomass-Based Diesel Volume for 2019.”<sup>1</sup> Growth Energy is the leading association of ethanol producers in the country, with 86 members and 66 affiliated companies who serve the nation’s need for renewable fuel. Growth Energy has submitted comments on EPA’s prior major rulemakings implementing the Renewable Fuel Standard (“RFS”) program. For the reasons stated below, Growth Energy urges EPA to: (1) modify its methodologies for projecting cellulosic biofuel production to ensure neutrality and accuracy; (2) revise the cellulosic waiver credit program to ensure the efficacy of the volume requirement; (3) decline to issue a general waiver of the total volume requirement based on severe harm to the economy or the environment; (4) decline to issue a waiver of the total volume requirement based on energy independence and security; (5) decline to issue a general waiver of the total volume requirement based on inadequate domestic supply of renewable fuel; (6) take actions to mitigate the risk of manipulation in the RIN market.

In 2007, Congress expanded the RFS program “to increase the production of clean renewable fuels” and “[t]o move the United States toward greater energy independence and security.”<sup>2</sup> The RFS program has been an overwhelming success. It has created American jobs, revitalized rural America, introduced much-needed competition into a monopolized vehicle-fuels market, lowered the price at the pump, reduced greenhouse gas emissions, and made our nation more energy independent and secure by reducing our dependence on foreign oil.

Cellulosic biofuel is the most environmentally beneficial form of renewable fuel. Congress designed the ascending RFS volume requirements to spur the development of the cellulosic biofuel industry. Although the industry has not yet met the pace Congress mapped out, it has achieved consistently significant annual growth, and emerging technologies have poised the industry for accelerated growth.

EPA’s proposal, however, jeopardizes that growth by weakening the force of the cellulosic volume requirement and thereby depressing the D3 RIN market. The proposal does this in two ways. First, EPA would revise the methodologies for projecting the production of liquid cellulosic biofuel and CNG/LNG derived from biogas—methodologies that it recently and repeatedly found are “reasonably accurate” and could not “reasonably be . . . improve[d]”<sup>3</sup>—in ways that enable the industry’s past performance to determine the projections and thus the future volume requirements. In an industry whose technologies, investments, and performance are

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<sup>1</sup> *Renewable Fuel Standard Program: Standards for 2018 and Biomass-Based Diesel Volume for 2019*, 82 Fed. Reg. 34,206 (July 21, 2017) (“NPRM”).

<sup>2</sup> Energy Independence and Security Act of 2007, Pub. L. No. 110-140, preamble, 121 Stat. 1492, 1492 (Dec. 19, 2007).

<sup>3</sup> Dallas Burkholder, *Assessment of the Accuracy of Cellulosic Biofuel Production Projections in 2015 and 2016*, at 4 (Nov. 2016) (“EPA November 2016 Assessment”), EPA-HQ-OAR-2016-0004-3687.

changing continually and vary from one producer to the next, “tak[ing] ‘neutral aim’ at accuracy”<sup>4</sup> requires a methodology that is more sensitive to the particularities of individual producers’ circumstances. EPA should therefore assess likely production of both liquid cellulosic biofuel and CNG/LNG derived from biogas on a plant-by-plant basis (or at least a more finely tuned set of groupings) so as to fully account for the technological, financial, managerial, political, and legal factors determining each plant’s production.

Second, EPA’s administration of the cellulosic waiver credit program provides unwarranted incentive to obligated parties to purchase credits rather than gallons. EPA should reduce the number of credits available to a level meaningfully below the volume requirement, and should permit obligated parties to use credits for compliance only if they show that they first made a good faith effort to purchase gallons (or RINs).

Growth Energy does not advocate further changes to the proposed volume requirements but does strongly oppose any further waiver of the total volume requirement.

First, there is no basis for EPA to use its general waiver authority to reduce the total renewable fuel volume requirement. The high bar to show that implementation of the RFS “would severely harm the economy or environment”<sup>5</sup> is nowhere near satisfied. As EPA has recognized before, comparable levels of total renewable fuel and conventional renewable fuel have been achieved already without causing the economy severe harm; obligated parties’ ordinary compliance costs do not qualify as severe harm. And the most recent and sophisticated studies on the environmental effects of renewable fuel confirm what Congress knew when it created the program: that on an all-in basis, starch ethanol is vastly superior to fossil-based fuels, and so a waiver would cause rather than prevent environmental harm.

Second, EPA has no authority to waive the total volume requirement to promote policies of U.S. energy independence and security, and in any event EPA should not do so. EPA may waive only for the reasons stated in the statute, and promoting energy independence and security is not among them. Moreover, a commitment to high levels of starch ethanol *further*s U.S. energy independence and security, as well as what the President has termed “American energy dominance,”<sup>6</sup> by diversifying the nation’s energy sources and generating strong economic growth, particularly in rural parts of the Midwest.

And third, EPA has no basis to waive the total volume requirement due to “inadequate domestic supply” of renewable fuel. As the D.C. Circuit recently held in *Americans for Clean Energy v. EPA*, EPA may consider only the amount of renewable fuel “available to refiners, blenders, and importers to meet the statutory volume requirements,” not any “factors affecting availability of renewable fuel to market actors downstream from refiners, importers, and

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<sup>4</sup> See *American Petroleum Inst. v. EPA*, 706 F.3d 474, 476 (D.C. Cir. 2013) (“*API*”).

<sup>5</sup> 42 U.S.C. § 7545(o)(7)(A)(i).

<sup>6</sup> Remarks by President Trump at the Unleashing American Energy Event (June 29, 2017) (“Unleashing American Energy”), available at <https://www.whitehouse.gov/the-press-office/2017/06/29/remarks-president-trump-unleashing-american-energy-event>.

blenders, such as fuel retailers or consumers.”<sup>7</sup> There is no question that the supply of renewable fuel available to refiners, blenders, and importers is more than enough to meet the proposed total volume requirement.

Finally, EPA should take appropriate actions to mitigate the risk of manipulation in the RIN market in order to ensure its continued efficiency in promoting the rapid growth in renewable fuels that Congress intended to foster when it established the RFS.

## **II. EPA’S PROPOSED PROJECTION OF CELLULOSIC BIOFUEL PRODUCTION DOES NOT REFLECT NEUTRAL AIM AND IS SUBSTANTIALLY UNDERSTATED**

When the RFS2 program was created, cellulosic biofuel was but a glint in Congress’s eye.<sup>8</sup> That was the point: Congress would use the program to spur development of “the ‘greenest’ form of renewable fuel.”<sup>9</sup> Developing the commercial production of cellulosic biofuel is “central to the [RFS] program’s objective of reducing greenhouse gas emissions.”<sup>10</sup> Although not yet as quickly as Congress had expected, the RFS program has done just that. After the initial difficulty with commercial-scale production experienced in 2010 and 2011, the cellulosic biofuel industry has increased its production continuously, from about 20,000 RINs in 2012, to about 800,000 RINs in 2013, then 33 million RINs in 2014, 140 million RINs in 2015, and 190 million RINs in 2016.<sup>11</sup> In the 2014-2016 RFS rule, EPA noted that “the cellulosic biofuel industry ha[d] made significant progress towards commercial scale production” in the preceding years.<sup>12</sup> EPA’s 2017 rule and its proposed rule for 2018 also recognize that such progress has “continued.”<sup>13</sup> Yet, EPA now proposes a lower volume for cellulosic biofuel in 2018 than it adopted in 2017, in the name of accurate projections.

EPA’s new projections, however, are inherently inaccurate—more so than prior years’—and actually reflect an improper “special tilt” toward underestimating cellulosic volumes.<sup>14</sup> This is evident in several ways. First, EPA’s proposed methodologies for projecting both liquid cellulosic biofuel and CNG/LNG derived from biogas (“RNG” or “biogas”) necessarily tie projections to the industry’s past performance. That is misguided for a nascent industry still drawing significant investment and poised for rapid expansion. EPA should instead assess likely production on a plant-by-plant basis (or at least a more finely tuned set of groupings) so as to

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<sup>7</sup> *Americans for Clean Energy v. EPA*, 864 F.3d 691, 709 (D.C. Cir. 2017).

<sup>8</sup> *See API*, 706 F.3d at 476.

<sup>9</sup> *Americans for Clean Energy*, 864 F.3d at 723.

<sup>10</sup> *API*, 706 F.3d at 476.

<sup>11</sup> *Public Data for the Renewable Fuel Standard*, EPA, available at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard>.

<sup>12</sup> *Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017*, 80 Fed. Reg. 77,420, 77,499 (Dec. 14, 2015) (“2014-2016 RFS Rule”).

<sup>13</sup> *Renewable Fuel Standard Program: Standards for 2017 and Biomass-Based Diesel Volume for 2018*, 81 Fed. Reg. 89,746, 89,750 (Dec. 12, 2016) (“2017 RFS Rule”); NPRM at 34,214.

<sup>14</sup> *Americans for Clean Energy*, 864 F.3d at 727 (quoting *API*, 706 F.3d at 478).

fully account for the technological, financial, managerial, political, and legal factors determining each plant's production. We stand ready and willing to assist EPA in collecting any needed data and technical assistance to perform such assessments.

Second, in the course of finalizing the 2017 RFS rule, EPA examined the accuracy of the methodology it used to project cellulosic volumes for 2015, 2016, and 2017, and found that in light of the methodology's actual performance, it was reasonably accurate and there was no basis to change it. EPA initially reiterated those conclusions in the course of preparing the NPRM for 2018 but then reversed course—without considering new data or information, without conducting a new analysis, and without offering a plausible explanation for the switch. That process does not satisfy EPA's procedural obligations for rulemaking, and it also strongly suggests that EPA was motivated instead by a non-neutral purpose, namely, to impermissibly disfavor cellulosic growth.

EPA should therefore revise its proposed methodologies to correct the “special tilt” by considering all relevant factors to project likely growth. Even if EPA's methodologies were to be driven by the past, however, there are more accurate ways to do so. EPA should start by reverting to the groupings and percentile values it used in prior years—for both liquid cellulosic biofuel and RNG projections. Then EPA should create a new group for producers of liquid cellulosic biofuel using new but proven commercial production technology, such as POET and those using Edeniq's technologies, which can produce cellulosic ethanol from corn kernel fibers. Even if EPA only used a grouping-and-percentile method for RNG and added a group for proven commercial production technology, while keeping the proposed percentile values for liquid cellulosic biofuel and reducing the prior years' percentile values for RNG to reflect their margin of error in 2016, EPA's projected 2018 cellulosic biofuel would be at least about 377 million.<sup>15</sup>

Having accurate cellulosic projections is imperative for the industry and the success of the RFS program that Congress created. As EPA once recognized, consistency in methodology is critical for the cellulosic biofuel market because it “add[s] to the sense of program stability the commenters describe as necessary for the development of the cellulosic biofuel industry, including investment in new commercial-scale cellulosic biofuel production facilities in the United States.”<sup>16</sup> Further, if projections are too low, D3 RIN prices could fall precipitously, undermining the very incentive Congress intended to create to spur growth.<sup>17</sup>

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<sup>15</sup> Argus Consulting, *Reviewing EPA methodology for potential cellulosic biofuels production for 2018*, at 20 tbl.11 (Aug. 2017) (“Argus 2017 Report”) (attached as Exhibit 1). In preparing its projection analysis, Argus had limited access to some producers' confidential business data, including Edeniq's, and therefore insofar as EPA has greater access, its application of Argus' methodology would result in significantly higher projections. *Id.* at 22.

<sup>16</sup> *Renewable Fuel Standard Program—Standards for 2017 and Biomass-Based Diesel Volume for 2018: Response to Comments*, at 432 (“2017 Response to Comments”), EPA-HQ-OAR-2016-0004-3753.

<sup>17</sup> *Americans for Clean Energy*, 864 F.3d at 710.

### A. EPA's Proposed Approach to Projecting Likely Cellulosic Production in 2018 Systematically Disfavors Growth

When determining cellulosic biofuel projections, EPA must “take ‘neutral aim at accuracy.’”<sup>18</sup> That means, the D.C. Circuit declared recently, that “EPA’s methodology [may] not reflect a ‘non-neutral purpose’ to favor *or disfavor* growth in the cellulosic biofuel industry,” i.e., “systematically err[] on the side of overestimation” or underestimation.<sup>19</sup> EPA’s proffered reason for proposing to change its approach to projecting cellulosic production is to increase the accuracy of its projections. But EPA’s changes incorrectly assume that the industry’s past determines its future. In a new industry that is growing quickly and, as EPA observes, “in the early stages of commercialization,”<sup>20</sup> that assumption impermissibly “tilt[s]” the projections against growth.<sup>21</sup>

With respect to liquid cellulosic biofuel, EPA proposes to group producers based on whether they have previously achieved consistent commercial-scale production, determine an aggregate range of likely production for each group, and then apply a percentage (or a “percentile value,” as EPA calls it) to each group’s range to project aggregate production.<sup>22</sup> To that extent, EPA’s proposed methodology is the same as the one it used in the 2014-2016 rule and in the 2017 rule.<sup>23</sup> The proposal departs from past practice in the specific percentiles applied. For the 2015, 2016, and 2017 projections, EPA used the 25th and 50th percentiles, which reflected EPA’s effort to account for the variability and relative risk of each group of producers.<sup>24</sup> For the proposed 2018 projection, however, EPA would use the 1st and 43rd percentiles, which reflect the industry’s actual utilization in 2016.<sup>25</sup>

For RNG, EPA also used that percentile method for 2015, 2016, and 2017, but with higher percentile values: 50th and 75th.<sup>26</sup> Now, however, EPA proposes to abandon the percentile approach altogether and replace it with a model that applies an industry-wide constant growth rate to past actual production. Comparing a 5-month period in 2016 to the same period in 2017, EPA computes a historical RNG growth rate of 9.3%.<sup>27</sup> EPA then assumes that that rate of

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<sup>18</sup> *Id.* at 727 (quoting *API*, 706 F.3d at 478).

<sup>19</sup> *Id.* (quoting *API*, 706 F.3d at 478) (emphasis added).

<sup>20</sup> NPRM at 34,218; *accord* 2017 RFS Rule at 89,758.

<sup>21</sup> *Americans for Clean Energy*, 864 F.3d at 727.

<sup>22</sup> NPRM at 34,217-34,218.

<sup>23</sup> 2014-2016 RFS Rule at 77,503, 77,507-77,508; 2017 RFS Rule at 89,758.

<sup>24</sup> 2014-2016 RFS Rule at 77,506; 2017 RFS Rule at 89,759-89,760; *see Americans for Clean Energy*, 864 F.3d at 729.

<sup>25</sup> NPRM at 34,217. We understand that the percentiles do not correspond to “utilization” in the strict sense, *see* 2017 RFS Rule at 89,760, but we use the term as a convenient shorthand here.

<sup>26</sup> 2014-2016 RFS Rule at 77,506; 2017 RFS Rule at 89,760.

<sup>27</sup> NPRM at 34,219.

growth holds constant through 2017 and 2018, and proposes to apply that rate to the actual 2016 net cellulosic RIN generation.<sup>28</sup>

Thus, EPA's new proposed methodologies would turn the task of projecting future production volumes of cellulosic biofuel into little more than extending the past. To be sure, the proposed methodologies do allow for the possibility of some growth: for the liquid volumes, the production range could reflect increased past production or increased facility capacity; for the RNG volumes, the growth rate necessarily implies growth. But those allowances do not overcome the fact that the projected growth under the proposed model is determined ultimately by past performance. A neutral projection of growth in a nascent and dynamic industry must account for the potential for *accelerating* growth.

Indeed, just a couple months before issuing the NPRM, EPA declined to “downgrad[e] [its] projections for all liquid cellulosic biofuel facilities” because that “would effectively assume that all future liquid cellulosic biofuel facilities experience the same challenges and resulting low production volumes as liquid cellulosic biofuel facilities have in recent years.”<sup>29</sup> That assumption, EPA observed, would not “be appropriate” because “much of the cellulosic biofuels industry is still in the early stages of commercialization, and it is likely that lessons learned at the first few liquid cellulosic biofuel production facilities can be applied to these and other facilities in future years.”<sup>30</sup> The NPRM suggests that EPA has already forgotten that lesson.

#### **B. For Reasons EPA Previously Recognized, Its Proposed Methodological Changes Lack a Reasonable Basis**

EPA says that it revised the methodologies “with the objective of improving the accuracy of the projections.”<sup>31</sup> Improving accuracy is a laudable goal, but in last year’s final RFS rule, EPA determined that the methodology used for 2015, 2016, and 2017 “has produced reasonable projections,”<sup>32</sup> and the D.C. Circuit recently affirmed that methodology as reasonable.<sup>33</sup> To be sure, EPA is permitted to revise its methodologies, and the conclusion that the old method was reasonably accurate does not necessarily foreclose the possibility of another method being more accurate. But “[w]hen an agency changes its existing position, it ... must at least ... show that there are good reasons for the new policy.”<sup>34</sup> In particular, “a reasoned explanation is needed for disregarding facts and circumstances that underlay or were engendered by the prior policy.”<sup>35</sup>

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<sup>28</sup> *Id.*

<sup>29</sup> Dallas Burkholder, *Assessment of the Accuracy of Cellulosic Biofuel Production Projections in 2015 and 2016*, at 5 (May 22, 2017) (“EPA May 2017 Assessment”), attached as an exhibit to *Documentation of OMB Review*, EPA-HQ-OAR-2017-0091-0110.

<sup>30</sup> *Id.*

<sup>31</sup> NPRM at 34,214, 34,219.

<sup>32</sup> 2017 RFS Rule at 89,758.

<sup>33</sup> *See Americans for Clean Energy*, 864 F.3d at 728.

<sup>34</sup> *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2125-2126 (2016).

<sup>35</sup> *Id.*

This is all the more so here given that EPA previously resolved to “adjust the methodology” only if it finds that the methodology “ceases to provide reasonably accurate projections in future years.”<sup>36</sup> EPA’s proposal strikingly fails to satisfy these requirements: the changes are not explained and there is no demonstration that the new methodologies would be more accurate than the prior one, let alone that the prior one is no longer reasonably accurate. In fact, EPA itself has previously rejected the very reasons it now offers to justify the methodological changes.

In the proposal, EPA notes that the prior method overestimated volumes for 2016. Specifically, EPA had projected 207 million gallons of RNG in 2016, but the industry actually generated 189 million, a shortfall of 9%.<sup>37</sup> And EPA had projected 23 million gallons of liquid cellulosic biofuel in 2016, but the industry actually generated 4.3 million, a shortfall of 81%.<sup>38</sup> Overall, EPA overestimated 2016 cellulosic RIN production by 16%. Thus, these were the error rates that apparently compelled EPA to revise its projection methodologies for 2018.

Nothing has changed since EPA last considered the accuracy of its 2015-2017 percentile method, while finalizing the 2017 RFS rule. At that time, EPA stated: “After reviewing the results of the methodology used by EPA to project cellulosic biofuel production in 2015 and 2016, we believe the methodology overall has resulted in reasonably accurate projections in these years and is appropriate for use in 2017.”<sup>39</sup> EPA added that it did “not believe that we have sufficient information at this time to adjust the methodology in a way that would reasonably be expected to improve the overall accuracy of the results.”<sup>40</sup> In other words, EPA’s reaffirmation of the old methodology in the 2017 RFS rule is irreconcilable with its proposed abandonment of that method now: looking at the same error rates today as it did then, EPA now claims it is improving its methodology to address the inaccuracy of a methodology it previously concluded was “reasonably accurate” and whose accuracy could not “reasonably be expected to [be] improve[d].”<sup>41</sup>

As recently as mid-June this year, EPA was still committed to the 2015-2017 methodology. It had submitted to the Office of Management and Budget (“OMB”) multiple drafts of the NPRM for 2018 using the 2015-2017 methodology, along with a supporting memorandum prepared in May concluding, as EPA had in the 2017 RFS rule: “After reviewing the results of the methodology used by EPA to project cellulosic biofuel production in 2015 and

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<sup>36</sup> 2017 RFS Rule at 89,758.

<sup>37</sup> Dallas Burkholder, *Assessment of the Accuracy of Cellulosic Biofuel Production Projections in 2015 and 2016*, at 3-4 (June 2017) (“EPA June 2017 Assessment”), EPA-HQ-OAR-2017-0091-0083.

<sup>38</sup> EPA June 2017 Assessment at 5.

<sup>39</sup> EPA November 2016 Assessment at 4.

<sup>40</sup> *Id.*

<sup>41</sup> *Id.* at 2-4. Because 2016 was not yet over, EPA estimated in November 2016 that the total cellulosic RIN production for that year would be 198 million, which yielded an error rate of 14%—negligibly different from the actual error rate of 16%.

2016, we believe the methodology overall has resulted in reasonably accurate projections in these years and is appropriate for use in 2018.”<sup>42</sup> And EPA again explained that it “there is [not] sufficient information to suggest that a change in our cellulosic biofuel production methodology is warranted.”<sup>43</sup>

Within a week, however, EPA reversed its position through a highly unusual process. In support of the switch, EPA prepared a new assessment of the accuracy of the 2015-2017 methodology with nearly verbatim language and data to the May 2017 assessment—except that EPA excised from the June 2017 assessment several key passages:

- EPA replaced the phrase “we believe the methodology overall has resulted in reasonably accurate projections in [2015 and 2016] and is appropriate for use in 2018” with the phrase “we believe the methodology overall has resulted in varying projections in these years.”<sup>44</sup>
- EPA deleted the sentence “We therefore do not believe the results of our projection of liquid cellulosic biofuel in 2015 provides a sufficient basis for changing our methodology in 2018.”<sup>45</sup>
- EPA deleted the entire last paragraph, in which EPA had concluded that it lacked “sufficient information” to warrant changing the methodology.<sup>46</sup>

This process—in which EPA converted an analysis that it had repeatedly relied upon to reach one conclusion into support for the opposite conclusion merely by erasing key conclusions from the original analysis, without a word acknowledging those changes—does not reflect reasoned analysis and explanation. It embodies arbitrary, capricious, and perhaps Orwellian regulatory action.<sup>47</sup>

In the NPRM itself, EPA attempts to explain the basis for its methodological changes, but those explanations do not account for EPA’s prior analyses or hold up on their own. With respect to liquid fuel, the NPRM states: “We believe that new data warrants a change to the methodology for projecting liquid cellulosic biofuel in an effort to make the projections more accurate.”<sup>48</sup> But EPA points to no data other than the 2015 and 2016 error rates—not new data

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<sup>42</sup> EPA May 2017 Assessment at 3. Unlike EPA’s November 2016 assessment, which had to slightly predict the final 2016 RIN figures, the May 2017 assessment had the final 2016 data and therefore accounted for exactly the same error rates EPA now would rely on to revamp the methodology. *See id.*

<sup>43</sup> *Id.* at 5.

<sup>44</sup> *See* EPA June 2017 Assessment at 3.

<sup>45</sup> *Compare* EPA June 2017 Assessment at 4 *with* EPA May 2017 Assessment at 4.

<sup>46</sup> *Compare* EPA June 2017 Assessment at 5 *with* EPA May 2017 Assessment at 5-6.

<sup>47</sup> *See Encino Motorcars*, 136 S. Ct. at 2126.

<sup>48</sup> NPRM at 34,215; *see also id.* at 34,217.

at all. On the contrary, EPA noted in May that it expected the 2018 liquid projection to be *more* accurate than in the past under the 2015-2017 methodology because “an increasing proportion of the liquid cellulosic biofuel production (approximately 62% in 2018) is projected to be produced from small facilities.”<sup>49</sup>

With respect to RNG, the NPRM states that the new industry-wide constant-growth-rate model “is warranted for purposes of this rule for two primary reasons: [1] the over-projection of [RNG] in 2016”—which, again, EPA already knew about when finalizing the 2017 RFS rule and when submitting the draft versions of the NPRM to OMB—and [2] “the relative maturity of the [RNG] industry relative to the liquid cellulosic biofuel industry” in terms of the “technology and market” for RNG.<sup>50</sup> To the extent the RNG market is more “mature” than the liquid market, EPA accounted for that long ago when it “decided to use higher percentile values to project likely production” of RNG.<sup>51</sup>

Beyond that, EPA is wrong that the RNG market has reached a level of maturity that would warrant an industry-wide constant-growth-rate model. In finalizing the 2017 RFS rule, EPA noted that production by the supposedly more “mature” RNG industry “has been much more variable month to month than for liquid fuels.”<sup>52</sup> EPA now provides no evidence to the contrary. In fact, the evidence shows that RNG production has continued to be inconsistent month to month and year to year—for example, growth has historically ranged from 35% to 800%, far higher than EPA’s proposed 9.3% and far too divergent to support a single constant rate.<sup>53</sup> Similarly, construction and investment timelines are not yet uniform, and economic incentives for production continue to fluctuate.<sup>54</sup> And, as EPA previously explained, it had already taken “appropriate actions” to improve the accuracy of RNG projection by, for example, excluding projected production from anaerobic digestion projects that have not previously generated cellulosic RINs.<sup>55</sup>

As a result, EPA’s proposed industry-wide constant-growth-rate method for projecting RNG production is *less* accurate than the percentile method it would replace. That alone suffices to require its rejection. Argus subjected the proposed RNG methodology to a simple test: apply it to past data to see how well it would have predicted 2016 production.<sup>56</sup> The results are dismaying. Argus found that “the application of this technique would have resulted in a growth rate that was off by 109% from the actual year-over-year growth rate for 2016,” and “a 28%

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<sup>49</sup> EPA May 2017 Assessment at 5.

<sup>50</sup> NPRM at 34,219.

<sup>51</sup> 2014-2016 RFS Rule at 77,506.

<sup>52</sup> EPA November 2016 Assessment at 2.

<sup>53</sup> *See* Argus 2017 Report at 10-13.

<sup>54</sup> *See id.*

<sup>55</sup> EPA May 2017 Assessment at 5.

<sup>56</sup> Argus 2017 Report at 8.

error” in the volume projection.<sup>57</sup> By comparison, the old percentile method’s projection was off by 16%.<sup>58</sup> One reason for the proposed methodology’s large error rate is that, in looking at past data, EPA accounted for the anomalously low January production volumes but disregarded the anomalously high December production volumes.<sup>59</sup>

### C. Better Methodologies Would Yield Higher Projections

Even if it were appropriate to refine EPA’s methodologies to reflect past performance, EPA should adjust its methodologies for both liquid cellulosic biofuel and RNG to obtain more accurate results. Any of the possible adjustments would result in higher projections of cellulosic volumes.

#### 1. Liquid Cellulosic Biofuel

Besides using current data to compute the low and high ends of the production ranges for liquid cellulosic biofuel producers, EPA should at a minimum jettison its backward-looking percentile values and set new percentile values that reflect a fuller analysis of the risk factors affecting each producer’s likely production. Simply maintaining the prior percentile values of 25 and 50 would be more accurate and defensible than the proposed percentile values.

Regardless of whether EPA adheres to the percentile values used for the 2015-2017 projections, it should create a new group for “producers with proven commercial production adding proven cellulosic technology.”<sup>60</sup> This group would contain facilities currently producing cellulosic ethanol from corn kernel fiber at existing corn ethanol plants—principally Edeniq and POET.<sup>61</sup> As Argus explains, such facilities have “similar types and levels of risk associated with cellulosic biofuel production” to each other but different from the companies in the other groups of liquid cellulosic biofuel producers proposed by EPA.<sup>62</sup>

Corn kernel fiber technology has poised the industry for rapid growth in recent years. Although technology for converting corn kernel fiber feedstock to cellulosic ethanol has existed for some time, it was not able to convert on a commercial scale.<sup>63</sup> In the last few years, however, several cellulosic ethanol facilities have achieved commercial-scale conversion, including POET and Edeniq (or facilities using Edeniq’s technology).<sup>64</sup> EPA also noted in the 2017 rule that “[c]ellulosic ethanol production levels increased from existing facilities in 2016, and significant

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<sup>57</sup> *Id.* at 8.

<sup>58</sup> *See supra* p. 7.

<sup>59</sup> Argus 2017 Report at 10; *see also* EPA November 2016 Assessment at 2.

<sup>60</sup> Argus 2017 Report at 19-20.

<sup>61</sup> *Id.* at 19.

<sup>62</sup> NPRM at 34,218; *see* Argus 2017 Report at 20-23.

<sup>63</sup> *Syngenta: Corn kernel fiber essential for cellulosic ethanol*, AGDAILY (Apr. 11, 2017), available at <https://www.agdaily.com/crops/syngenta-corn-kernel-cellulosic-ethanol/>.

<sup>64</sup> *See also* 2014-2016 RFS Rule at 77,499.

work continues to be done to enable the production of cellulosic ethanol at new facilities in 2017 and beyond.”<sup>65</sup> In the June 14 draft of the proposed rule for 2018, EPA recognized corn kernel fiber conversion as “commercially successful technology,”<sup>66</sup> and though EPA removed that sentence in the NPRM, EPA nonetheless observed in the NPRM that “[m]ultiple companies, in addition to Edeniq and Quad County Corn Processors, are working to commercialize technology to convert corn kernel fiber to cellulosic ethanol at existing corn ethanol facilities.”<sup>67</sup>

For this new group, EPA should use 50th percentile. That percentile value is based on EPA’s own criteria for setting percentile values and specifically its explanation for why the 50th percentile is appropriate for new RNG facilities.<sup>68</sup> With respect to their corn kernel fiber technology, POET and Edeniq share many similarities in terms of risk factors with new RNG facilities. Like new RNG facilities, POET and Edeniq have “a significant history of producing” cellulosic ethanol based on corn kernel fiber conversion and “do not face the same ramp-up schedule or uncertainties as newly constructed facilities operating new technologies.”<sup>69</sup> Indeed, POET and Edeniq already “aggregate and process the primary feedstock,” much as new RNG facilities producing cellulosic biofuel RINs by cleaning biogas collected at landfills are “already actively acquiring their waste/feedstock and collecting the biogas.”<sup>70</sup> Additionally, POET and Edeniq are already “handling, storing and distributing” ethanol, much as new RNG facilities are “currently storing, cleaning and [distributing] or utilizing” their biogas fuel onsite.<sup>71</sup>

It is true that POET cannot generate cellulosic biofuel RINs until the requested regulatory approval is granted, but EPA should promptly do that and count a full-year’s production capacity for POET in its projections. POET has been working closely with EPA to expedite approval of its corn kernel fiber pathway petition. Prompt approval is vital because POET has already produced and stored 20 million gallons of cellulosic ethanol that will be recognized as cellulosic biofuel RINs once approval is granted. And given that POET has already been producing cellulosic biofuel and for other reasons just discussed, it would experience little appreciable ramp-up time upon approval and would therefore expect to produce up to 60 million gallons of cellulosic biofuel RINs through this pathway. Indeed, EPA’s justification for excluding volumes from unapproved pathways in prior cellulosic biofuel projections—that “few of the facilities for which cellulosic pathway petitions have been submitted for consideration would be in a position to produce fuel in [the relevant upcoming compliance year] even if their petitions were approved

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<sup>65</sup> 2017 RFS Rule at 89,750.

<sup>66</sup> *EO12866 RFS 2018 Annual Rule 2060-AT04 NPRM FRN 20170614 4pm final clean*, at 27-28 (June 23, 2017), attached as an exhibit to *Documentation of OMB Review*, EPA-HQ-OAR-2017-0091-0110.

<sup>67</sup> NPRM at 34,214.

<sup>68</sup> Argus 2017 Report at 20-21.

<sup>69</sup> *Id.* at 21.

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

in the very near future”—does not apply to POET.<sup>72</sup> The only obstacle to having POET’s volumes recognized as cellulosic biofuel is EPA’s approval.

With corn kernel fiber-based cellulosic production from POET and Edeniq placed in a new group at the 50<sup>th</sup> percentile, and assuming the proposed percentile values of 1<sup>st</sup> and 43<sup>rd</sup> for the other groups, Argus projects liquid cellulosic production in 2018 would be 63 million, up from the 17 million proposed by EPA.<sup>73</sup>

## 2. Renewable Natural Gas

For reasons already discussed, EPA’s projection of RNG would be more accurate if, at a minimum, it reverted to its 2015-2017 methodology. EPA already performed this analysis in May (including using the 50th and 75th percentiles that EPA used in prior years), and obtained a projection for RNG in 2018 of 340 million, much higher than the 238 million EPA now proposes.<sup>74</sup>

If EPA were to insist on tying the percentiles to historical performance (even though that would reflect a non-neutral purpose), it could do so by setting them equal to percentiles corresponding to the actual RINs produced in 2016, as EPA proposes to do for liquid cellulosic biofuel. Performing a modified version of that analysis (due to limited publicly available data), Argus estimated that the projection of RNG would be 311 million, with new facilities analyzed at the 45th percentile and currently generating facilities at the 56th percentile.<sup>75</sup>

### **III. CHANGES TO THE CELLULOSIC WAIVER PROGRAM ARE NECESSARY TO FURTHER CONGRESS’S GOAL OF INCREASING PRODUCTION OF CELLULOSIC BIOFUEL**

EPA should modify its current CWC program. The RFS statute requires that for any calendar year in which EPA reduces the statutorily required volume of cellulosic biofuel, EPA

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<sup>72</sup> 2017 Response to Comments at 443 n.5.

<sup>73</sup> Argus 2017 Report at 20 tbl.11. Argus’ analysis also reflects updated data regarding high and low ends of the ranges. However, Argus had limited access to some producers’ confidential business data, including Edeniq’s, and therefore insofar as EPA has greater access, its application of Argus’ methodology would result in significantly higher projections. *Id.* at 22.

<sup>74</sup> EPA May 2017 Assessment at 5-6.

<sup>75</sup> Consistent with the approach EPA proposed for liquid cellulosic biofuel, Argus computed the error rate for the 2016 RNG projection: 10% (actual production was 189 million against a projection of 207 million). Argus 2017 Report at 17. Because of the lack of publicly available data on breakdown of actual 2016 production volumes between the two groups of RNG producers, Argus applied the 10% error rate to the 2016 RNG projections. *Id.* That is, Argus reduced by 10% the projected production of 32 million RINs for new RNG facilities and 175 million RINs for consistent RNG facilities, which resulted in 28.8 million RINs for new RNG facilities and 157.5 million RINs for consistent RNG facilities. Argus thus concludes that the 45th percentile and 56th percentile should be applied to the production ranges generated for new and consistent RNG facilities in 2016. Argus then applied those percentile values to project the 2018 RNG volume. *Id.*

“shall make available for sale cellulosic biofuel credits.”<sup>76</sup> Pursuant to this authority, EPA has administered a Cellulosic Waiver Credit (“CWC”) program since 2010, when the first cellulosic biofuel requirement was established.<sup>77</sup> The CWC program allows obligated parties to show compliance with their cellulosic biofuel RVOs by purchasing CWCs in lieu of RINs. A 2015 EPA regulation provides that “[t]he total cellulosic biofuel waiver credits available will be equal to the reduced cellulosic biofuel volume established by EPA for the compliance year.”<sup>78</sup>

EPA’s current practice is at odds with the RFS statute. EPA should (i) set the number of CWCs available meaningfully below the operative cellulosic biofuel volume requirement and (ii) require, as a condition of using CWCs to show compliance, that the obligated party make a good faith effort to purchase cellulosic biofuel gallons or RINs instead. Although Growth Energy recognizes that EPA did not request comment on the CWC program in its NPRM, refining the CWC program is essential to achieving Congress’s goal of increasing the nation’s use of renewable fuel and especially cellulosic biofuel—the most environmentally beneficial form of renewable fuel mandated by Congress.<sup>79</sup>

The CAA does not require that the number of CWCs be equal to the operative cellulosic volume requirement. The statute provides only that EPA “shall *limit* the number of cellulosic biofuel credits for any calendar year to the minimum applicable volume (as reduced under this subparagraph) of cellulosic biofuel for that year.”<sup>80</sup> As EPA has recognized, the phrase “shall limit” sets a ceiling but not a floor on the number of CWCs: “EPA is required to provide a number of cellulosic credits for sale that is *no more than* the volume used to set the standard.”<sup>81</sup>

Under that ceiling, EPA arguably has “considerable flexibility” in implementing the CWC program.<sup>82</sup> EPA, however, must exercise whatever discretion it has consistent with Congress’s other applicable directives, including that EPA implement the CWC program in such a way as “to assist market liquidity and transparency, to provide appropriate certainty for regulated entities and renewable fuel producers, and to limit any potential misuse of cellulosic biofuel credits to reduce the use of other renewable fuels.”<sup>83</sup> Thus, as EPA has acknowledged,

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<sup>76</sup> 42 U.S.C. § 7545(o)(7)(D)(ii).

<sup>77</sup> *Regulations of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program*, 75 Fed. Reg. 14,670, 14,726-14,728 (Mar. 6, 2010) (“2010 RFS Rule”).

<sup>78</sup> 40 C.F.R. § 80.1456(a)(2).

<sup>79</sup> See 42 U.S.C. § 7545(o)(1)(E) (defining “cellulosic biofuel” as having greenhouse gas emissions that are “at least 60 percent less than” the greenhouse gas emissions of conventional gasoline or diesel fuel); see also *Americans for Clean Energy*, 864 F.3d at 623 (noting cellulosic biofuel as “the ‘greenest’ form of renewable fuel mandated by the Renewable Fuel Program”).

<sup>80</sup> 42 U.S.C. § 7545(o)(7)(D)(iii) (emphasis added).

<sup>81</sup> 2010 RFS Rule at 14,726 (emphasis added).

<sup>82</sup> *Id.* at 14,727.

<sup>83</sup> *Id.* (quoting 42 U.S.C. § 7545(o)(7)(D)(iii)).

it must administer the CWC program so as to “ensure that waiver credits are not overutilized at the expense of actual renewable volume” and to avoid “unintended consequences.”<sup>84</sup>

EPA’s current practice fails to meet these obligations and jeopardizes the force of the cellulosic biofuel volume requirement. EPA’s policy of issuing as many CWCs as the required cellulosic biofuel volume has the presumably “unintended consequences” of undermining “certainty” and impairing “liquidity” regarding the cellulosic biofuel market. The industry has witnessed significant growth in recent years. For example, annual net cellulosic biofuel RINs increased from 0.81 million in 2013 to 33.07 million in 2014, to 140.26 million in 2015, and to 190.78 million in 2016.<sup>85</sup> And as shown above, both liquid cellulosic biofuel and RNG are expected to be produced in significantly higher volumes in 2018.

In order to sustain this growth trajectory and to continue to attract vital investment in cellulosic biofuel production capacity, producers of cellulosic biofuel need assurance that there will be market demand commensurate with their supply and that their product will elicit full-value off-take agreements. The ability of obligated parties to avoid cellulosic RINs entirely by buying CWCs undermines that prospect. Indeed, cellulosic biofuel producers have reported that obligated parties are not engaging in full-value off-take agreements for liquid gallons of cellulosic biofuel.

More broadly, given that Congress originally made CWCs available to account for the nascent nature of cellulosic biofuel production, EPA’s continued adherence to its policy of issuing as many CWCs as the required volume—without taking account of the changes in industry conditions—potentially signals a lack of support for robust cellulosic volumes in the long term.

In addition to the problem of making far too many CWCs available, the current lack of a good-faith requirement for obligated parties fails to ensure that CWCs are a last resort, rather than a convenient substitute for cellulosic biofuel RINs. Requiring obligated parties to show that they first made a good-faith effort to purchase available cellulosic biofuel RINs before turning to CWCs would help promote robust growth of the cellulosic biofuel industry and would communicate the importance of that growth to the market.

#### **IV. THERE IS NO BASIS TO USE THE GENERAL WAIVER TO REDUCE THE TOTAL RENEWABLE VOLUME REQUIREMENT DUE TO SEVERE HARM TO THE ECONOMY OR THE ENVIRONMENT**

EPA correctly proposes not to issue a general waiver on the basis of severe economic or environmental harm, but it does invite comment on whether such a waiver is warranted. In particular, EPA entertains the suggestion that RFS “standards that would result in ethanol use beyond the blendwall would cause severe economic harm,”<sup>86</sup> and that the production of

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<sup>84</sup> *Id.*

<sup>85</sup> *Public Data for the Renewable Fuel Standard*, EPA, available at <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard>.

<sup>86</sup> NPRM at 34,229.

feedstocks “used to produce conventional biofuels” would have “negative environmental impacts.”<sup>87</sup> These suggestions are baseless. They fail to account for the high bar to show that implementation of the RFS program “would severely harm the economy or environment.”<sup>88</sup> They contravene the transportation fuel industry’s actual experience and EPA’s findings regarding reasonably achievable levels of renewable fuel consumption. And they contravene prevailing consensus regarding the substantial environmental benefits of ethanol versus fossil-based fuels. In short, the possibility of using the general waiver ostensibly to prevent severe harm to the economy or environment should be rejected out of hand.

If EPA *were* inclined to issue such a general waiver, however, it would be required first to present an actual “comprehensive and robust analytical basis” for that decision—not the couple of passing suggestions included in the current NPRM—and provide an opportunity for public comment on *that* analysis.<sup>89</sup> Only then could EPA have a lawful basis for exercising that authority.

**A. Under the RFS Statute and EPA’s Longstanding and Sound Interpretation Thereof, the Severe Harm Provision Establishes a Very High Bar and Is Applicable in Very Narrow Circumstances**

Under the RFS statute, EPA may waive an RFS volume requirement if it determines “after public notice and opportunity for comment, that implementation of the requirement *would severely harm* the economy or environment of a State, a region, or the United States.”<sup>90</sup> EPA considered the severe harm standard at length in 2008, when it denied the State of Texas’s request for such a waiver of the 2008/2009 standards. That well-reasoned decision set forth several principles that continue to control the determination of whether EPA may—and should—issue a waiver:

First, “implementation of the RFS program *itself* must be the cause of the severe harm.”<sup>91</sup> Thus, it is not sufficient to show even that “implementation of the program would *significantly contribute* to severe harm” in combination with other factors unrelated to the RFS’s implementation.<sup>92</sup> Thus, as EPA explained, if the market were experiencing a certain kind of severe harm (e.g., prohibitively high crop prices), and the RFS program was a significant contributor to that harm but there were other contributing factors, too (e.g., drought or insufficient farmland), that would *not* suffice to make the waiver available.<sup>93</sup>

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<sup>87</sup> *Id.*

<sup>88</sup> 42 U.S.C. § 7545(o)(7)(A)(i).

<sup>89</sup> *Notice of Decision Regarding the State of Texas Request for a Waiver of a Portion of the Renewable Fuel Standard*, 73 Fed. Reg. 47,168, 47,183-47,184 (Aug. 13, 2008) (“Texas Waiver Decision”).

<sup>90</sup> 42 U.S.C. § 7545(o)(7)(A)(i) (emphasis added).

<sup>91</sup> Texas Waiver Decision at 47,171 (emphasis added).

<sup>92</sup> *Id.* (emphasis added).

<sup>93</sup> *Id.*

Second, the statute sets a “high threshold” for issuance of a waiver: “‘severe’ indicates a level of harm that is greater than marginal, moderate, or serious, though less than extreme.”<sup>94</sup> In fact, “severe[] harm” is “clearly a much higher threshold than [the] ‘significant adverse impacts’” standard applied by EPA in the ozone nonattainment context.<sup>95</sup>

Third, it is not enough that severe harm *might* result, or even that severe harm is *likely* to result. Rather, EPA must have a “high degree of confidence” that severe harm *would* result but for a waiver.<sup>96</sup> As EPA has explained, “in situations where there is not such a high degree of confidence, a waiver might disrupt the expected growth in use of renewable fuels but there would be no clear expectation that a waiver would provide a benefit by reducing any harm.”<sup>97</sup>

Fourth, the statute’s use of the word “economy” means that the harm must be considered in light of the economy as a whole, not any one sector of it (e.g., the oil industry, or the poultry industry). EPA has explained: “[I]t would be unreasonable to base a waiver determination solely on consideration of impacts of the RFS program to one sector of the economy, without also considering the impacts of the RFS program on other sectors of the economy or on other kinds of impact. It is possible that one sector of the economy could be severely harmed, and another greatly benefited from the RFS program; or the sector that is harmed may make up a quite small part of the overall economy.”<sup>98</sup>

Fifth, EPA has “discretion in determining whether to grant or deny a waiver request, even in instances where EPA finds that implementation of the program would severely harm the economy or environment of a State, region or the United States.”<sup>99</sup> Because a waiver “will always ... be national in character,” EPA has decided that even if the qualifying “severe harm” is limited to a certain state or region, EPA should not as a matter of policy exercise that discretion without “look[ing] broadly at all of the impacts of implementation of the program, and all of the impacts of a waiver,” including “the nationwide effects” of a waiver.<sup>100</sup>

Sixth, although EPA recognized that it may be appropriate to *deny* a severe harm waiver summarily, it is not proper to *grant* one without a “comprehensive and robust analytical basis for any claim that the RFS itself is causing harm, and the nature and degree of that harm,” and without the public having notice of and an opportunity to comment on the details of that analysis.<sup>101</sup>

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<sup>94</sup> *Id.* at 47,172.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> *Id.*

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> *Id.* at 47,183-47,1884.

Although the Texas waiver decision was specifically about severe economic harm, EPA also recognized that these principles apply equally to severe environmental harm.<sup>102</sup> EPA reinforced this position in its Response to Comments for the 2017 RFS rule, when it specifically invoked the first three principles above in the context of a request for a waiver on severe environmental harm.<sup>103</sup> Put simply, EPA should invoke the severe harm waiver, whether for harm to the economy or environment, only if it is *highly confident* that without a waiver, the RFS program would cause *severe* and *widespread* harm.

These principles taken together ensure that the severe harm standard is invoked only in very rare and limited situations. EPA’s interpretation of the severe harm waiver provision is not only textually required; it is also critical to the functioning of the RFS program. The program depends on market players having the long-term certainty that EPA will adhere to the volume requirements dictated in the statute, so that they can make investments in the necessary infrastructure with an expectation that the investment will pay off.<sup>104</sup> Thus, EPA recognized that Congress did not intend to provide in the severe harm provision an “open-ended and wide ranging waiver.”<sup>105</sup> Rather, EPA found that “implementing a more limited waiver provision . . . will better implement Congress’s overall desire to promote the use of renewable fuels, reflected in enacting the expanded RFS program and mandating the increased utilization of renewable fuels over a number of years.”<sup>106</sup> The D.C. Circuit recently reinforced these points when it pointedly rejected the notion that Congress provided a “boundless general waiver authority.”<sup>107</sup> Such a broad waiver authority would interfere with “how the Renewable Fuel Program is supposed to work” through “increasing requirements [that] are designed to force the market to create ways to produce and use greater and greater volumes of renewable fuel each year.”<sup>108</sup>

## **B. Implementation of the 2018 Total Volume Requirement Without a General Waiver Will Not Severely Harm the Economy**

EPA has invited comment on whether it should use its general waiver power to avoid severely harming the economy. EPA has no basis to do so.

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<sup>102</sup> *Id.* at 47,184.

<sup>103</sup> 2017 Response to Comments at 54-55.

<sup>104</sup> *See* 2014-2016 RFS Rule at 77,433, 77,456, 77,459-77,460; *Monroe Energy LLC v. EPA*, 750 F.3d 909, 917 (D.C. Cir. 2014).

<sup>105</sup> Texas Waiver Decision at 47,171.

<sup>106</sup> *Id.*

<sup>107</sup> *Americans for Clean Energy*, 864 F.3d at 711; *see also National Petrochemical & Refiners Ass’n v. EPA*, 630 F.3d 145, 149 (D.C. Cir. 2010) (“The EISA authorized the waiver of the volume requirements only in limited circumstances.”).

<sup>108</sup> *Americans for Clean Energy*, 864 F.3d at 710.

1. EPA’s “reasonably attainable” finding precludes a determination that implementation of the total volume requirement without a general waiver would cause severe harm to the economy

In both the NPRM for 2018 and the final RFS rule for 2017, EPA has found that the total required volume of renewable fuel use now proposed, as well as the implied volume of conventional renewable fuel use, could be “reasonably attained.” As EPA has recognized previously, “[i]n light of [those] finding[s] . . . , it follows that the final requirements will not cause severe economic harm.”<sup>109</sup>

In the final RFS rule for 2017, EPA set the total renewable fuel volume requirement to 19.28bg, and set the implied volume for conventional renewable fuels—most of which would be starch ethanol—to 15.00bg.<sup>110</sup> Those volume requirements reflected EPA’s determination that they were “reasonably attainable,”<sup>111</sup> taking into account all factors potentially affecting the ability of the market to produce, dispense, and consume renewable fuel, including the potential for market disruptions and price effects as well as “factors related to the likely constraints on imports, distribution and use, and global GHG impacts of incremental growth.”<sup>112</sup> The analysis underlying the final 2017 volume requirements, therefore, left no room to conclude that implementing those requirements would severely harm the economy, as EPA recognized: “In light of our finding that the volumes requirements and associated standards being finalized are reasonably attainable, it follows that the final requirements will not cause severe economic harm, so further reductions on that basis are not necessary.”<sup>113</sup>

That same analysis, and EPA’s corresponding analysis supporting the proposed 2018 volume requirements, similarly leave no room to conclude that implementing the proposed 2018 requirements would severely harm the economy. For 2018, EPA has proposed the same implied volume for conventional renewable fuel as it adopted for 2017 (15.00bg) and a slightly *lower* total renewable fuel volume compared to the 2017 volume (19.24bg).<sup>114</sup> Consistent with its finding regarding the 2017 volumes, the current NPRM again concludes that those volumes are

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<sup>109</sup> 2017 Response to Comments at 53.

<sup>110</sup> 2017 RFS Rule at 89,747, 89,773, 89,780-89,781.

<sup>111</sup> *Id.* at 89,774, 89,780-89,782. Although under EPA’s now-vacated approach to the general waiver, it assessed the “maximum achievable” volume of renewable fuel, EPA assessed the “reasonably attainable” volume of renewable fuel—a potentially lesser amount—in deciding how much of the cellulosic waiver to flow through to the advanced and total volume requirements. *See id.* at 89,774 n.103; *id.* at 89,777 n.119.

<sup>112</sup> *Id.* at 89,763, 89,773-89,775; 2014-2016 RFS Rule at 77,435, 77,440-77,452.

<sup>113</sup> 2017 Response to Comments at 53.

<sup>114</sup> NPRM at 34,207, 34,229.

“reasonably attainable.”<sup>115</sup> Thus, a fortiori there is no basis to conclude that implementing the proposed 2018 volume requirements for total renewable fuel or conventional renewable fuel would severely harm the economy.

2. EPA’s analysis actually understates the “reasonably attainable” volume of ethanol

Although EPA’s “reasonably attainable” analysis disposes of the severe harm question, it also substantially understates the consumption of ethanol through E85 and E15 that plainly could occur without severe harm resulting.

a. EPA’s flawed analysis of E85

As Growth Energy explained in its 2017 comment, and as Americans for Clean Energy, Growth Energy, and others explained in the litigation challenging the 2014-2016 RFS rule, E85 has rarely—and never consistently—been priced below E10 on an energy-parity basis.<sup>116</sup> That is because the RFS has never been set at levels requiring substantial use of E85,<sup>117</sup> and so E85 retailers have found that their profit-maximizing strategy has been to treat E85 as a premium product, targeting price-insensitive consumers such as government fleets or individuals willing to pay more for E85 in view of its environmental, economic, and security benefits.<sup>118</sup> This in turn means that price reductions in E85 have not historically generated substantial observed consumer response; all that happened, at most, is E85 went from “way more expensive” than E10 to merely “more expensive” than E10.<sup>119</sup>

Although the market thus has not had occasion to test the upper bounds of E85 potential, Growth Energy submitted, in connection with its comment on the proposed RFS rule for 2017, expert reports by Stillwater Associates and the Brattle Group, as well as rigorous prior academic research by several economics professors, demonstrating through data and economic modeling how the market can be expected to react *if and when* the standards are set high enough that substantial E85 usage is necessary for the market to reach equilibrium.<sup>120</sup> First, consistent with

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<sup>115</sup> *Id.* at 34,229. In fact, EPA initially concluded that a larger volume—19.38bg—is reasonably attainable in 2018. Proposed 2018 Standards: Briefing for Interagency Reviewers 9-10 (May 11, 2017), EPA-HQ-OAR-2017-0110. The 100mg reduction (to 19.28bg) in the NPRM resulted from EPA’s decision to lower its projection of cellulosic biofuel. Even if that reduction were sound, *but see* Part II, *supra*, that would not undermine EPA’s finding that 19.38bg of total renewable fuel is reasonably attainable in 2018 because the difference could easily be backfilled by non-cellulosic advanced biofuels or by starch ethanol volumes. *See, e.g.*, NPRM at 34,207.

<sup>116</sup> 2017 Growth Energy Comment 12 (July 11, 2016) (attached as Exhibit 6), EPA-HQ-OAR-2016-0004-3499; *Americans for Clean Energy, Inc. v. EPA*, No. 16-1005, dkt. #1661227, at 7 (D.C. Cir. Feb. 14, 2017).

<sup>117</sup> 2017 Growth Energy Comment at 9, 11-14, 23-25.

<sup>118</sup> *Id.* at 8.

<sup>119</sup> *Id.* at 6.

<sup>120</sup> *See id.* at 14-16, 22-28.

EPA's recognition that price is the most important factor for consumers when buying transportation fuel, and consistent with EPA's recognition of what economic theory would predict,<sup>121</sup> those reports and papers showed, through data and rigorous modeling, how the consumer demand curve would exhibit accelerating consumer response as E85 prices fell below energy parity with E10.<sup>122</sup> Indeed, any other demand curve would lead to implausible results as the E85 discount approaches 100%.<sup>123</sup> Second, the Stillwater and Brattle reports explained how, if the RFS standards are set high enough, E85 stations will find that rather than competing monopolistically with other E85 stations for the small portion of price-insensitive E85 consumers, they will be far better off discounting E85 below E10 and thus competing directly with E10 in order to capture traffic from the substantially larger, price-sensitive E10 customer base.<sup>124</sup>

EPA has declined to follow this commonsense logic supported by data, for no other reason than EPA's evident risk aversion. Without coherent explanation, EPA has decided that, where a linear or weakly nonlinear relationship explains the data as well as a more strongly nonlinear relationship, then the linear or weakly nonlinear model should be selected to project E85 demand.<sup>125</sup> But there is no reason to believe that to be the right choice when EPA's analysis lacks data from consistent pricing below parity, and particularly when that choice contravenes economic theory, rigorous research, and common sense.

EPA also insists, in the absence of data from a time when substantial E85 volume was necessary to meet the RFS mandate, on an unstated 22% cap on the E85 discount to E10, refusing to heed economic theory and expert conclusions that E85 prices will decline until the market finds an equilibrium that matches the requisite constraints. Instead, EPA treats these prices as external "constraints" that must be "achieved." As Brattle explained, basic economic theory teaches that "[n]either the E85 price discount nor the RIN price that would be necessary to

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<sup>121</sup> *2014 Standards for the Renewable Fuel Standard Program*, 78 Fed. Reg. 71,732, 71,760 (Nov. 29, 2013); David Korotney, *Correlating E85 consumption volumes with E85 price*, at 4 ("2016 Korotney Memorandum"), EPA-HQ-OAR-2015-01111-3666.

<sup>122</sup> 2017 Growth Energy Comment at 14-16.

<sup>123</sup> *Id.* at 6-8.

<sup>124</sup> *Id.* at 22-28.

<sup>125</sup> See David Korotney, *Updated correlation of E85 sales volumes with E85 price discount*, at 6-8 (Nov. 18, 2016) ("2017 Korotney Memorandum") (rejecting nonlinear forms simply because they do not appear to *add* to the explanatory power of the original dataset, while not explaining why the default linear or weakly nonlinear assumption should be treated as the default), EPA-HQ-OAR-2016-0004-3752; 2016 Korotney Memorandum at 13-16 (similarly rejecting nonlinear form simply because it purportedly did no better than the linear form, while not explaining why the linear form is thus the better choice).

In fact, EPA's use of a weakly nonlinear form in 2017 makes even less sense than the linear form EPA chose in 2016. As EPA concedes, the weakly nonlinear form "demonstrates a weaker response to price" than the original form at large E85 discounts. 2017 Korotney Memorandum at 5.

achieve a particular E85 price discount are exogenous constraints but instead are endogenous results of policy choices, namely the RVO level EPA sets and the volume of E85 sales necessary to meet that RVO level.”<sup>126</sup>

Growth Energy maintains that this approach to E85—which EPA continues to rely upon in proposing the total volume requirement for 2018 by assuming the same ethanol concentration in 2018 as 2017—is not supportable under EPA’s “reasonably attainable” standard. That view essentially creates a Catch-22 at odds with congressional intent, as EPA is declining to push the market to reach higher volumes because they have not been historically achieved. Higher volumes will be achieved only when EPA allows the RFS to actually push the market as Congress intended.

EPA’s assessment of E85 infrastructure is similarly flawed. EPA claims in the NPRM that even more than price, E85 sales in 2018 will be limited by the number of stations offering E85.<sup>127</sup> This unexplained assertion is wrong: EPA itself has found that there were sufficient E85 stations and flex-fuel vehicles (“FFVs”) with reasonable access to those stations to deliver 1.3bg gallons of E85, or 860mg of incremental ethanol in E85.<sup>128</sup> And EPA has never rebutted the analysis Growth Energy submitted in prior RFS rulemakings showing that there is sufficient E85 station infrastructure to deliver more than 1bg of ethanol in E85 to nearby FFVs.<sup>129</sup> Of course since those analyses, the number of E85 stations has increased markedly due to the BIP program, as EPA acknowledges,<sup>130</sup> and the number of FFVs on the road has continued to increase.<sup>131</sup> Insofar as EPA were to base a severe economic harm waiver on inadequate infrastructure, it would need to explain how, notwithstanding this record evidence and its prior reasoning, it has a high degree of confidence that severe harm would result.

b. EPA’s flawed analysis of E15

Likewise, EPA’s analysis of E15 consumption is wrong. In both its 2014-2016 and 2017 comments, Growth Energy set forth extensive analysis showing that E15 infrastructure is capable of rapid expansion once EPA sets the RFS at levels that actually require substantial E15 growth.<sup>132</sup> That analysis is still valid. In fact, with the addition of new opportunities for

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<sup>126</sup> See 2017 Brattle Report at 3 (attachment Exhibit B to attached Exhibit 6).

<sup>127</sup> NPRM at 34,231.

<sup>128</sup> David Korotney, *Application of one-in-four E85 access methodology to 2014* (Nov. 21, 2013), EPA-HQ-OAR-2013-0479.

<sup>129</sup> 2017 Growth Energy Comment at 28-33; 2014-2016 Growth Energy Comment 33-37 (July 27, 2015) (attachment Exhibit A to attached Exhibit 6), EPA-HQ-OAR-2015-0111-2604.

<sup>130</sup> David Korotney, *Projections of retail stations offering E15 and E85 in 2017* (Nov. 18, 2016), EPA-HQ-OAR-2016-0004-3751-0026.

<sup>131</sup> Air Improvement Resource, Inc., *Analysis of Ethanol-Compatible Fleet for Calendar Year 2018* (Aug. 31, 2017) (attached as Exhibit 3).

<sup>132</sup> 2017 Growth Energy Comment at 33-37; 2014-2016 Growth Energy Comment at 41-52.

terminal-blended E15, the potential for E15 growth is even larger today.<sup>133</sup> Yet EPA has consistently downplayed the potential for E15 expansion based on EPA's improper adherence to what has historically been achieved.<sup>134</sup> EPA has further cramped its estimates of potential E15 growth by indulging baseless concerns about retailer misfueling.<sup>135</sup>

3. Doubts about whether the proposed volumes are “reasonably attainable” are insufficient to meet EPA’s burden for a severe harm waiver

Even if EPA were to conclude, under its method of analyzing the reasonably attainable volumes in its exercise of the cellulosic flow-through authority, that sufficient volumes of E85 and E15 were not reasonably attainable, that conclusion would not amount to a finding of severe economic harm. EPA may make such a finding only if it harbors no doubts about the harm that will result absent a waiver.

For purposes of the cellulosic flow-through, EPA’s view is that reasonable doubts about achievable volumes may justify reducing volume requirements. In that context, according to EPA, its burden is to determine what volumes it has “*confidence*” the market could reasonably reach.<sup>136</sup> Thus, EPA has started with baseline volumes that it knows are achievable, e.g., the amounts achieved historically, and then asked what it confidently can say the market could achieve above that threshold in the next year. Thus, EPA has relied upon (misplaced) doubts such as those discussed above regarding the shape of the E85 demand curve, achievable relative pricing between E85 and E10, and E15 distribution infrastructure to justify lowering the volume requirement.

Regardless of whether that approach is sound under EPA’s cellulosic flow-through authority, it would be wholly improper to use it when evaluating severe economic harm because of the different burden EPA bears in the severe harm context.<sup>137</sup> As discussed above, the severe harm waiver may be invoked only if EPA has a “high degree of confidence” that severe harm *would* result—even confidence that severe harm would *likely* result is insufficient.<sup>138</sup> Thus, in order to conclude that implementing the volume requirements would severely harm the economy, EPA must reverse its presumption in light of its different burden: whereas, for purposes of the cellulosic waiver flow-through, EPA presumes that volumes will be lower unless it can dispel its doubts that they will be higher, for purposes of the severe harm waiver EPA must

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<sup>133</sup> See NPRM at 34,236.

<sup>134</sup> *Id.*

<sup>135</sup> NPRM at 34,232.

<sup>136</sup> NPRM at 34,235; 2017 RFS Rule at 89,791; 2014-2016 RFS Rule at 77,481; *see also* 2014-2016 RFS Rule at 77,472 (limiting expected biodiesel volumes based on what EPA thinks it would be “prudent” to assume).

<sup>137</sup> To be clear, Growth Energy does not believe that EPA would even need to consider potential growth of E85 to *reject* outright use of a severe economic harm waiver. But certainly EPA could not decide to *apply* this waiver without fundamentally changing its analysis as described here.

<sup>138</sup> Texas Waiver Decision at 47,171.

presume that volumes will be higher unless it can dispel its doubts that they will be lower. Mere doubt or inadequate data about whether there would be severe harm militates *against* waiving the volumes.<sup>139</sup>

4. Even if EPA’s “reasonably attainable” finding did not foreclose a finding of severe harm to the economy, EPA could not make such a finding for 2018

Even setting aside EPA’s sound determination that at least 19.24bg of total renewable fuel, and 15.00bg of conventional renewable fuel, are “reasonably attainable” volumes in 2018, it would be inappropriate to invoke the general waiver because adherence to those levels would not cause severe harm to the economy. Because the 2018 total standard is *lower* than the 2017 standard—and only modestly above what the market actually achieved in 2016 (18.6 billion net RINs)<sup>140</sup>—such a claim would mean that we are experiencing severe economic harm *right now*. That is manifestly false.

Growth Energy expects some obligated parties to argue that the RIN prices they must pay constitute a severe harm to them. EPA, however, has repeatedly and thoroughly debunked the notion that independent refineries are experiencing harm by virtue of being required to submit RINs for compliance while not themselves owning blending operations. EPA explained in its screening analysis on the costs to small entities as part of this proposal:

EPA continues to believe that because there is a cost to all obligated parties to acquire RINs, obligated parties are recovering the cost of these RINs through higher prices they receive for the petroleum based gasoline and diesel fuel they produce. EPA has examined available market data and concluded that current gasoline and diesel prices generally enable obligated parties to recover the cost of the RINs. When viewed in light of this data, *there is no net cost of compliance with the RFS standards to obligated [parties]* (cost of compliance with the RFS standards minus the increased revenue due to higher gasoline and diesel prices that result from implementing the RFS program).<sup>141</sup>

That conclusion follows a succession of similar findings in prior years. In 2016, EPA not only concluded that obligated parties were recovering these costs, but more broadly recognized that “The Current Program Structure Appears to be Working to Achieve the Goals of the RFS

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<sup>139</sup> Beyond these ethanol pathways, the severe economic harm waiver also alters how EPA must consider biodiesel. For instance, in the current NPRM EPA reduces the amount of BBD it deems reasonably achievable based on concerns about feedstock diversion and not taking away from exports. NPRM at 34,221. Under the severe economic harm waiver, EPA may not limit the amounts of biofuels that it determines can be achieved based on such policy goals – the sole question is whether requiring a certain level of consumption would cause severe economic harm.

<sup>140</sup> 2016 Supply (Mar. 7, 2017), EPA-HQ-OAR-2017-0091-0061.

<sup>141</sup> Dallas Burkholder, et al., *Screening Analysis for the Renewable Fuel Standard Program Renewable Volume Obligations for 2018* (June 28, 2017), EPA-HQ-OAR-2017-0091-0097.

Program,” and that current RIN prices were not indicative of a dysfunctional RIN market.<sup>142</sup> In 2015, EPA issued a docket memorandum that made similar findings.<sup>143</sup>

These findings alone would defeat a claim of severe economic harm by the obligated parties. But even if obligated parties were incurring costs that were not being recovered, there would be no basis to conclude that any harm they are experiencing is severe. Any government policy generally provides benefits to certain parts of the economy while working adversely to the interests of another. RIN price costs on refiners—particularly those who have no blending operations and thus are not themselves directly acting to further the policy goals Congress set forth in the RFS statute—are precisely the “lesser degrees of economic harm” that the D.C. Circuit recognized that Congress expected to impose by establishing the RFS program in the first place, and that would not qualify as “severe” harm for purposes of the general waiver.<sup>144</sup> Indeed, far from being a basis for waiver, those higher RIN prices are the very engine for the growth that Congress intended the RFS program to achieve, as “higher RIN prices” should “incentivize precisely the sorts of technology and infrastructure investments and fuel supply diversification that the RFS program was intended to promote.”<sup>145</sup> EPA must reserve the severe harm waiver for truly catastrophic economic events, not the economic transfers that Congress specifically intended as part of its market-forcing scheme.

Nor are other industry players being severely harmed. EPA has already found that, although refiners are able to pass the RIN price through via higher blendstock pricing, that does *not* result in higher costs of E10 to the end-consumer.<sup>146</sup> Rather, the higher blendstock price is offset by the lower cost of ethanol.<sup>147</sup> EPA recently reaffirmed these findings when it proposed denying the petition to move the point of obligation.<sup>148</sup> In fact, as Growth Energy documented in its comments to the 2014-2016 rule, and as updated in a recent report by Marc Chupka and J. Michael Hagerty of the Brattle Group and Philip K. Verleger of PKVerleger LLC (discussed further in Part V.B, *infra*), numerous studies show how implementation of the RFS program and increased ethanol consumption have meaningfully *reduced* the prices of fossil fuels, by

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<sup>142</sup> EPA, *Proposed Denial of Petitions for Rulemaking to Change the RFS Point of Obligation*, at 12-21 (Nov. 2016) (“Proposed Denial”), available at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100PUF0.pdf>.

<sup>143</sup> Dallas Burkholder, *A Preliminary Assessment of RIN Market Dynamics, RIN Prices, and Their Effects*, at 2 (May 14, 2015) (“2015 Burkholder Memorandum”), EPA-HQ-OAR-2015-0111-0062.

<sup>144</sup> *Americans for Clean Energy*, 864 F.3d at 712.

<sup>145</sup> *Monroe Energy*, 750 F.3d at 919.

<sup>146</sup> See 2015 Burkholder Memorandum at 1, 31; see also 80 Fed. Reg. 33100, 33,119 n.49 (June 10, 2015).

<sup>147</sup> *Id.* Of course, even if EPA were to find some effect on overall transportation fuel prices, that would still not itself constitute severe harm; among other things, that increase in fuel prices would have to be considered in light of the benefits that the RFS program provides.

<sup>148</sup> Proposed Denial at 16.

“stretch[ing]” existing available fossil fuel supply.<sup>149</sup> Those comments also marshaled numerous studies showing how implementation of the RFS program has minimal effect on feed and retail food prices: corn ethanol uses only the starch of the corn and thus has co-products that *add* to the feed supply, and retail food prices are driven more by crude oil prices than the price of individual crops like corn.<sup>150</sup>

Indeed, as EPA recognized in resolving the Texas waiver request, EPA cannot judge the degree of harm for purposes of the waiver simply by focusing on one industry in isolation. Rather, EPA must look at the economy as a whole, and thus consider the benefits that the RFS program has for the economy as a whole. Those benefits here are substantial, as discussed in greater detail in Part V.B, *infra*, and outweigh any purported harms being borne by obligated parties or other players in the industry due to existing RIN prices or compliance obligations.

5. EPA must consider carryover RINs and carryover deficits when assessing whether there would be severe harm to the economy

Yet another reason that implementation of the proposed total volume requirement without a general waiver would not cause severe harm to the economy is the important compliance flexibilities available to obligated parties to mitigate such harm, including a large bank of carryover RINs and the ability to carry over RIN deficits. Carryover RINs and carryover deficits are flexibilities that are part and parcel of the RFS program as implemented by EPA, and are specifically designed to mitigate harms that might otherwise result from the program while still ensuring that the overall requirements are met.<sup>151</sup> Although the D.C. Circuit recently affirmed EPA’s position that it is not required to count carryover RINs when assessing whether the “supply” of renewable fuel is “inadequate” to meet the applicable statutory volume requirement,<sup>152</sup> and although EPA takes the view that it may exclude carryover RINs from its “reasonably attainable” analysis under its cellulosic waiver flow-through authority, EPA must still account for carryover RINs (and the ability to carry over deficits) when deciding whether implementation of the RFS program would, in fact, cause severe harm without a waiver.<sup>153</sup>

Thus, to apply the severe economic harm waiver, EPA would have to take into account both the market’s ability to use existing carryover RINs and its opportunity to use carryover deficits, and *still* conclude that, nonetheless, implementation of the statutory requirements would

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<sup>149</sup> The Marc Chupka and J. Michael Hagerty, the Brattle Group, and Philip K. Verleger, PKVerleger LLC, *Blending In: The Role of Renewable Fuel in Achieving Energy Policy Goals* 22 (Aug. 31, 2017) (attached as Exhibit 2) (“Chupka, Hagerty & Verleger Report”); see 2014-2016 Growth Energy Comment at 75-77.

<sup>150</sup> 2014-2016 Growth Energy Comment at 77-78.

<sup>151</sup> See 2014-2016 RFS Rule at 77,483-77,484; *Americans for Clean Energy*, 864 F.3d at 715 (discussing EPA’s view that carryover RINs are important for “unexpected shortfalls or increased demand”).

<sup>152</sup> *Americans for Clean Energy*, 864 F.3d at 713-716.

<sup>153</sup> *Cf. id.* at 714 (noting that the text “inadequate domestic supply” was controlling in its analysis of carryover RINs).

cause severe harm to the economy. No such conclusion is possible in the present circumstances. According to EPA, the market generated 18.6 billion net RINs in 2016,<sup>154</sup> and EPA estimates that there are currently approximately 2 billion carryover RINs. Thus, even if the market simply maintained its 2016 level of net RIN generation—a level that plainly did not cause severe economic harm—the market could achieve the proposed volume of 19.24 billion RINs in 2018 and still have more than 1.36 billion RINs in the carryover bank.

Nor can there be any argument that reducing the bank—by that amount or more—somehow “would” cause severe harm. EPA has said that the purpose of the bank is to create a buffer to address unforeseen circumstances such as natural disaster.<sup>155</sup> EPA’s concern is that such circumstances *might* occur, which in turn *might* result in a RIN shortfall that (EPA erroneously claims) *might not* be adequately addressed through carryover deficits.<sup>156</sup> The layers and layers of speculation required before the reduction or elimination of the bank could lead to tangible severe economic harm is well below even the threshold of showing *likely* harm, let alone reaching the required “high degree of confidence” that severe harm “would” result.<sup>157</sup>

### **C. Implementation of the 2018 Total Volume Requirement Without a General Waiver Will Not Severely Harm the Environment**

EPA has also invited comment on whether it should use its general waiver power to avoid severely harming the environment. EPA should not and indeed could not do so. Notably, neither actual experience in 2016 nor the 2017 RFS rulemaking process—which, again, resulted in the same implied volume for conventional renewable fuel of 15bg as now proposed for 2018—prompted EPA to express any concern about resultant environmental harm. In fact, EPA recently rejected that very proposition.

There is no warrant for changing course. The statute reflects Congress’s judgment that biofuels, including conventional biofuels such as corn starch ethanol, would benefit the environment by reducing greenhouse gas (“GHG”) emissions. The newest data confirm that judgment. And there is no basis to conclude that any environmental factors not already accounted for by lifecycle GHG analysis would support a finding of “severe[]” harm to the environment.

On the contrary, what would harm the environment is *waiving* the implied volume of 15bg for conventional renewable fuel. The gap between lifecycle GHG emissions associated with conventional biofuels and those of fossil fuels is *growing wider*, which translates into increased environmental *benefits* from starch ethanol. Moreover, maintaining a commitment to starch ethanol also benefits the environment by supporting the companies that are leading investment in the next wave of environmentally beneficial renewable fuel technologies.

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<sup>154</sup> 2016 Supply (Mar. 7, 2017), EPA-HQ-OAR-2017-0091-0061.

<sup>155</sup> 2014-2016 RFS Rule at 77,483.

<sup>156</sup> *Id.* at 77,483-77,484.

<sup>157</sup> Texas Waiver Decision at 47,172.

1. Starch ethanol benefits the environment relative to fossil fuels by reducing GHG and other pollutant emissions substantially

EPA will not be able to identify severe harm to the environment because, with respect to the single most important available metric of environmental impact—GHG emissions—the use of starch ethanol instead of fossil fuel indisputably benefits the environment. Reducing the total volume requirement through a general waiver would replace starch ethanol with fossil fuel and thus would deprive the nation of the very environmental benefits Congress sought to achieve through the RFS program.

“[R]educing greenhouse gas emissions” is the “objective” of the RFS program.<sup>158</sup> EPA itself has observed that one of the “central policy goals underlying the RFS program” is “reductions in greenhouse gas emissions.”<sup>159</sup> Congress’s judgment that reducing greenhouse gas emissions is a critical environmental goal—indeed, *the* critical environmental goal of the RFS program—is highlighted by the structure of the program itself, which provides detailed definitions of lifecycle GHG emissions, and which includes renewable fuels like ethanol in the RFS program based in some instances on whether they achieve significant (*i.e.*, 20% or greater) reductions in lifecycle GHG emissions over gasoline.<sup>160</sup>

The most salient question with respect to whether a general waiver of the total volume requirement could be justified based on environmental harm is therefore how the invocation of a waiver—and the resulting decrease in the amount of conventional biofuels consumed in place of fossil fuels—would affect GHG emissions. And the answer is clear: Invoking the general waiver would by definition result in less ethanol, which would lead to higher overall GHG emissions. A general waiver would thus *elevate* the risk of environmental harm, rather than prevent it.

The data on lifecycle GHG emissions for ethanol versus gasoline is robust. In previous years, Growth Energy has pointed to analyses from the Department of Energy’s Alternative Fuels Data Center and its Argonne National Laboratory showing corn starch-based ethanol accounts for significant (*i.e.*, approximately 40%) reductions in lifecycle GHG emissions relative

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<sup>158</sup> *API*, 706 F.3d at 476.

<sup>159</sup> 78 Fed Reg. at 71,778; *see also* 80 Fed. Reg. at 33,110 (concluding that “we do not believe that it would be consistent with the ... greenhouse gas reduction goals of the statute to reduce the applicable volumes of renewable fuel set forth in the statute absent a substantial justification for doing so.”).

<sup>160</sup> *See* 42 U.S.C. § 7545(o)(1)(B)-(H); *id.* § 7545(o)(2)(A)(i). This 20 percent threshold applies only to ethanol produced in factories built after December 19, 2007; ethanol from older factories need not meet the 20 percent threshold to be included, although (as this comment indicates) such ethanol likely does so.

to gasoline.<sup>161</sup> Already, those numbers are well above EPA’s previous 2010 assessment that ethanol’s lifecycle GHG emissions are 21% lower than gasoline’s<sup>162</sup>—demonstrating in part that the ethanol industry has greatly improved its efficiency, minimized the local environmental impact of its operations, and adopted new technologies at ethanol facilities at a faster rate than anticipated by EPA.

Newer studies confirm and build on these older analyses, showing potentially even sharper GHG emissions reductions from ethanol. In January 2017, USDA released the most comprehensive lifecycle GHG emissions analysis for ethanol yet.<sup>163</sup> Building on EPA’s 2010 Regulatory Impact Analysis (“RIA”), the USDA’s 2017 Report updates the RIA model based on “a large body of new information [that] has become available since 2010—including new data, scientific studies, industry trends, technical reports, and updated emissions coefficients.”<sup>164</sup> The USDA Report considers the carbon costs of feedstock production, fertilizer usage and production, and land usage. And it concludes that ethanol’s lifecycle GHG emissions are significantly less than were estimated at the time of the RIA. Specifically, it estimates lifecycle GHG emissions at 55 kg CO<sub>2</sub>/MMBTU under 2014 conditions, and 50 kg in its 2022 “business as usual” scenario (*i.e.*, based on existing trends in land usage and other factors),<sup>165</sup> down from the RIA estimate of 79 kg CO<sub>2</sub>/MMBTU. By comparison, the lifecycle GHG emissions of gasoline in 2005, the baseline prescribed by the RFS statute, is 98 kg CO<sub>2</sub>/MMBTU. The USDA

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<sup>161</sup> U.S. Dept. of Energy, Alternative Fuels Data Center (“On a lifecycle analysis basis, GHG emissions are reduced on average by 40% with corn-based ethanol produced from dry mills, and up to 108% if cellulosic feedstocks are used, compared with gasoline and diesel production and use.”), *available at* [http://www.afdc.energy.gov/fuels/ethanol\\_benefits.html](http://www.afdc.energy.gov/fuels/ethanol_benefits.html); *see also* Michael Wang et al., Argonne National Labs, *Well-to-Wheels Energy Use and Greenhouse Gas Emissions of Ethanol from Corn, Sugarcane, and Cellulosic Biomass for U.S. Use*, at 9 table 7 (Dec. 13, 2012) (showing 19-48% reduction versus gasoline, taking account of the full lifecycle of emissions, including emissions associated with ethanol plants, fertilizer production, and corn farming), *available at* [http://iopscience.iop.org/1748-9326/7/4/045905/pdf/1748-9326\\_7\\_4\\_045905.pdf](http://iopscience.iop.org/1748-9326/7/4/045905/pdf/1748-9326_7_4_045905.pdf).

<sup>162</sup> *See* U.S. Dep’t of Agriculture, *A Life-Cycle Analysis of the Greenhouse Gas Emissions of Corn-Based Ethanol 4* (January 12, 2017) (“USDA 2017 Report”).

<sup>163</sup> *See id.*

<sup>164</sup> *Id.* at 4-5.

<sup>165</sup> *Id.* at 167 Fig. 4-4.

report thus concludes that lifecycle GHG emissions reductions compared to gasoline are more than *double* what the EPA concluded in 2010.<sup>166</sup>

A report prepared for Growth Energy using the data from the 2017 USDA Report, as well as data from the Argonne National Laboratory's "GREET2016" Model, breaks down the bottom line conclusion: In contrast to the 21% reduction found by EPA in the 2010 RIA, the USDA Report finds a *43-48% reduction in lifecycle GHG emissions from ethanol over gasoline*, and GREET2016 meanwhile shows a 40% reduction.<sup>167</sup> Another report prepared for Growth Energy explains in concrete terms what these numbers mean for the use of a general waiver: For every 100 million gallons of reduced starch ethanol below the proposed level of 15bg, annual GHG emissions in the U.S. would *increase by 322,876 metric tons*.<sup>168</sup>

Studies have also established other environmental benefits from ethanol. For example, a recent natural experiment on emissions and air quality in Sao Paulo, where scientists were able to measure harmful ultrafine particulate matter in the air before and after pricing and usage shifts between E100 ethanol and E20 gasoline, yielded a striking and clear conclusion: "Ultrafines

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<sup>166</sup> While part of this difference may simply be a more accurate picture based on additional data collection, it is also the case that corn farming and land usage are becoming more efficient, which reduces the carbon costs of one of the most intensive inputs for ethanol. *E.g.*, 2017 USDA Report 1-2. This trend was already in full swing by 2012, by which point per bushel land use had been reduced by 30 percent, erosion by 67 percent, irrigation by 53 percent, and energy use by 43 percent. *See* Field to Market (The Keystone Alliance for Sustainable Agriculture), *Environmental and Socioeconomic Indicators for Measuring Outcomes of On-Farm Agricultural Production in the United States* 10 (Dec. 2012), available at [https://www.fieldtomarket.org/report/national-2/PNT\\_SummaryReport\\_A17.pdf](https://www.fieldtomarket.org/report/national-2/PNT_SummaryReport_A17.pdf).

<sup>167</sup> Air Improvement Resource, Inc., *Emissions Reductions from Current Natural Gas Corn Ethanol Plants* (Aug. 31, 2017) (attached as Exhibit 4).

<sup>168</sup> Air Improvement Resource, Inc., *EPA Proposed Renewable Fuel Standards for 2018: Estimated Increase in National GHG Emissions if EPA Reduces the Conventional Fuel Volume* (Aug. 31, 2017) (attached as Exhibit 5).

rose with shift to gasoline and fell upon return.”<sup>169</sup> This clear link between increased ethanol use and enhanced air quality had previously been shown in numerous other studies.<sup>170</sup>

Although the fossil-fuel industry might attempt to argue that the lifecycle GHG emissions for gasoline are now lower than the 2005-based figure of 98 kg CO<sub>2</sub>/MMBTU used in the ICF study (and indeed, in the RFS statute<sup>171</sup>), that argument could not change the bottom line, for several reasons. First, more recent data does not appear to show an appreciable change in the lifecycle GHG emissions of gasoline.<sup>172</sup> Second, there is no indication that any supposed decline in the lifecycle GHGs of fossil fuels exceed the significant decline for ethanol, let alone by enough to erase ethanol’s sizeable head start from 2010. Third, now more than ever, the marginal gallons of gasoline that are the first to be supplanted by ethanol come from the dirtiest, most carbon-intensive sources, like tar sands extraction.<sup>173</sup> If anything, then, using the statutorily defined average lifecycle GHG emissions of gasoline *understates* the GHG reduction from substituting ethanol for fossil fuels.

It is thus beyond any doubt that on an all-in basis, ethanol has substantial environmental benefits relative to fossil fuel as measured by lifecycle GHG emissions.

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<sup>169</sup> Salvo, et al, *Reduced Ultrafine Particle Levels in São Paulo’s Atmosphere During Shifts From Gasoline To Ethanol Use*, Nature Communications, available at <https://www.nature.com/articles/s41467-017-00041-5.epdf>

<sup>170</sup> See 2012 Growth Energy Comment, Attachment 3, at 5-8 (Feb. 13, 2012) (collecting studies showing link between ethanol use and decreased particulate matter emissions, including Storey, et al., *Ethanol Blend Effects On Direct Injection Spark-Ignition Gasoline Vehicle Particulate Matter Emissions*, SAE publication 2010-01-2129 (finding that “[e]thanol blends reduced the PM mass and number concentration emissions for both transient and steady-state cycles”), EPA-HQ-OAR-2010-0799-9540; Maricq, et al., *The Impact of Ethanol Fuel Blends on PM Emissions from a Light-Duty GDI Vehicle*, *Aerosol Science and Technology* 46:5, 576-583 (2012) (finding “statistically significant ... reduction in PM mass and number emissions” at particular ethanol levels); Zhang et al, *A Comparison of Total mass, Particle Size Distribution and Particle Number Emissions of Light Duty Vehicles tested at Haagen-Smit Laboratory from 2009 to 2010*, Proceedings of 21st CRC Real World Emissions Workshop, San Diego, CA, USA (Mar. 2011) (finding a large reduction in particulate matter emissions when using ethanol-based flex fuel)).

<sup>171</sup> See 42 U.S.C. § 7545(o)(1)(c) (defining baseline GHG emissions as lifecycle GHG emissions for gasoline in 2005).

<sup>172</sup> See Tong, et al., *Comparison of Lifecycle Greenhouse Gases from Natural Gas Pathways for Light-Duty Vehicles*, *Energy Fuels* 2015, 29, 6008–6018 tbl. 4 (“Comparison of Greenhouse Gases”), available at <http://pubs.acs.org/doi/pdf/10.1021/acs.energyfuels.5b01063>.

<sup>173</sup> Advanced Biofuels Business Council 2014-2016 Comment at 28 (July 27, 2015), EPA-HW-OAR-2015-0111-3528; see also Comparison of Greenhouse Gases at tbl. 4 (noting lifecycle GHG emissions for tar sands-based gasoline approximately 20% higher than gasoline from traditionally extracted crude).

2. Starch ethanol benefits the environment relative to fossil fuels by supporting investment in next-generation environmental technologies

The direct effect on lifecycle GHG emissions alone would be enough to preclude the invocation of any environmental harm waiver of the total volume requirement. But adhering to the proposed total volume requirement would also *benefit* the environment by promoting the transition to next generation biofuels like cellulosic ethanol.

Cellulosic biofuel “is the ‘greenest’ form of renewable fuel mandated by the Renewable Fuel Program.”<sup>174</sup> By definition, it must have “lifecycle greenhouse gas emissions ... at least 60 percent less than” 2005 gasoline.<sup>175</sup> The Department of Energy has determined that cellulosic ethanol use could reduce GHGs by as much as 108%.<sup>176</sup> Increasing usage of cellulosic ethanol, however, requires development of both production facilities and delivery and consumption infrastructure. A commitment by EPA to high demand for starch ethanol helps on all such fronts.

EPA itself has acknowledged that higher overall volume requirements are “necessary to provide the certainty of a guaranteed future market that is needed by investors, and by those companies who are working directly to bring cellulosic technologies to profitability and to build new production, distribution, and consumption capacity.”<sup>177</sup> By contrast, the use of general waiver authority is a threat to stable biofuel markets, and to future investment in both conventional renewable fuel and especially next-generation biofuels like cellulosic ethanol.<sup>178</sup>

That is so because producers of starch ethanol, including members of Growth Energy, are leading investors in cellulosic biofuels, which may be derived from corn.<sup>179</sup> Major corn ethanol producers (e.g., POET-DSM and Quad City Corn Producers) have already spent considerable sums building facilities and harvesting cellulosic feedstocks based on Congress’s direction that

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<sup>174</sup> *Americans for Clean Energy*, 864 F.3d at 723.

<sup>175</sup> 42 U.S.C. § 7545(o)(1)(C) & (E).

<sup>176</sup> U.S. Dept. of Energy, Alternative Fuels Data Center, *available at* [http://www.afdc.energy.gov/fuels/ethanol\\_benefits.html](http://www.afdc.energy.gov/fuels/ethanol_benefits.html).

<sup>177</sup> 80 Fed. Reg. at 33,118.

<sup>178</sup> *Cf.* Congressional Research Service, *The Renewable Fuel Standard (RFS): Cellulosic Biofuels* 13 (Jan. 14, 2015) (“One source of uncertainty, particularly for investors in cellulosic biofuels ventures, concerns EPA’s waiver authority. Investors may fear that the full cellulosic biofuels mandate will continually be waived to lower amounts by EPA, thus depriving them of the government-mandated market on which they had originally based their investment.”), *available at* <http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R41106.pdf>.

<sup>179</sup> *See* Ryan Fitzpatrick, *Cellulosic Ethanol is Getting a Big Boost from Corn, for Now* (Apr. 2, 2015) (explaining “established companies with a sizable presence in the corn ethanol industry” are necessary to overcome the technological and economic challenges to scaling up cellulosic production), *available at* <http://thirdway.org/report/cellulosic-ethanol-is-getting-a-big-boost-from-corn-for-now>.

volume requirements continuously increase over fifteen years—*i.e.*, based on adherence to the RFS program. Indeed, they are uniquely able to invest in both conventional and cellulosic paths simultaneously by co-locating facilities with the capacity to produce both types of ethanol.<sup>180</sup> Additionally, new technologies have emerged, such as technology developed by POET and Edeniq, that enable producers of starch ethanol to inexpensively convert the waste from their production (the crop residue and corn kernel fiber) into cellulosic biofuel.<sup>181</sup>

But although cellulosic production capacity has been increasing,<sup>182</sup> the market is sensitive to demand levels set by EPA. For example, after EPA previously suggested lowering the volume requirement in 2014, DuPont froze existing plans for cellulosic investment in the U.S. and began looking for opportunities abroad, declaring, “Make no mistake, investments in additional cellulosic ethanol capacity and plants in the United States are absolutely dependent on the EPA fulfilling its obligations to the existing biofuels industry,” and that “RFS policy certainty is a prerequisite for the existing industry to expand and invest in cellulosic ethanol capacity and new plants.”<sup>183</sup> The invocation of a general waiver could therefore cause severe harm to the continued development of the cellulosic biofuel industry, and thus to the environment, by undercutting the starch ethanol producers that are leading that development.<sup>184</sup>

For much the same reasons, maintaining the total volume requirement is also critical to continuing efforts to expand the delivery pathways for consuming cellulosic ethanol. Cellulosic ethanol, like starch ethanol, is blended into gasoline. Expanding the market’s ability to consume

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<sup>180</sup> 2014-2016 POET Comment at 7 (July 27, 2015), EPA-HQ-OAR-2015-0111-2481.

<sup>181</sup> See Part II.C.1, *supra*; EPA, *Regulation of Fuels and Fuel Additives: RFS Pathways II, and Technical Amendments to the RFS Standards and E15 Misfueling Mitigation Requirements; Final Rule*, 79 Fed. Reg. 42,128 (July 18, 2014).

<sup>182</sup> See, e.g., p.3, *supra*; see also, e.g., Congressional Research Service, *The Renewable Fuel Standard (RFS): Cellulosic Biofuels* (noting in Summary section the opening of new plans with combined capacity of 52 million gallons per year).

<sup>183</sup> See *DuPont Industrial Biosciences Statement on Environmental Protection Agency Renewable Fuel Standards Rulemaking* (June 25, 2015), available at <http://www.dupont.com/products-and-services/industrial-biotechnology/press-releases/dupont-statement-on-epa-rfs-rulemaking.html> (cited in POET July 27 2015 Comment at 7-8).

<sup>184</sup> See Nathan Miller et al., International Council on Clean Transportation, *Measuring and Addressing Investment Risk in the Second-Generation Biofuels Industry*, at 25 (Dec. 2013) (noting that a waiver of the RFS would “have the indirect effect of eroding market confidence for all fuels that fall under the standard,” especially for “companies that invest in second-generation fuels (cellulosic and other advanced fuels),” because “[t]hese second-generation plants rely heavily on market confidence to access and reduce the price of debt financing for plant expansions as they move to commercialize their technologies.”), available at [http://www.theicct.org/sites/default/files/publications/ICCT\\_AdvancedBiofuelsInvestmentRisk\\_Dec2013.pdf](http://www.theicct.org/sites/default/files/publications/ICCT_AdvancedBiofuelsInvestmentRisk_Dec2013.pdf); see also *Advanced Biofuel Companies Tell White House: Changes to RFS Program Will Undercut Investment* (Oct. 29, 2013), available at <http://www.businesswire.com/news/home/20131029006398/en/Advanced-Biofuel-Companies-White-House-RFS-Program>.

higher-ethanol blend transportation fuels, such as E85 and E15, promotes consumption of ethanol beyond the so-called E10 blendwall equally for its conventional and cellulosic forms.

In sum, as a leading analyst has said, a general waiver of the total volume requirement would send a strong signal to car companies to reduce their production of flex vehicles, and to investors to not invest in high-ethanol-blend fueling stations or in next-generation plants that convert cellulosic material to ethanol. It likely also sends a negative signal to investors in biofuel plants that can convert cellulosic material to nonethanol biofuels, such as synthetic diesel or gasoline. . . . [T]he cost of constructing plants that can produce drop in fuels is high. High investment costs imply high risk. A reduction in public policy support for ethanol would only increase the perceived risk that in the future EPA would also reduce its support for other biofuels.<sup>185</sup>

Using the general waiver in the name of *preventing* environmental harm would therefore be nonsensical.

3. There are no other potential severe environmental harms that could justify a general waiver of the total volume requirement

In light of the compelling, comprehensive lifecycle analyses demonstrating that starch ethanol substantially reduces GHG emissions (and other harmful pollutants) as compared to fossil fuels, it is not at all clear how the production and use of starch ethanol itself (as opposed to some external event) could justify the invocation of an environmental harm-based waiver. Nonetheless, in the past a few groups have sought to argue that ancillary aspects of the production process for starch ethanol cause environmental harms that could justify the use of the general waiver authority. For example, the National Wildlife Federation’s (“NWF”) comments on EPA’s 2017 NPRM argued that a waiver was justified primarily by the negative environmental effects from changes in land use resulting from increased demand for corn, specifically a reduction in the amount of native grassland and in biodiversity, and also from increased water usage and the supposed harmful effects on lakes and streams from the use of farm-based fertilizers.<sup>186</sup>

EPA correctly rejected those arguments.<sup>187</sup> EPA explained that it does “not believe that the information provided by [those] commenters sufficiently establishes, for purposes of [the ‘sever harm’ waiver provision], that implementation of the volumes established by this rule will

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<sup>185</sup> Bruce Babcock & Wei Zhou, Impact on Corn Prices from Reduced Biofuel Mandates, Iowa State University CARD Working Paper 13-WP 543, at 10 (Nov. 2013), *available at* <http://www.card.iastate.edu/products/publications/pdf/13wp543.pdf>.

<sup>186</sup> See NWF 2017 Comment at 2-5 (July 11, 2016) (“NWF 2017 Comment”), EPA-HQ-OAR-2016-0004-1700.

<sup>187</sup> See 2017 Response to Comments.

cause severe environmental harm.”<sup>188</sup> To the extent that it considers these or similar arguments anew, EPA should again reject them as insufficient to justify a severe harm waiver.

First, the lifecycle analyses discussed above *already include* the carbon cost of land use and corn production, and still demonstrate substantial GHG reductions over fossil fuels. Growth Energy does not believe that scientific evidence establishes a direct causal link between land use change and ethanol production. Indeed, the greater GHG emissions reductions shown by the latest studies stem in part from the fact that land use associated with ethanol production has actually *decreased* significantly over the last decade.<sup>189</sup> Thus, the entirety of the posited “severe” harm would need to be based on costs other than GHG emissions, such as the independent value of biodiversity. And it would need to (seriously) outweigh the environmental gains from reducing GHG emissions through the use of larger volumes of conventional and cellulosic ethanol in place of fossil fuels.

Second, under EPA’s established standard for assessing severe harm, the harms alluded to in earlier comments like NWF’s are not cognizable because they are not sufficiently traceable to the RFS program, as EPA recognized in its response to the 2017 comments.<sup>190</sup> That reasoning continues to apply with respect to the supposed harms stemming from fertilizer usage from corn cultivation for ethanol, and it applies to biodiversity and habitat-reduction concerns as well.

Third, and as noted above, ethanol is most likely to replace not the average barrel of fossil fuels, but the marginal barrel—the one that was most difficult to extract. The extraction of fossil fuels through methods like hydrofracking are particularly water-intensive—and particularly dangerous to our water systems.<sup>191</sup> Ethanol uses almost 50% less water than fracked oil.<sup>192</sup> It would therefore be particularly improper to invoke the severe environmental harm waiver based on any risk to water systems.

#### **D. EPA Cannot Grant a Severe Harm Waiver Without Proposing an Analysis of the Basis for Such a Waiver and Affording the Public an Opportunity to Comment on That Analysis**

Because the NPRM does not present any “comprehensive and robust analytical basis for a[] claim that the RFS itself is causing harm, and the nature and degree of that harm,” EPA has not provided Growth Energy and others an adequate opportunity to comment as required by EPA

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<sup>188</sup> *Id.* at 54-55.

<sup>189</sup> See USDA 2017 Report at 167 Fig. 4-4 (showing large drop in emissions costs associated with “International Land Use” from EPA’s 2010 RIA); Renewable Fuels Association, *2017 Ethanol Industry Outlook 29*, available at <http://www.ethanolrfa.org/wpcontent/uploads/2017/02/Ethanol-Industry-Outlook-2017.pdf> (showing decrease in domestic land usage).

<sup>190</sup> 2017 Response to Comments at 55.

<sup>191</sup> Growth Energy, *Oil and Water Don’t Mix*, available at <http://www.growthenergy.org/news-media/blog/oil-and-water-dont-mix/>.

<sup>192</sup> *Id.*

precedent.<sup>193</sup> Judicial precedent also requires such an opportunity. As the D.C. Circuit has explained, “integral” to the notice-and-comment requirement “is the agency’s duty to identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules. An agency commits serious procedural error when it fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary.”<sup>194</sup> Thus, in *Owner-Operator Ind. Drivers Ass’n v. Fed. Motor Carrier Safety Admin.*, the D.C. Circuit found that the agency had committed reversible procedural error because it had failed to disclose particular elements of its methodology, such that the public “had no way of knowing that the agency would calculate the impact of that [element] in the way that it did.”<sup>195</sup>

Accordingly, although EPA may decline now to issue a severe harm waiver for reasons stated above, EPA may not *issue* such a waiver unless and until it presents an analysis to justify the waiver and affords the public an opportunity to comment on that analysis.

## **V. PROMOTING U.S. ENERGY INDEPENDENCE AND SECURITY CANNOT AND SHOULD NOT JUSTIFY A WAIVER OF THE TOTAL VOLUME REQUIREMENT**

In the NPRM, EPA “request[s] comment on whether and to what degree” considerations of “energy independence and security” “could support the use of the general waiver authority, inherent authority or other basis consistent with general construction of authority in the statute to reduce the required volume of advanced biofuel (with a corresponding reduction to the total renewable fuel requirement) below the level proposed for 2018.”<sup>196</sup> More broadly, EPA states that it “is interested in stakeholder views ... on what steps EPA might take to ensure energy independence and security.”<sup>197</sup> In particular, EPA expresses concern that “imported renewable fuels,” volumes of which, EPA asserts, have been “increasing,” “may not have the same impact on energy independence as those produced domestically.”<sup>198</sup>

These concerns are wholly misplaced. First and foremost, EPA has no authority to waive applicable volume requirements in order to further U.S. energy independence and security or any other policy objective; EPA may waive only for the reasons and in the circumstances specified by Congress in the RFS statute.

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<sup>193</sup> Texas Waiver Decision at 47,183-47,1884.

<sup>194</sup> *Owner-Operator Indep. Drivers Ass’n v. Federal Motor Carrier Safety Admin.*, 494 F.3d 188, 199 (D.C. Cir. 2007) (quoting *Solite v. EPA*, 952 F.2d 473, 484 (D.C. Cir. 1991)); *see id.* (“The most critical factual material that is used to support the agency’s position on review must have been made public *in the proceeding* and exposed to refutation.”) (quoting *Air. Transp. Ass’n of Am. v. FAA*, 169 F.3d 1, 7 (D.C. Cir. 1999)).

<sup>195</sup> *Id.* at 202.

<sup>196</sup> NPRM at 34,212.

<sup>197</sup> *Id.*

<sup>198</sup> *Id.*

Second, a commitment to at least maintain current volumes of starch ethanol *further*s the policy objectives of U.S. energy independence and security, as well as what the President has termed “American energy dominance.”<sup>199</sup> The expansion of the ethanol industry has not come at the expense of the petroleum industry, but rather has complemented a concurrent petroleum expansion. In other words, the nation’s experience with increased ethanol production suggests that it is not in a zero-sum game with the petroleum industry. And that redounds to the nation’s benefit: Diversifying the U.S. energy supply through a robust domestic ethanol industry has supported the rebalancing of global energy trade, as U.S. energy production and exports have increased and imports have declined. That diversification also cushions the U.S. economy from petroleum shortages and price spikes. And the ethanol industry has generated significant economic growth, particularly in rural Midwestern areas. Using the general waiver to reduce the implied volume for conventional renewable fuels would therefore be detrimental to the achievement of those policy objectives.

**A. Promoting Energy Independence and Security Is Not a Cognizable Basis for a Waiver of RFS Volume Requirements**

EPA has no authority to waive volume requirements in order to promote energy independence and security, or any other policy objective other than those stated in the statutory waiver provisions.

EPA cannot use the general waiver power for this purpose. The statute explicitly specifies the bases for issuing a general waiver, and concerns about energy independence and security are not among them. Rather, Congress has provided that EPA may use the general waiver power to reduce a volume requirement only if “implementation of the requirement would severely harm the economy or environment of a State, a region, or the United States” or “there is an inadequate domestic supply” of renewable fuel.”<sup>200</sup>

Nor may EPA infer some new waiver power for this situation, whether under the guise of “inherent authority” or the (non-existent) notion of “general construction of authority in the statute.” The D.C. Circuit’s recent decision in *Americans for Clean Energy* and the plain text of the statute close the door on such a view. The D.C. Circuit held that EPA’s waiver power extends no further than what Congress provided for statutorily, regardless of any policy considerations that might militate in favor of additional or broader waiver power. As the court there said in rejecting EPA’s consideration of demand factors for purposes of a general waiver, “the fact that EPA thinks a statute would work better if tweaked does not give EPA the right to amend the statute.”<sup>201</sup> Rather, as the Supreme Court and the D.C. Circuit have said, “Agencies

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<sup>199</sup> Remarks by President Trump at the Unleashing American Energy Event (June 29, 2017) (“Unleashing American Energy”), *available at* <https://www.whitehouse.gov/the-press-office/2017/06/29/remarks-president-trump-unleashing-american-energy-event>.

<sup>200</sup> 42 U.S.C. § 7545(o)(7)(A)(i)-(ii); *Americans for Clean Energy*, 864 F.3d at 696, 707.

<sup>201</sup> *Americans for Clean Energy*, 864 F.3d at 712.

exercise discretion only in the interstices created by statutory silence or ambiguity; they must always give effect to the unambiguously expressed intent of Congress.”<sup>202</sup>

Here, the statute is perfectly clear that concerns about energy independence and security are not a valid basis for waiving a volume requirement. The statute contains an entire section entitled “Waivers,” in which Congress provided EPA with a panoply of waiver authorities for various specified circumstances. None of those circumstances recognizes concerns about energy independence and security. Specifically, Congress explicitly permitted EPA to waive:

- A volume requirement if “implementation of the requirement would severely harm the economy or environment of a State, a region, or the United States”;<sup>203</sup>
- A volume requirement if “there is an inadequate domestic supply” of renewable fuel;<sup>204</sup>
- The cellulosic biofuel requirement if “the projected volume available” is less than the requirement, and then to waive the advanced and total volume requirements “by the same or a lesser volume”;<sup>205</sup>
- The biomass-based diesel (“BBD”) requirement if “there is a significant renewable feedstock disruption or other market circumstances that would make the price of biomass-based diesel fuel increase significantly,” and then to waive the advanced and total requirements “by the same or a lesser volume”;<sup>206</sup>
- The total volume requirement for 2006 if that requirement “will likely result in significant adverse impacts on consumers in 2006, on a national, regional, or State basis.”<sup>207</sup>

That’s it; Congress provided no other bases for waiving volume requirements.<sup>208</sup> On the other hand, Congress *did* expressly direct EPA to consider “the impact of renewable fuels on the energy security of the United States”—not in the context of a waiver, but rather after the

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<sup>202</sup> *Utility Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427, 2445 (2014), *quoted in Americans for Clean Energy*, 864 F.3d at 712; *see also, e.g., Friends of Earth, Inc. v. EPA*, 446 F.3d 140, 145 (D.C. Cir. 2006) (“EPA may not avoid the Congressional intent clearly expressed in the text simply by asserting that its preferred approach would be better policy.”).

<sup>203</sup> 42 U.S.C. § 7545(o)(7)(A)(i).

<sup>204</sup> 47 U.S.C. § 7545(o)(7)(A)(ii); *Americans for Clean Energy*, 864 F.3d at 696, 707.

<sup>205</sup> *Id.* § 7545(o)(7)(D)(i).

<sup>206</sup> *Id.* § 7545(o)(7)(E)(ii).

<sup>207</sup> *Id.* § 7545(o)(8)(A), (D)(i).

<sup>208</sup> *Cf. id.* § 7545(o)(9)(A) (exempting small refineries from volume requirements under certain circumstances).

calendar years specified in the volume table were completed or in the event that the so-called reset was triggered.<sup>209</sup>

Given the explicit statutory powers to waive based on considerations *other than* energy independence and security, and the explicit statutory directive to consider such factors in specific circumstances for *non*-waiver purposes, the absence of any provision authorizing a waiver based on concerns about energy independence and security (or any other policy objective EPA might identify) makes unmistakably clear that Congress did not intend to include such a waiver power and that the statute cannot be interpreted otherwise. As the Supreme Court has declared: “When a statute limits a thing to be done in a particular mode, it includes the negative of any other mode.”<sup>210</sup>

## **B. The Administration’s Energy Policy Objectives Are Promoted by at Least Maintaining the Current Volume of Conventional Renewable Fuel, Not by Reducing It**

EPA posits that volume requirements may be too high, drawing in imports of renewable fuel and thereby jeopardizing U.S. energy independence and security. EPA’s proposed theory is unfounded. On the contrary, current levels of conventional renewable fuel use *promote* U.S. energy independence and security, as well as “American energy dominance.” Here, we explain why that is so with respect to ethanol and the total volume requirement, but similar analysis could apply with respect to advanced renewable fuels and the advanced volume requirement.

### **1. The Administration Seeks to Achieve U.S. Energy Independence, Security, and Dominance**

As explained in a report prepared by Chupka, Hagerty and Verleger, U.S. energy independence and security are not realistically achieved by cutting off energy imports or otherwise isolating U.S. energy production and consumption from the rest of the world.<sup>211</sup> The United States unavoidably participates in global energy markets. Domestic prices for crude oil and petroleum products, for example, “will rise or fall as global market conditions dictate, including shifts in U.S. commodity futures markets that translate directly to movements in the price of crude, gasoline, and diesel.”<sup>212</sup> Similarly, because “retail prices closely follow futures

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<sup>209</sup> 42 U.S.C. § 7545(o)(2)(B)(ii), (7)(F).

<sup>210</sup> *National R. R. Passenger Corp. v. National Ass’n of R. R. Passengers*, 414 U.S. 453, 458 (1974); *see, e.g., Ivy Sports Med., LLC v. Burwell*, 767 F.3d 81, 89 (D.C. Cir. 2014) (“Because Congress created a procedure for FDA to reclassify medical devices, FDA may not short-circuit that process through what it calls its inherent authority to reverse its substantial equivalence determinations for those devices.”); *American Methyl Corp. v. EPA*, 749 F.2d 826, 835 (D.C. Cir. 1984) (rejecting EPA’s assertion of “inherent power” to reconsider a decision because “Congress has provided a mechanism capable of rectifying mistaken actions”).

<sup>211</sup> Chupka, Hagerty & Verleger Report 21.

<sup>212</sup> *Id.*

prices, disruptions in supply any place in the world will directly affect prices paid by U.S. consumers.”<sup>213</sup>

In this environment, energy independence and security are primarily characterized by other circumstances. Among those are a decreased reliance on energy imports, robust energy exports, and greater balance between domestic energy production and domestic energy consumption.<sup>214</sup> U.S. energy markets should also exhibit a “resilience” against “the adverse economic effects of oil price shocks that will continue to occur periodically.”<sup>215</sup> And domestic production of raw energy and “value-added products,” i.e., refined and manufactured goods, should support domestic economic growth.<sup>216</sup>

Perhaps recognizing the United States’ essential participation in global energy markets, the President has recently prioritized achieving not only energy independence and security, but also a broader policy of “American energy dominance.”<sup>217</sup> He explained: “[M]y administration will seek not only American energy independence that we’ve been looking for so long, but American energy dominance. . . . We will export American energy all over the world, all around the globe. These energy exports will create countless jobs for our people, and provide true energy security to our friends, partners, and allies all across the globe.”<sup>218</sup> To achieve energy dominance, Mr. Trump proposed several actions, including “expand[ing]” sources of “renewable” energy (referring specifically to nuclear energy), “boost[ing] American energy exports,” and “bring[ing] new opportunity to the heartland.”<sup>219</sup>

2. Reducing the Implied Volume for Conventional Renewable Fuel Would Impede the Achievement of These Policy Objectives
  - a. Ethanol has helped rebalance energy trade in the United States’ favor

Since the year 2000, domestic fuel ethanol production has increased dramatically and steadily (except for the bad-harvest year of 2012), from barely 100,000 barrels per day to about 1,000,000 barrels per day.<sup>220</sup> This expansion altered the energy trade balance in important ways.

More ethanol was consumed domestically, yet more ethanol was exported. The increase in ethanol production thus both “expanded the overall domestic supply of fuel” and helped the U.S. become a net exporter of ethanol.<sup>221</sup>

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<sup>213</sup> *Id.*

<sup>214</sup> *Id.*

<sup>215</sup> *Id.* at 22.

<sup>216</sup> *Id.* at 23.

<sup>217</sup> Unleashing American Energy.

<sup>218</sup> *Id.*

<sup>219</sup> *Id.*

<sup>220</sup> Chupka, Hagerty & Verleger Report at 3-4.

Rather than “crowd[ing] out some other sources of petroleum supply,” this expansion also strengthened the country’s position with respect to petroleum markets by supporting the reduction of imports and the increase of exports of petroleum products and crude oil.<sup>222</sup> For example, oil refinery capacity has increased by about 1 million barrels per day since 2007, while oil refinery utilization today is near its post-2000 peak (90% vs. 93% in 2004), corresponding to increased oil refinery production.<sup>223</sup> With U.S. consumption of transportation fuel holding relatively constant, the “overall trend in gasoline trade volumes ... is a pronounced reduction in imports and a significant increase in exports”—whereas in 2007 gasoline imports were about six times as large as exports, in 2016 the United States “became a net exporter for the first time since 1961.”<sup>224</sup> During the same period, the United States also became a net exporter of other petroleum products, by an even wider margin.<sup>225</sup> These developments have coincided with a period in which U.S. crude oil production has increased markedly, exports of crude oil have increased, and imports of crude oil have decreased.<sup>226</sup> Although these markets are complex and the causes of these changes are varied, it is significant that they occurred during this period of such substantial increase in U.S. ethanol production.

The availability of increased ethanol can also soften the economic blow to the United States of oil price spikes. For example, when global crude oil and petroleum product markets were tight a few years ago, the increased availability of ethanol “moderat[ed] the world crude oil price.”<sup>227</sup> Even when the global petroleum supply is not as tight, high availability of ethanol can mitigate the effect of occasional oil price shocks: when consumers have greater access to higher-ethanol blends, they can “take advantage of relative prices between E10 and E15 or E85 ... by purchasing more E15 or E85.”<sup>228</sup>

Contrary to EPA’s suggestion, renewable fuel imports have a negligible adverse effect on U.S. energy independence, security, and dominance, and in any event higher RFS volume requirements are not responsible for the bulk of those imports, as the Chupka, Hagerty & Verleger Report explains.

Ethanol “imports represent 0.3 percent of U.S. production,” and “imported biodiesel and renewable diesel fuel accounts for 0.5 percent of the overall projected U.S. diesel consumption.”<sup>229</sup> Those percentages are far too low for imports to materially threaten U.S.

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<sup>221</sup> *Id.* at 4-5, 7-8.

<sup>222</sup> *Id.* at 4-5, 7.

<sup>223</sup> *Id.* at 5-6.

<sup>224</sup> *Id.* at 6-9. Imports went from 0.189 to 1.091 million barrels per day.

<sup>225</sup> *Id.* at 8-9.

<sup>226</sup> *Id.* at 9-11.

<sup>227</sup> *Id.* at 21-22.

<sup>228</sup> *Id.* at 22.

<sup>229</sup> Chupka, Hagerty & Verleger Report at 12.

energy independence, security, and dominance.<sup>230</sup> In fact, as the Chupka, Hagerty & Verleger Report notes, some have claimed that BBD imports are facilitated by illegal dumping and other illegal trade activity by foreign producers, and that domestic producers could well meet all domestic demand “if not for the unfair competition from foreign sources.”<sup>231</sup>

Moreover, “[m]uch of the ethanol and renewable diesel imports are explained by a policy completely unrelated to the RFS program, namely, California’s state-level Low Carbon Fuel Standard Program (LCFS).”<sup>232</sup> That standard establishes required levels of carbon intensity (“CI”) for gasoline and diesel fuel producers and importers. The largest sources of ethanol with low CI levels (as determined by the California Air Resources Board<sup>233</sup>), however, are Brazil and other Latin American countries,<sup>234</sup> and as EPA notes, the “predominant available source of advanced biofuel other than cellulosic biofuel and BBD is imported sugarcane ethanol,” which primarily comes from Brazil.<sup>235</sup> California’s LCFS requirement creates a strong incentive to import Brazilian ethanol regardless of RFS requirements. Further, PADD V, whose energy consumption is dominated by California, “accounted for almost all of the fuel ethanol imports” nationwide in 2016.<sup>236</sup> EPA concludes that the LCFS “has not resulted in the large volumes of advanced ethanol imports that some stakeholders believed would occur.”<sup>237</sup> That conclusion may be correct, but it is also evident that California’s regulatory structure, not the RFS, is driving the bulk of extant importation of ethanol. Accordingly, using the general waiver to reduce RFS volume requirements is unlikely to reduce ethanol imports. (Similar analysis applies to renewable biodiesel.<sup>238</sup>)

- b. Ethanol has stimulated substantial economic development in rural Midwestern areas and provided various other economic benefits

In addition to supporting the rebalancing of energy trade balance in the United States’ favor, increased ethanol has spurred significant growth in domestic agriculture, which has facilitated broader economic growth especially in rural Midwestern areas.

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<sup>230</sup> *Id.*

<sup>231</sup> *See id.*

<sup>232</sup> *Id.* at 13.

<sup>233</sup> Growth Energy disputes the carbon intensity values assessed by the California Air Resources Board and believes that net carbon reductions from corn ethanol are equal to or lower than foreign ethanol sources.

<sup>234</sup> Chupka, Hagerty & Verleger Report at 14.

<sup>235</sup> NPRM at 34,222.

<sup>236</sup> Chupka, Hagerty & Verleger Report at 14.

<sup>237</sup> NPRM at 34,222.

<sup>238</sup> Chupka, Hagerty & Verleger Report at 14.

Most directly, “increased demand for corn-based ethanol has significantly increased production of grain corn and increased energy-related jobs in the U.S.”<sup>239</sup> Ninety-five percent of the increase in corn production since 2000 is the result of increased domestic ethanol demand.<sup>240</sup> Corn grown for ethanol production in 2016 accounted for \$18 billion in income for corn growers.<sup>241</sup> The increased agricultural income resulting from increased corn production has provided a buffer against some recent declines in corn prices.<sup>242</sup>

The process of producing ethanol from that corn enlarges the economic benefits of ethanol. More than 90% of ethanol production occurs in the Midwest.<sup>243</sup> According to the U.S. Department of Energy, the biofuels industry employs more than 105,000 people, about 29,000 of whom work in the corn ethanol fuels sector, meaning that the ethanol industry supports slightly more jobs than the petroleum industry on a per-gallon-produced basis.<sup>244</sup> A study by the U.S. Department of Agriculture found that increasing an ethanol plant’s annual production by 100 million gallons would generate \$203 million in sales and add 39 full-time jobs.<sup>245</sup> Ethanol production also supports economic growth indirectly: according to the U.S. Department of Agriculture, each ethanol job creates 2.6 to 3.2 indirect jobs.<sup>246</sup> So significant is the impact of higher ethanol production that, according to another study by the U.S. Department of Agriculture, ethanol demand accounts for 32% of the total change in employment in areas where new ethanol facilities are established.<sup>247</sup>

## **VI. THERE IS NO BASIS TO USE THE GENERAL WAIVER TO REDUCE THE TOTAL RENEWABLE VOLUME REQUIREMENT DUE TO INADEQUATE DOMESTIC SUPPLY OF RENEWABLE FUEL**

EPA has no authority to use the general waiver to reduce the total volume requirement due to “inadequate domestic supply.”<sup>248</sup> In *Americans for Clean Energy, Inc. v. EPA*, the D.C. Circuit rejected EPA’s prior interpretation of “inadequate domestic supply” and concluded that this term “refers to the supply of renewable fuel available to refiners, blenders, and importers to meet the statutory volume requirements.”<sup>249</sup> Although EPA may thus consider “the availability of feedstocks used to make renewable fuel, the production capacity of renewable fuel producers,

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<sup>239</sup> *Id.* at 15.

<sup>240</sup> *Id.* at 15-16.

<sup>241</sup> *Id.* at 17.

<sup>242</sup> *Id.*

<sup>243</sup> *Id.* at 18.

<sup>244</sup> *Id.* at 18-19.

<sup>245</sup> *Id.* at 19.

<sup>246</sup> *Id.* at 20.

<sup>247</sup> *Id.*

<sup>248</sup> 42 U.S.C. § 7545(o)(7)(A)(ii).

<sup>249</sup> *Americans for Clean Energy*, 864 F.3d at 709.

the amount of renewable fuel available for import from foreign producers, or the infrastructure capacity needed to get renewable fuel from producers to refiners, importers, and blenders,” EPA may *not* consider “those factors affecting availability of renewable fuel to market actors downstream from refiners, importers, and blenders, such as fuel retailers or consumers.”<sup>250</sup>

Under this controlling interpretation of the general waiver provision, there is no shortage of “supply” to meet the implied conventional volume of 15.00bg, or the proposed total requirement. As EPA recognizes in the NPRM, “[e]thanol supply is not currently limited by production and import capacity, which is in excess of 15 billion gallons.”<sup>251</sup> In fact, the latest RFA industry outlook recognizes that domestic ethanol production capacity is 16bg. Further, there is no basis in the record (nor has EPA ever suggested any basis) to conclude that there would be any bottlenecks in getting this ethanol supply to refiners, blenders or importers.<sup>252</sup> When that supply of ethanol is added to the 4.496 billion RINs (or 2.9bg) of BBD production and consumption that EPA determined is reasonably attainable,<sup>253</sup> there is no question that the total supply of renewable fuel easily exceeds the proposed total requirement of 19.24bg.

## **VII. EPA SHOULD STRIVE TO INCREASE TRANSPARENCY AND PREVENT MANIPULATION IN THE RIN MARKET**

We also urge EPA to develop better methods for gathering accurate, complete, and timely data regarding RIN transactions. Similarly, we urge EPA to increase transparency into the current state of the RIN market to mitigate the risk of market manipulation. Additional rulemaking may be appropriate to accomplish these goals.

## **VIII. CONCLUSION**

For the reasons set forth above, EPA should: (1) modify its methodologies for projecting cellulosic biofuel production to ensure neutrality and accuracy; (2) revise the cellulosic waiver

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<sup>250</sup> *Id.*; see also *id.* at 696 (“We hold that the ‘inadequate domestic supply’ provision authorizes EPA to consider *supply-side* factors affecting the volume of renewable fuel that is available to *refiners, blenders, and importers* to meet the statutory volume requirements. It does not allow EPA to consider the volume of renewable fuel that is available to ultimate *consumers* or the *demand-side* constraints that affect the consumption of renewable fuel by consumers.”).

<sup>251</sup> NPRM at 34,230 (citing “RFA 2016 Annual Industry Outlook,” EPA-HQ-OAR-2016-0004).

<sup>252</sup> In fact, the record is to the contrary. See 2017 Growth Energy Comment, Exhibit D at 7 (report by Stillwater Associates explaining that “[b]ecause the ethanol distribution system is already handling substantial ethanol volumes through E10, significant increases in ethanol consumption are possible without much impact on ... ethanol distribution”). Additionally, EPA has never suggested, nor could it find, that there are material feedstock constraints on achieving this level of ethanol production. In fact, as the Chupka, Hagerty & Verleger Report notes, domestic corn production has been able to grow to keep pace with the increase in ethanol production that has occurred since the early 2000s. Chupka, Hagerty & Verleger Report at 20-21.

<sup>253</sup> NPRM at 34,234.

credit program to ensure the efficacy of the volume requirement; (3) decline to issue a general waiver of the total volume requirement based on severe harm to the economy or the environment; (4) decline to issue a waiver of the total volume requirement based on energy independence and security; (5) decline to issue a general waiver of the total volume requirement based on inadequate domestic supply of renewable fuel; (6) take actions to mitigate the risk of manipulation in the RIN market.