Table of Contents

I. The EPA has Clear Authority to Adjust EISA's Volumes Using the Cellulosic and General Waiver Provisions

EPA correctly observes that the Proposed Rule comes at a time when "the market transitions from mild resistance to obstacles that are more difficult to overcome, particularly with regard to infrastructure and relative pricing for higher ethanol blends such as E15 and E85."[1] EPA also recognizes that there are various "constraints associated with supplying renewable fuels to the vehicles and engines that can use them."[2] EPA correctly concludes that these constraints and obstacles prevent the Agency from imposing the renewable fuel volumes requirements in CAA section 211(o)(2)(B) and justify the use of EPA's waiver authorities to provide a measure of relief from those requirements. EPA must establish RFS volumetric standards based on available projections of the use of transportation fuel and the corresponding ability of the fuels market to utilize renewable fuel. It must also consider the infeasibility of blending ethanol into gasoline at levels above 10 percent by volume given that most vehicles on the road today cannot burn blends with higher volumetric percentages of ethanol. "Ethanol faces demand, distribution system, and regulatory challenges that make it difficult to increase its use as a motor fuel regardless of its source."[3] The documented overall decline in gasoline consumption in the United States, particularly since the enactment of EISA, has exacerbated the problems presented by the E10 blendwall, making an exercise of EPA's waiver authority both appropriate and necessary. API provides a detailed discussion on the legal authority supporting EPA's exercise of its waiver authorities in the context of the Proposed Rule in Appendix A, *infra.*

A. EPA's Waiver Based on Its Cellulosic Waiver Authority Is Fully Justified and Permissible.

In its Proposed Rule, EPA properly notes that CAA section 211(o)(7)(D) "provides that if the projected volume of cellulosic biofuel production is less than the minimum applicable volume in the statute, EPA shall reduce the applicable volume of cellulosic biofuel required to the projected volume available."[4] Next, EPA appropriately recognized that CAA section 2011(o)(7)(D) "also provides EPA with the authority to reduce the applicable volume of total renewable fuel and advanced biofuel in years where it reduces the applicable volume of cellulosic biofuel." The D.C. Circuit has confirmed EPA's broad discretion to reduce the statutory volumes using this waiver authority: "In the absence of any express or implied statutory directive to consider particular factors, EPA reasonably concluded that it enjoys broad discretion regarding whether and in what circumstances to reduce the advanced biofuel and total renewable fuel volumes under the cellulosic biofuel waiver provision." *Monroe v. EPA*, 750 F.3d 909, 915 (D.C. Cir. 2014).

The volume of cellulosic renewable fuel listed in EISA for 2017 is 5.5 billion gallons. Based on what it believes will be produced, EPA proposes a cellulosic volume of 312 million gallons for

[1] NPRM at 34790.
[2] NPRM at 34784.
[3] Statement of Howard Gruenspecht Deputy Administrator Energy Information Administration U.S. Department of Energy Before the Committee on Energy and Commerce Subcommittee on Energy and Power United States House of Representatives. June 22, 2016.
[4] NPRM at 34785.

2017. Thus, EPA is adjusting the cellulosic mandate listed in EISA by 5.188 billion gallons and can reduce the advanced and general renewable statutory volumes by up to 5.188 billion gallons each using the cellulosic waiver authority. [5] EPA has proposed to use this broad discretionary cellulosic waiver authority to reduce the statutory volume for advanced biofuel by 5.0 billion gallons. Similarly, EPA proposes to reduce the total renewable fuel mandate by an initial increment of 5.0 billion gallons for 2017 using the cellulosic waiver authority.[6]

As discussed in the section below, EPA also proposes to use its general waiver authority to reduce further the applicable volume of total renewable fuel by an additional 0.2 billion gallons in 2017.[7] We note that EPA actually needs to rely only on its general waiver authority to waive 12 million gallons of the general renewable volumes, as EPA is proposing to reduce the cellulosic volumes by 5.188 billion gallons, and can therefore use the cellulosic waiver authority to waive up to 5.188 billion gallons of the general renewable volume. We do not believe the statute limits EPA's authority to reduce the general renewable category to the full extent that the cellulosic category is reduced even if EPA does not reduce the advanced category to the same extent. EPA should, therefore, rely on its broad cellulosic waiver authority to the greatest extent possible. The general renewable fuel producers are essentially arguing that general renewable fuels should backfill the cellulosic space even though cellulosic renewable fuels would have provided a 60% GHG reduction and most general renewable fuels do not guarantee any GHG reduction at all due to EISA's grandfathering clause for general renewable fuels.

B. EPA's Waiver Based on Inadequate Domestic Supply Is Fully Justified and Permissible.

The Clean Air Act grants EPA two types of general waiver authorities with respect to the RFS program: EPA is authorized to waive statutory RFS requirements based on a determination that (1) "implementation of the requirement would severely harm the economy or environment of a State, a region, or the United States,"[8] or "there is an inadequate domestic supply."[9] The NPRM proposes to grant a general waiver for 0.2 billion gallons of total renewable fuel in 2017. EPA's grant of waivers based on a determination that there is an inadequate domestic supply is a permissible interpretation of the statute, and fully within EPA's authority.

C. EPA's Waiver Should Also Be Based On the Grounds That the Statutory Volumes Would Severely Harm the Economy.

EPA should also base its waivers on a determination that requiring compliance with the full statutory volumes would cause severe harm to the economy. Although the statute does not require EPA to waive the statutory renewable fuel requirements on both grounds, it is well settled that a regulation is arbitrary and capricious if it "entirely fail[s] to consider an important

[5] As discussed in more depth below, EPA should set the cellulosic mandate at no more than 200 million gallons for 2017 and can therefore reduce the advanced and general renewable categories by 5.3 billion gallons solely using the cellulosic waiver authority.
[6] NPRM at 34786.
[7] *Id.*
[8] 42 U.S.C. § 7545(o)(7)(A)(i).
[9] *Id.* § 7545(o)(7)(A)(ii).

aspect of the problem."[10] Whether RFS mandates will result in severe harm to the economy undoubtedly is an important aspect of the problem. Accordingly, EPA should consider *both* statutory grounds for granting a general waiver, and should determine that both support a general waiver for 2017.

In its comments on EPA's Proposed Rule for 2014-2016, API submitted extensive evidence, including a major economic study by NERA, that a general waiver is needed to avoid severe harm to the national economy.[11]

In its response to comments document regarding the 2014-2016 RFS, EPA asserted that "it is unnecessary to evaluate concerns that implementation of the statutory applicable volumes would cause severe economic harm, since EPA is exercising its waiver authorities on other grounds to substantially reduce the statutory volumes."[12]

API respectfully disagrees. Whether or not to exercise its waiver authority on the additional ground that lack of a general waiver will cause severe economic harm is an "important aspect of the problem" that EPA should consider.

Accordingly, API is resubmitting the 2015 NERA study as Appendix E, which was in turn an updated version of a 2012 NERA study API submitted in connection with EPA's initial 2014 proposed RFS rule.[13]

EPA is not free to ignore this evidence on a critical issue.[14]

II. Total Renewable Fuel Volume for 2017

EPA's methodology for setting volume requirements when its waiver authority has been exercised should be consistent and transparent for stakeholders. The statutory volumes are unattainable due in part to the limitations on the volume of ethanol that can be used. It is appropriate for EPA to determine a total ethanol volume, and adjust the standards downward to the extent marketplace realities limit expected ethanol use in 2017.

---

[10] *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

[11] *See* Comments of the Am. Fuel & Petrochem. Mfrs. and the Am. Petroleum Inst., Docket ID Nos. EPA-HQ-OAR-2015-0111, EPA-HQ-OAR-2013-0479 (July 27, 2015).

[12] EPA, *Renewable Fuel Standards for 2014, 2015 and 2016, and the Biomass-Based Volume for 2017: Response to Comments*, at 116 (Nov. 2015) (EPA-420-R-15-024).

[13] A more detailed discussion of the NERA studies and the severe economic harm analysis can be found in Appendix B at 1-4.

[14] *See Delaware Dep't of Natural Res. & Envtl. Control v. EPA*, 785 F.3d 1, 15 (D.C. Cir. 2015) (EPA must respond to "relevant and significant" comments); *Reytblatt v. U.S. Nuclear Regulatory Comm'n*, 105 F.3d 715, 722 (D.C. Cir. 1997) (agencies "must respond in a reasoned manner to [comments] that raise significant problems").

A. Conventional Renewable Volume

Due to the limitations of the blendwall, EPA should set a total ethanol volume of not more than 9.7 percent of gasoline demand. As explained in the sections that follow, this is due to:

A. Significant E0 demand, calculated at 5.3 billion gallons by EIA for 2015 or 3.8% of 2015 gasoline demand
B. Limited E85 demand of less than 100 million gallons according to EIA, equivalent to less than 0.1% of gasoline demand
C. Limited E15 demand

API recommends that the 2017 RFS Standards should not require more than 13.92 billion gallons of ethanol. This volume is based on the assumption that the total gasoline pool in 2017 should contain 9.7 volume % ethanol on average, plus an allowance for the small amount of ethanol contained in E85. We believe the volume of E15 in 2017 will be negligible and will not contribute significantly to the total volume of ethanol consumed in the market. The calculation of 13.92 billion gallons of ethanol appears in the table below:

Calculate 2017 Ethanol Consumption based on 9.7% blendwall target					
2017 Gasoline Demand		9.31	MMbpd	*from May 2016 STEO*	
		142.72	Bgal/yr		
all volumes in Bgal/yr					
Gasoline Volume	142.72				
Ethanol in gasoline	9.70%	13.84			
E15 Volume	0.00				
Ethanol in E15	15%	0			
E85 Volume	0.10				
Ethanol in E85	74%	0.074			
Total Ethanol Consumption		13.92	Bgal/yr		

The methodology using the 9.7% blendwall target was previously recommended by AFPM and API in comments to the 2014, 2015, and 2016 RFS NPRM. We determined that an average value of 9.7 volume % ethanol is a target that adequately covers the typical volumes of E10 and E0 in the marketplace. The 9.7% target reflects the lowest volume of E0 observed in the marketplace (3% of the total gasoline pool) in recent years. Using a 9.7% target is a simple, practical, and consistent method that acknowledges the presence of E0 in the market but does not require a quantification of the annual E0 volume and the corresponding adjustment in the blendwall target. In fact, we believe that the 9.7% target is generous and will usually understate the volume of E0 in the marketplace. This methodology is a reasonable balance between increasing the allowable content of ethanol in the gasoline pool while keeping the market away from the edge of the blendwall.

1. Significant E0 Demand

E0 is demanded by boaters, small equipment and non-road users, motorcyclists, and by vehicle owners. EPA should treat these consumer groups equally in setting standards that allow them access to the E0 they demand. While EPA acknowledges that E0 demand constrains the volume of ethanol that can be supplied to the market,[15] the agency only quantifies recreational marine use of E0 and does not recognize other legitimate consumer demands for this fuel. In fact, EPA dismisses these other demands in stating that the RFS program is increasing renewable fuel supply by incentivizing the transition from E0 to E10 and higher ethanol blends. In reality, there is ample incentive to supply E10, and a final rule that dismisses the real demand for E0 risks triggering the negative economic consequences of the ethanol blendwall. We do not believe Congress intended for the RFS to eliminate the option of E0 for highway use as EPA implies.

EPA needs to account for the significant demand for ethanol free E0 gasoline in setting the final 2017 RFS standards. In comments to the proposed 2014 RFS, API and AFPM provided a methodology for determining E0 demand based on available E0 data. The two trade groups also suggested that improved data collection would enhance EPA's ability to project demand. EPA dismissed the API/AFPM assessment of E0 demand in setting the final 2014-2016 RFS, noting in the response to comments "we do not believe that recent supply of E0 is on the order of 3% of the gasoline pool." The final 2016 standard presumed 124 million gallons of E0 would be supplied in 2016, and EPA did not respond to critiques from API or stakeholders in the boating community to calculation of E0 demand at marinas that was provided in a memo to the docket in that rule covering the 2014 – 2016 RFS standards.

In May 2016 EIA released an estimate of 5.3 billion gallons for total E0 usage in 2015,[16] which was about 3.8% of the 2015 gasoline demand. EIA's assessment demonstrates that EPA's estimate of 200 million gallons of E0 nationwide demand is wrong: it amounts to only 4% of EIA's estimate. It is also less than the E0 demand reported by the Iowa Department of Revenue for Iowa alone.[17] In determining the 2017 RFS standards, EPA should use the same methodology outlined in the referenced May 2016 EIA memo for developing E0 demand estimates.

2. Limited E85 Demand

Stated simply, based on the information provided in this Proposed Rule and historical data of E85 demand, it is not reasonable to expect any significant increase in E85 sales in 2017; the market does not demand E85 fuel. Relying on the mere possibility that demand for E85 might increase in 2017 is a risky approach for obligated parties, consumers and the economy and EPA should not set standards based on this assumption.

[15] Proposed Rule (page 34790)
[16] Today in Energy, *Almost All U.S. Gasoline is Blended with 10% Ethanol,* May 4, 2016.
[17] "2015 Retailers Fuel Gallons Annual Report," Kathy Harpole, Research and Analysis Division, Iowa Department of Revenue, April 2016

a) E85 Sales from Existing Infrastructure

API has commented extensively on E85 demand in comments submitted in response to the (a) proposed rule for the 2014 Standards for the Renewable Fuel Standard Program published on November 29, 2013 and (b) proposed rule for the 2014, 2015, and 2016 Renewable Fuel Standards and 2017 Biomass-Based Diesel Volume standard published on June 10, 2015.[18]

EPA developed estimates of current and historical volumes of nationwide E85 consumption based on linear regression analyses of E85 sales volumes obtained from five states (MN, CA, IA, NY and ND) as a function of the price of E85 relative to gasoline as determined from data drawn from www.e85prices.com (a website maintained by the Renewable Fuels Association), and normalized by estimates of E85 station counts taken from the DOE Alternative Fuels Data Center. This methodology (and related results) is outlined in a series of EPA memos to the Docket.[19] [20] [21] [22] [23]

As EPA acknowledged in its analysis, the use of data from E85prices.com is fraught with issues. The data: (a) represent voluntary contributions by individuals, (b) are not collected consistently over time, and (c) are not obtained consistently in proportion to the number of retail stations in a given state/geographic area. This contributes to a significant amount of uncertainty in the individual linear least-squares regressions that EPA developed for each of the 5 states included in its analysis, which is made evident by the extremely low R-squared coefficient statistics (which ranged from 0.004 to 0.33 for 4 of the 5 states) that accompany these results. Based on these poor statistical results, the methodology is not sound to be used in rulemaking and should be dismissed by EPA.

Likewise, it is not clear that the five states which supplied the E85 sales volume data used in EPA's analysis collected this information in a similar and consistent manner. For instance, the time periods encompassed in each of the five data sets varied from state to state, and some (e.g., Iowa) were provided on a quarterly (as opposed to monthly) basis. Furthermore, the extent to which incentives provided by some states for E85 usage may have introduced a bias to the data employed in the EPA analysis is unclear.

In short, the disparate nature of the underlying data used by EPA lead us to question the accuracy and validity of the methodology developed by the Agency to estimate nationwide E85 volumes.

EPA states in the preamble to the current Proposed Rule that it has estimated E85 demand for 2014 and 2015 to be 150 million gallons and 166 million gallons, respectively. EPA further

---

[18] See EPA-HQ-OAR-2013-0479-5293 and EPA-HQ-OAR-2015-0111-1948

[19] David Korotney, EPA, *Correlating E85 Consumption Volumes with E85 Price*, EPA-HQ-OAR-2015-0111

[20] David Korotney, EPA, *Estimating Achievable Volumes of E85*, EPA-HQ-OAR-2016-004

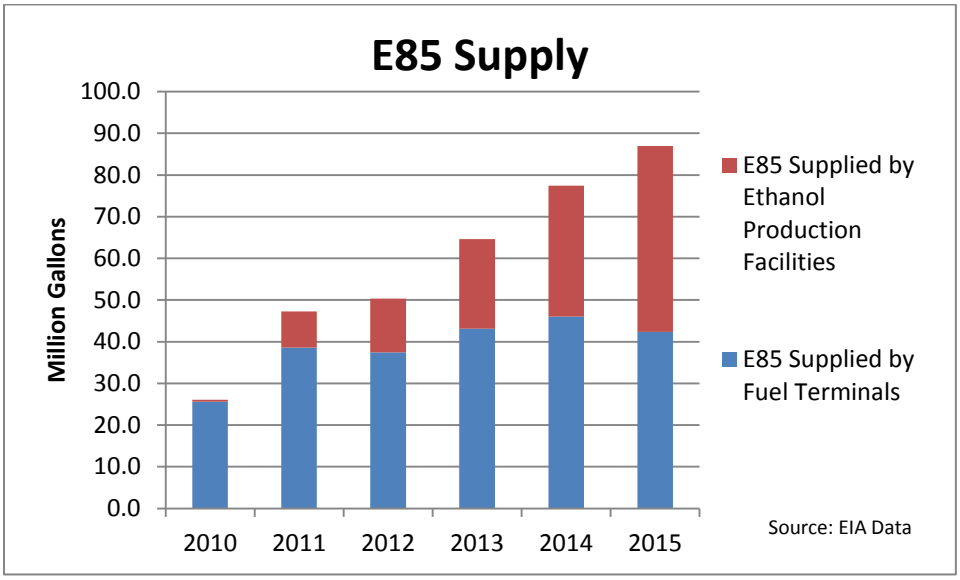
[21] David Korotney, *Preliminary Estimate of E85 Consumption in 2015*, EPA-HQ-OAR-2016-004

[22] David Korotney, *Estimates of the number of retail stations offering E85*, EPA-HQ-OAR-2015-0111

[23] Dallas Burkholder, *Estimating E85 Consumption in 2013 and 2014*, EPA-H-OAR-2016-004

states: *"In deriving the 2016 volume requirements we estimated that E85 volumes would increase to 200 million gallons, though we also said that 400 million gallons was possible under highly favorable though unlikely conditions.*" As we have noted in the earlier comments on the 2014, 2015, and 2016 RFS standards, we believe that the approach used by EPA to estimate nationwide E85 consumption leads to a substantial understatement of this volume relative to the statistics provided by EIA.

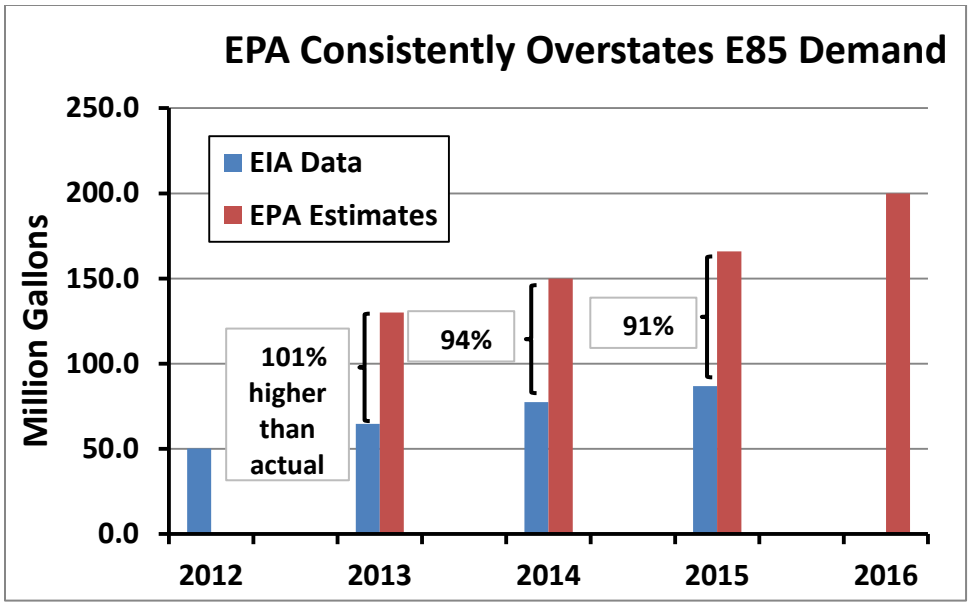
The EIA data table *U.S. Refinery and Blender Production of Motor Gasoline, Finished, Conventional, Greater than Ed55* (ethanol blends above 55%)[24] shows the volume of E85 blends distributed from bulk terminals. And the EIA data table *Renewable Fuels & Oxygenate Plant Net Production*[25] shows E85 distributed directly from ethanol production facilities. These two data series, summed together (as illustrated in the figure below), provide the most reliable estimate of national E85 consumption.



A comparison of EPA estimates of E85 volumes (as reported in the preambles to recent RFS proposed rulemakings) with the EIA data indicates that the Agency has consistently overstated this metric by about 91-101% for the past three years (2013 – 2015). (See the figure below.)

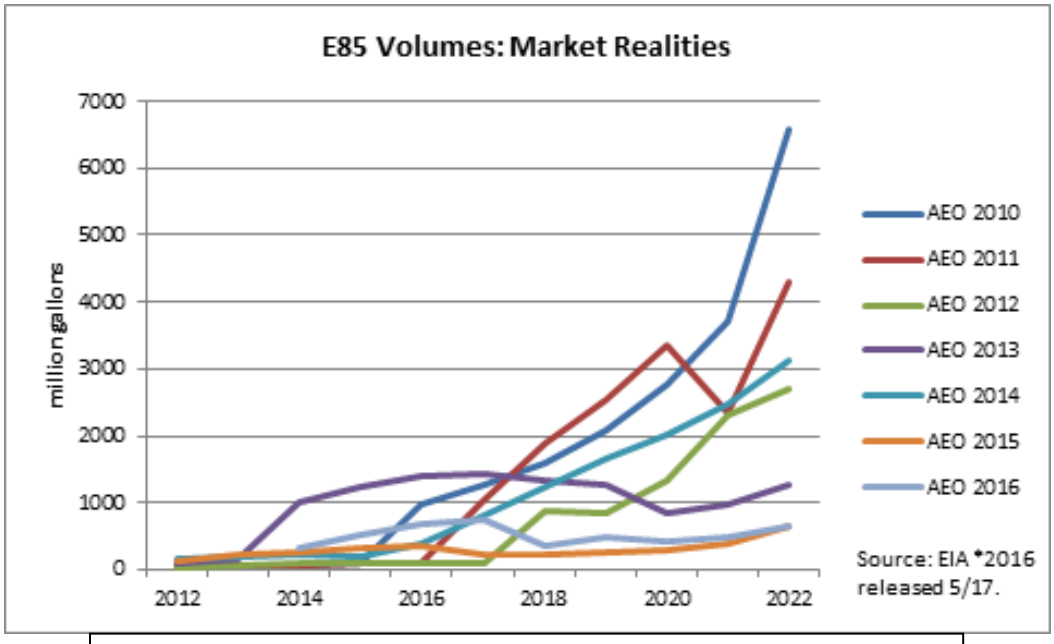
[24] http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0CAG55_YPR_NUS_MBBL&f=A

[25] http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0F_YNP_NUS_MBBL&f=A



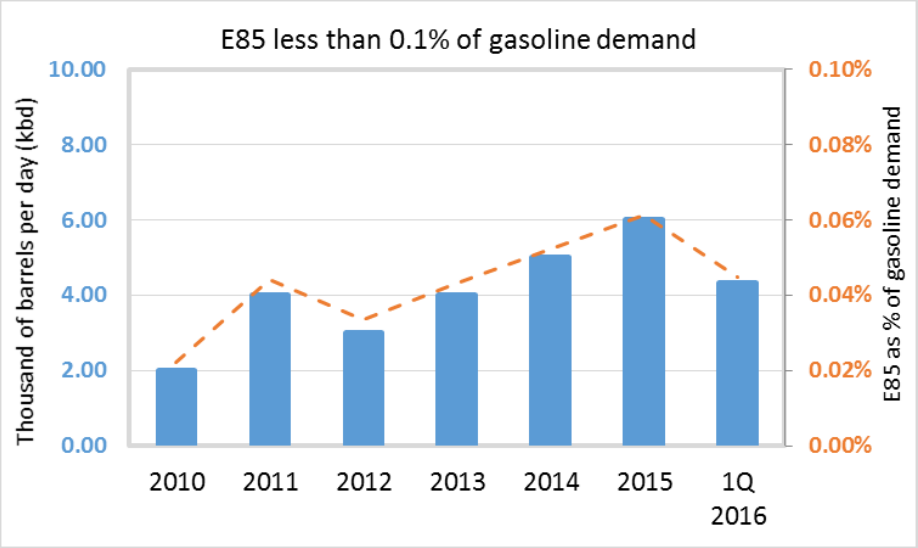
This further underscores our concerns regarding the accuracy of the Agency's E85 methodology and raises questions about the credibility of EPA's projections of E85 demand for 2016 and later years.

EPA is, however, not the only federal agency which has consistently missed the mark in projecting future volumes of E85. As shown in the chart below, previous EIA projections of E85 demand have not materialized (and have, in fact, swung rather wildly in the near term).



Sources: EIA Annual Energy Outlook Reports 2010 - 2016

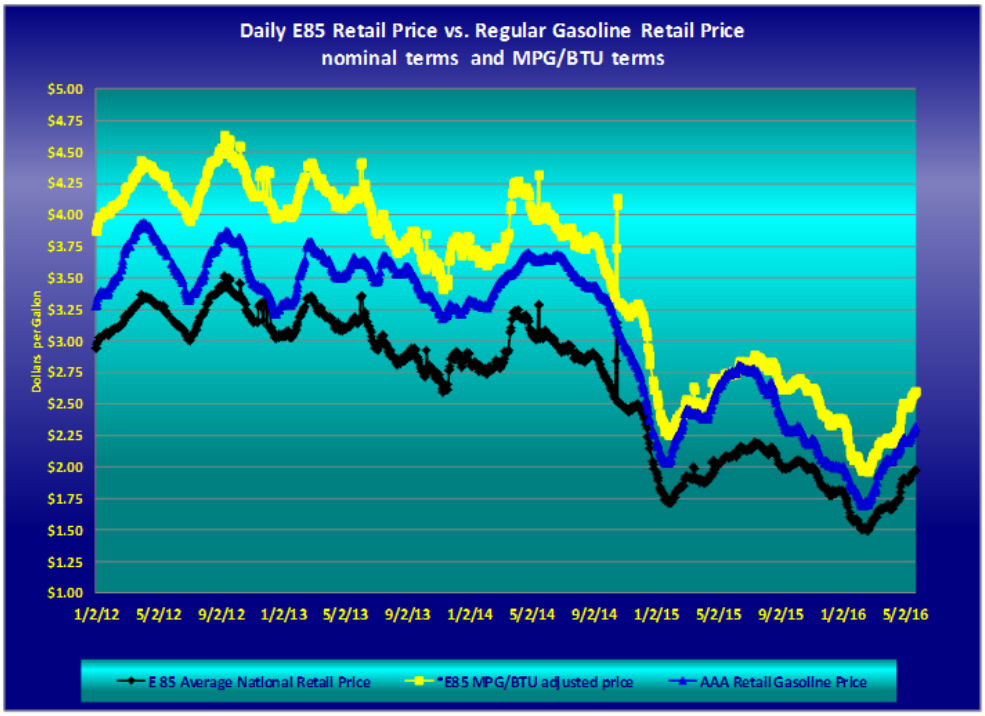
All of the above being said, the nationwide volume of E85 demand currently represents a tiny fraction of total annual motor gasoline consumption (as shown by the chart below). E85 demand has been consistently less than 0.1% of annual gasoline demand according to EIA, and this fraction is not likely to grow significantly in the near term for the reasons which we discuss in the following section.



b) Consumer Behavior

No definitive study shows why customers have not used E85 with greater frequency.[26] Some short term and limited analysis (focused on a limited sample of states) by The Fuels Institute and EPA indicates that consumers would respond to E85 price adjustments that account for the lower E85 energy content (as shown by the graph below). As discussed above, there is no historical evidence to support any significant consumer response to a differential between retail prices of E85 and motor gasoline. E85 volumes remain below one tenth of one percent of total annual gasoline demand. Whether an energy-adjusted differential between E85 and motor gasoline price is indeed an accurate predictor of consumer behavior is therefore uncertain. Testimony provided by a gasoline marketer at EPA's Public Hearing in Kansas City, KS on June 25, 2015 indicated that demand declined despite E85 being priced 25% below E10. This would suggest that consumers may also be considering "convenience cost" in choosing whether to purchase E85. In general, E85 reduces fuel economy and range by about 20-30 percent," according to the May 2010 EPA Technical Highlights paper, "E85 and Flex Fuel Vehicles."[27] If E85 were sold at an energy-equivalent price, operators of FFVs would still be inconvenienced because would have to stop to refuel 30 percent more often than if they used gasoline.

[26] http://www.eia.gov/biofuels/workshop/presentations/2013/pdf/presentation-04-032013.pdf
[27] http://www.epa.gov/oms/renewablefuels/420f10010a.pdf



Source: AAA (gasprices.aaa.com)

c) State Incentive Programs Have not Worked

The proposed rule states that E85 volumes can increase from 200 million gallons per year to nearly 400 million gallons per year[28] citing the Korotney Memorandum to the Docket.[29] The proposal also states that these increases are "possible if the market can overcome constraints associated with E85 pricing at retail and consumer responses to those prices."[30] Yet the Korotney memo also states, "Since reaching 400 million gallons of E85 in 2017 would require a confluence of optimum conditions based on the information currently available, and our efforts to quantify the actions needed require considerable speculation as to how consumer responses to E85 price discounts may be affected by E85 marketing strategies, signage, and consumer education, 400 million gallons of E85 appears to be highly unlikely in 2017."

The rule fails to account for the significant incentives that have been offered to every part of the supply chain for higher ethanol blend fuels. These incentives include significant loans, grants, rebates, tax incentives, and other incentives that have been available to higher level ethanol blended fuels more than a decade without any meaningful increase in the demand for the fuel. As described below, these incentive programs intended to increase the sale of E85 have not proven successful and the incentives from the USDA's Biofuel Infrastructure Partnership (BIP) are only

[28] Proposed rule, page 34787
[29] "Estimating achievable volumes of E85," Korotney, David, U.S. EPA, OTAQ, EPA Air Docket EPA-HQ-OAR-2016-0004
[30] Proposed rule, page 34800

the latest in a long line of programs that to date have not shown any meaningful change in E85 sales.

In 2009 the National Renewable Energy Laboratory completed a study estimating the achievable volumes of E85. [31] That study remains relevant today. It states that,

> *Historically, the U.S. Department of Energy (DOE) Clean Cities Program has been the chief federal catalyst for the deployment of E85 infrastructure. Between 1999 and 2006, Clean Cities provided $11 million in grants to 33 states to install biofuels infrastructure.*
> *…*
> *U.S. state governments collectively offer scores of financial incentives and favorable regulatory policies that promote the use of alternative fuels. These programs include industry recruitment incentives, corporate tax credits, net metering policies, grants, loan programs, rebate programs, personal tax credits, sales tax exemptions, property tax exemptions, and production incentives. [emphasis added]*

The report goes on to say:

> *Sixty percent of states are significantly invested in supporting E85 through grants, loans, or tax incentives for E85 infrastructure… Certain states have provided funding through grant programs to install E85 dispensers, including blender pumps, at refueling stations. [These states include Michigan, Iowa, South Dakota, Illinois, Tennessee, Ohio, and New York].*
> *[The report identifies states that provided tax credits for fueling stations including, South Carolina, Ohio, Idaho, and Michigan].*

A review of the U.S. Department of Energy – Energy Efficiency & Renewable Energy, Alternative Fuels Data Center[32] report on incentives related to ethanol shows that these financial enticements continue to this day and include not only the retail gasoline station but biofuel production facility grants, tax exemptions and loans, state requirements to acquire alternative fuel vehicles (e.g., E85) and significant tax incentives for the retail and bulk price for E85. Iowa uses many of these tools to facilitate the sale of products with greater than 10% ethanol. However, the sale of high-ethanol fuels remains incredibly low. In contrast the sale of fuels without ethanol, in the heart of the Corn Belt, is very high.

PMAA's written testimony, intended to be delivered at the June 9 hearing in Kansas City, provides an example of a failed attempt to sell higher ethanol blend fuels.

> *… [The speaker's] family business also has invested in legal infrastructure for higher blends. At that location where we spent over $100,000 to do so we averaged 58 gallons a day of blends over E10 in 2015. A few years ago, the North Dakota Department of*

[31] "E85 Dispenser Study," K. Moriarty et. al., Technical Report NREL/TP-7A2-47172, December 2009
[32] Example link to "Minnesota Laws and Incentives for Ethanol," http://www.afdc.energy.gov/fuels/laws/ETH/MN

Commerce had a Blender Pump Program. A follow up survey was conducted by the North Dakota Petroleum Marketers Association which found that after the "commitment to offer higher blends" conditions were met, that 64 percent of respondents had discontinued or planned on discontinuing the sale of E85 and other higher blends.

The 2015 Iowa Fuels report published in April 2016 by the Iowa Department of Revenue[33] shows that contrary to the EPA's belief that additional incentives and marketing techniques for E85 will create consumer demand, the consumer actually prefers non-ethanol gasoline. As shown in the Table below, non-ethanol gasoline (E0) sales in Iowa accounted for 14% of the total volume of gasoline and higher level ethanol blends. On the contrary, sales of fuels with greater than 10% ethanol (E15 plus E20 plus E85) accounted for only 1.4% of the volume of gasoline and ethanol/gasoline sales. As shown here, contrary to EPA's estimate of E0 demand of only 200 million gallons for the whole country, the sale of E0 in Iowa alone accounts for 220.4 million gallons.

2015 Iowa Fuel Sales

Fuel	**Sales as percent of total gasoline and ethanol/gasoline sales**	**Volume (Million gallons)**
E0	14%	220.4
E85 and E20*	1%	15.7
E15**	0.4%	6.2
Total ethanol share of fuel sales	9.2%	143.8
Total sales gasoline and ethanol	100%	1,561.7

* E85 = 13.2 million gal. and E20 = 2.5 million gal.
** E15 is defined by the State as E15 and E15 flex (E15 is sold in summer as Ethanol Flex Fuel)

d) E85 Fuel Infrastructure Constraints and Flexible Fuel Vehicles

The E85 infrastructure required to facilitate E85 consumption includes primarily the terminals, the retail stations, and the vehicles. We will focus most of our comments on the retail challenges.

(1) High E85 Retail Infrastructure Costs

The cost of installing E85 retail infrastructure is high. In a letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, the Petroleum Marketers Association of America (PMAA) states, "The problem for underground tank owners is 99 percent of existing equipment currently in the ground is not *legally* certified as compatible

[33] "2015 Retailers Fuel Gallons Annual Report," Kathy Harpole, Research and Analysis Division, Iowa Department of Revenue, April 2016

with ethanol blends higher than 10 percent."[34] In the July 15, 2015 rule on underground storage tanks, EPA discusses existing systems and states:

> *EPA thinks there are many cases where some equipment or components of UST systems in the ground as of 2014 are not compatible with newer fuels. Unless owners and operators specifically requested all of the UST system be compatible with higher ethanol or biodiesel blends, installers probably installed lower cost options for certain UST system equipment, such as a STP assembly, which may not be compatible with some newer fuels.*[35]

This means most retail stations would have to undergo extensive retrofits to install or upgrade their existing equipment to become E85-compatible and to be able to legally store and dispense E85.

Three marketer associations - Petroleum Marketers Association of America (PMAA), Society of Independent Gasoline Marketers of America (SIGMA), and National Association of Convenience Stores (NACS) - have indicated that the cost of replacing USTs to facilitate E85 sales can exceed $200,000 per station.[36]

In the above-referenced letter to Chairman Upton, PMAA further stated that it *"... continues to maintain that E85 fueling pumps are unlikely to achieve meaningful growth without billions of dollars in government subsidies for installation of legally compatible underground storage tank systems and dispensers capable of handling higher content ethanol blends."* If a station is not in compliance with the applicable regulations and codes, marketers can face potential negative consequences. For example, they may have their bank loan called, may be denied an insurance claim and/or access to their state trust fund or face fines and legal action brought by the state or an individual.

According to DOE data, there were 2990 E85 stations in the U.S. in 2015. According to the DOE web site on June 30, 2016, there are 2,806 E85 stations in the U.S., a 6% decline from the 2015 number. Although there was initial rapid growth in E85 stations (2005 – 2011), since 2010 the year-to-year growth rate in the number of E85 stations has declined from 118% to 5% per

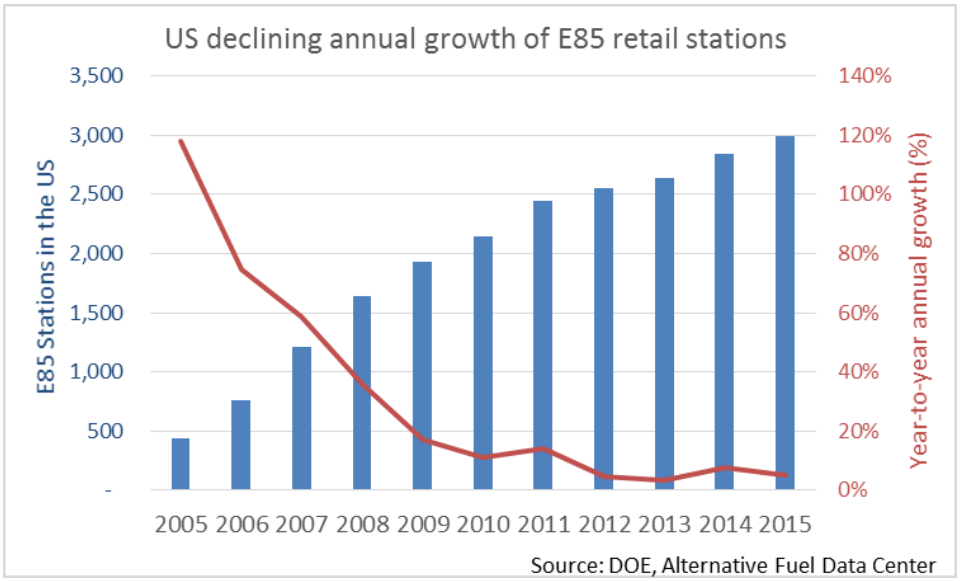
---

[34] PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, May 1, 2015. http://www.pmaa.org/weeklyreview/attachments/PMAA_Rebuttal_RFA_April_2015_FINAL%20.pdf

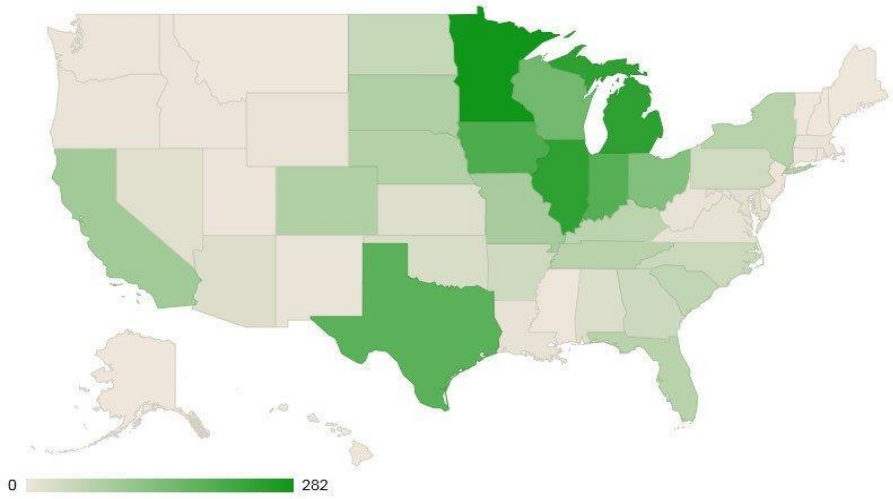
[35] EPA rule, "Revising Underground Storage Tank Regulations - Revisions to Existing Requirements and New Requirements for Secondary Containment and Operator Training," 80 Federal Register 41604 (7/15/15).

[36] SIGMA and NACS letter to Mr. John Podesta, Counselor to the President (July 10, 2014); PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce (May 1, 2015).

figure below. 2016 may represent a decrease in the number of stations if the mid-year data point holds through year-end.



E85 stations are not evenly distributed across the U.S., resulting in varied availability.[37]



(2) Small Business Impacts

Retail station ownership is dominated by small businesses among which 58% are single store owners.[38] As with any business, and even more so for small businesses, the owner must

[37] Alternative Fuels Data Center http://www.afdc.energy.gov/data/10367

carefully evaluate the economics involved. This includes product margin and volume forecasts (to gauge revenue) in addition to the investment costs needed to ensure all equipment and infrastructure meets regulatory requirements. The Fuels Institute publication referenced above also reported that E85 sales at the 304 locations from which they collected data averaged 2.8% of unleaded sales with a margin that was 20% lower than unleaded.

If an existing station planned to introduce E85, one or more existing products might need to be replaced, depending on whether the plans included the addition of storage tanks and modification of dispensers. For example, a retailer might consider the margins associated with selling E85 and compare those to the margins of the product that they were replacing. If the retailer were to replace the Premium fuel in a two-tank system with E85, then the ability to make Midgrade fuel would be lost due to the fact that Midgrade is made by blending Regular and Premium fuel at the pump. Therefore, the marketer must compare the potential margins of Premium and Midgrade together with the potential margin of E85. According to the Fuels Institute study, the "combination of margins and volume demonstrate that, over the time period being evaluated, E85 generated an average monthly profit of $789. This is less profitable than either premium ($1,193/month) or midgrade ($1,466/month)." [39] If the station were required to invest in infrastructure changes and replace its premium and/or midgrade gasolines, these average margins show that there would be no payback on such an investment.

(3) Flexible Fuel Vehicles (FFVs)

There are currently about 19.6 million FFVs in operation, representing about 8% of the nation's light-duty car and truck fleet.[40] Incentives for the auto manufacturers to make more FFVs in the future have been reduced beginning with the 2016 model year and are phased out for 2019 and later model years as a result of the new NHTSA/EPA CAFE/tailpipe GHG requirements.[41] Consequently, the automakers have been reducing the number of FFV models available for consumers to purchase and growth in the number of FFVs on the road is expected to moderate, if not decline. This expectation is reflected in the 2016 Annual Energy Outlook recently released

---

[38] 2015 NACS Retail Fuels Report, p. 28 http://www.nacsonline.com/YourBusiness/FuelsReports/2015/Documents/2015-NACS-Fuels-Report_full.pdf ("There are 127,588 convenience stores selling fuel in the United States, and these retailers sell an estimated 80% of all the fuel purchased in the country. Overall, 58% of the convenience stores selling fuel are single-store operators — more than 70,000 stores.").

[39] Fuels Institute. *E85 A Market Performance Analysis and Forecast*, 2014. Accessible at: http://fuelsinstitute.org/ResearchArticles/E85_AMarketPerformanceAnalysisForecast.pdf

[40] Statement of Howard Gruenspecht Deputy Administrator Energy Information Administration U.S. Department of Energy Before the Committee on Energy and Commerce Subcommittee on Energy and Power United States House of Representatives. June 22, 2016.

[41] CAFE credits phase out in 2019, (P.L. 110-140, Section 109(a), 49 USC 32906(a)), and other CAFE, GHG (77 FR 62830-62831 and 63127-63130 (October 15, 2012)) and Tier 3 (40 CFR 80.600.117) requirements reduce or eliminate automaker incentives to produce FFVs.

by EIA which forecasts FFV sales to peak at ~2 million units in 2017 and then fall back to current levels (~1.7 million units) by 2020. [42]

3. E15 Issues

E15 is not a viable solution to the E10 blendwall because E15 is incompatible with most of the existing vehicle fleet, the existing refueling infrastructure, and due to the potential liability issues associated with marketing the fuel. The hurdles to E15 will remain for the scope of this rulemaking, and the foreseeable future as significant changes in infrastructure and the vehicle fleet will take many years.

a) E15 Incompatibility with the Existing Vehicle Fleet

No automobile manufacturer has stated that their model year 2011 and older gasoline vehicles are compatible with E15. Manufacturers of many new vehicles today have stated that the use of E15 may damage vehicle engines and will not be covered under vehicle warranties. With an average vehicle age of 11.5 years,[43] the overwhelming majority of vehicles on the road today have neither been certified nor warranted for ethanol blends above 10 volume percent, and every automaker has declined to extend warranty coverage if its legacy vehicles are operated using E15.[44] E15 is only compatible with Flexible Fuel Vehicles ("FFVs") and some newer model year cars specifically designed to accommodate E15. Together, ethanol blends exceeding 10 volume-percent are only compatible with approximately 10 percent of vehicles on the road.[45] Auto manufacturers' models recommendations for E15 use in non-flex fuel vehicles as of January 2015 are summarized in the following chart:

[42] EIA, *Annual Energy Outlook 2016 Early Release*, May 17, 2016

[43] IHS, Average Age of Light Vehicles in the U.S. Rises Slightly in 2015 to 11.5 years, IHS Reports. July 29, 2015 Accessed June 13, 2016 at http://press.ihs.com/press-release/automotive/average-age-light-vehicles-us-rises-slightly-2015-115-years-ihs-reports

[44] http://sensenbrenner.house.gov/UploadedFiles/E15_Auto_Responses.pdf

[45] Based on API analysis of retail sales data published by Automotive News, estimates of the stock of FFVs and total light-duty vehicles in operation published in the EIA Annual Energy Outlook 2015 Reference Case, and auto manufacturer reports of E15-compatible vehicles by model year

Manufacturer	Model Year															
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
BMW	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Chrysler	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Most[6]
Ford	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
GM	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Most[4]	Most[4]
Honda/Acura	No	No	No	No	No	No	No	No	No	No	No	No	No	Some[1]	Yes	Yes
Hyundai/Kia	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Jaguar/Land Rover	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Mazda	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Mercedes	No	No	No	No	No	No	No	No	No	No	No	No	No	No[2]	No[2]	No
Mitsubishi	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Nissan/Infiniti	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Subaru	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Toyota/Lexus	No	No	No	No	No	No	No	No	No	No	No	No	No	Some[3]	Most[5]	Most[5]
VW/Audi/Porsche	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Volvo	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

E15 Chart Sources:
http://www.edmunds.com/ownership/howto/articles/120189/article.html
and auto company contacts

[1]Accord, Civic, Crosstour, CR-V, CR-Z, Insight, Odyssey, Pilot; Acura: ILX, MDX, RDX, RLX, but not TL, TSX, TSX Wagon

[2]Some owner manuals for 2014 and 2015 incorrectly stated that E15 was allowed.

[3]Avalon, Camry, Corolla, Highlander, iQ, Prius, RAV-4, Scion tC, Sienna, Venza; Lexus: CT200H, ES350, GS300/350, GS450H, IS250, IS350, LS460, RX350, RX450H, but not 4Runner, FJ Cruiser, Land Cruiser, Sequoia, Tacoma, Tundra, Yaris; Lexus: IS250C, IS350C, IS F, GX460, LX570

[4]Not Chevrolet City Express

[5]Not FR-S, xB (model discontinued after 2015).

[6]Not Dodge Viper

Reprinted below are excerpts from auto industry responses to Congressman Sensenbrenner's questions about warranties for vehicles that have been operated with E15.[46]

Automaker	E15 Warranty	Excerpts from Sensenbrenner Response
Nissan	No	We are not at all confident that there will not be damage to MY 2001 and later vehicles with E15
Volkswagen	No	Volkswagen agrees that EPA did not conduct an adequate test program when E15 was considered
Volvo	No	The risks related to emissions are greater than the benefits in terms of CO2 when using low-blend E15 for variants that are designed to E10.
BMW	No	The BMW Group engines and fuel supply systems can be damaged by misfueling with E15.
Hyundai	No	The EPA tests failed to conclusively show that the vehicles will not be subject to damage or increased wear.
Kia	No	EPA testing failed to determine that vehicles will not be subject to damage or increased wear.
Chrysler	No	We are not confident that our vehicles will not be damaged by E15
Ford	No	Ford does not support the introduction of E15 into the marketplace for the legacy fleet
General Motors	No	We are not confident that our vehicles will be undamaged by the use of E15.
Mercedes-Benz	No	Any ethanol blend above E10, including E15, will harm emission control systems in M-B engines
Honda	No	Vehicle engines were not designed or built to accommodate higher concentrations of ethanol
Mazda	No	The record fails to demonstrate that motor vehicles would not be damaged
Toyota	No	Toyota cannot recommend the use of fuel with greater than E10 for Toyota vehicles

The ethanol industry recommends following automobile owner's manuals. The Renewable Fuels Association has made the following statement: "The best advice to give to consumers is for them to read their owner's manuals and follow the advice of the company that provides the warranty, and built the product."[47] As discussed here, only a small subset of the vehicle fleet in the U.S. is warranted by the automobile manufactures for E15.

[46] *Id.* http://sensenbrenner.house.gov/UploadedFiles/E15_Auto_Responses.pdf
[47] http://www.ethanolrfa.org/exchange/entry/read-the-label/

Tests conducted by the Coordinating Research Council (CRC) showed that ethanol concentrations in gasoline that exceed 10 percent can lead to engine and fuel system damage.[48] Below is a description of the testing itself, the test results, and potential consequences that the test results support.

E15 Fuel Systems and Engine Durability Testing and Results[49]

CRC began testing fuel pump and fuel level systems in 2008 using established testing procedures widely used within the automotive industry to evaluate and predict new product life. Tests were done on fuel pumps and fuel level systems on popular 2001 and newer gasoline light-duty vehicles with actual fleet penetration likely greater than 29 million vehicles in total. Fuel systems were evaluated using two testing protocols, a soak test (i.e., immersion) and an endurance test (i.e., "continuous" operation).

To evaluate engine durability, CRC employed the testing protocols used by a participating OEM. The testing cycle was designed to simulate the accumulation of approximately 100,000 miles. Eight pairs of popular 2001 and newer models were tested.

The results of the testing demonstrate that not all vehicles tested showed damage, as some fuel systems and engines passed with no problems. However, the fuel pump systems on popular 2001 and newer gasoline light-duty vehicles failed or exhibited other adverse effects during testing on E15. E15 caused swelling in some pump impellers – a key component of the fuel pump that moves fuel into the fuel line. As the fuel pump impellers swelled, the component jammed against is housing, resulting in the loss of vanes and causing fuel flow to halt. Two popular gasoline engines used in light-duty automotive applications of vehicles from model years 2001 and newer failed with mechanical damage when operated on E15.

The test results demonstrate there are potential negative consequences for consumers. The impacted vehicles are popular 2001 and newer vehicles that are approved for use with E15 by EPA. Fuel pumps seized with E15 on both the soak test and the endurance test, which would cause the engine to stop, potentially putting motorists at risk. Fuel Level Sender Systems were found to send erratic or "dirty" signals (e.g., indications of noise, spikes). In addition to potentially false tank readings on the instrument panel, the erratic signals could negatively impact the operation of the onboard diagnostic system. Engine durability results showed valve and valve seat damage that result in a loss of compression, excess emissions, and poor performance that may require expensive repair work. It is worth noting that the CRC tests

[48] Coordinating Research Council, *"Intermediate-level Ethanol Blends Engine Durability Study*," April 2012; Coordinating Research Council, *"Durability of Fuel Pumps and Fuel Level Senders in Neat and Aggressive E15."*

[49] "Intermediate Level Ethanol Blends Engine Durability Study", April 2012, http://www.crcao.com/reports/recentstudies2012/CM-136-09-1B%20Engine%20Durability/CRC%20CM-136-09-1B%20Final%20Report.pdf; Durability of Fuel Pumps and Fuel Level Senders in Neat and Aggressive E15, January 2013 http://www.crcao.org/reports/recentstudies2013/CRC%20664%20[AVFL-15a]/AVFL%2015a%20[CRC%20664]%20Final%20Report%20only.pdf

assessed long-term damage and may not be reflective of effects associated with short-term (i.e. single tank) use of E15.

b) E15 Incompatibility with Existing Fuel Retail Infrastructure

In addition, E15 is incompatible with the existing refueling infrastructure. As much as half of the retail gasoline infrastructure may not be compatible with ethanol blends above 10 percent.[50] Prior to 2010, Underwriters Laboratories (the primary Nationally Recognized Testing Laboratory) had not listed a single dispenser as compatible with any alcohol concentration greater than 10 percent. Given that states require this certification and that dispensers have useful lives greater than 20 years, the vast majority of dispensers in the country are not currently authorized to dispense E15. The same issue exists with the underground storage tanks and piping systems. Approximately 96% of the gasoline stations in the country are independently owned and it is beyond the control of the obligated parties to require investments to make those stations compliant.[51]

Stakeholders in the ethanol industry have asserted[52] that the law requires obligated parties – refiners and importers – to invest in retail infrastructure to offer higher ethanol blends even though such obligated parties own less than five percent of the retail gasoline stations. Such assertions are unsubstantiated and simply false. CAA section 211(o) does not require any party to invest in retail infrastructure, nor can any such obligation be implied in the law or EPA's implementing regulations. As EPA has recognized in the past, members of the renewable fuel industry are free to invest in such infrastructure – it is after all, their product that they are trying to force on consumers.[53] Indeed, if members of the ethanol industry truly believed that the only market impediment to greater consumption of E15 and E85 were a lack of fueling pumps, they should be willing to invest in retail fueling stations so that they could profitably satisfy the rewards of alleged unmet consumer demand for higher ethanol blends.

In 2010 and 2011 EPA granted partial waivers to allow gasoline that contains 15% ethanol, yet there has been very little introduction of E15 in the marketplace. The proposed rule discusses the USDA Biofuel Infrastructure Partnership grant funding that EPA expects will increase number of E15 stations by nearly 1,500. EPA makes several assumptions regarding the BIP that are unsupported and optimistic: all 1500 stations will be in service for the full year in 2017; all stations will offer E15; and E15 sales will be 50% of total gasoline at all stations. It is also

---

[50] Larry Gregory Consulting, LLC. "A Comprehensive Analysis of Current Research on E15 Dispensing Component Compatibility" March 2012. Found at http://www.api.org/news-and-media/news/newsitems/2012/aug-2012/~/media/Files/Policy/Alternatives/E15-Infrastructure-Comprehensive-Analysis.ashx

[51] PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, May 1, 2015. http://www.pmaa.org/weeklyreview/attachments/PMAA_Rebuttal_RFA_April_2015_FINAL%20.pdf

[52] http://www.ethanolrfa.org/pages/big-oil-builds-the-blend-wall,

[53] Proposed Rule, Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, Docket ID No. EPA-HQ-OAR-2015-0111

important for EPA to keep in perspective that there are approximately 153,000 retail fuel stations in the U.S.;[54] and just 1% would carry E15 if the expectations of the BIP program are met.

The retail refueling system in the United States grew organically as private enterprise made capital investments to sell consumers products that they demanded. There is nothing stopping members of the ethanol industry from doing the same to bring to market more E15, E85, and other renewable fuels to consumers. In fact, the number of retail fuel stations has declined significantly in the past several years, suggesting that there are opportunities for members of the renewable fuel industry to construct renewable fuel fueling stations to provide E15, E85 and other renewable fuels to consumers. If the renewable fuels industry believes there is consumer demand and economic benefits from making such investments and is willing to accept the potential liability for selling fuels that are not compatible with consumers' vehicles, then it is reasonable to expect *the renewable fuel industry* will make such investments. It is not reasonable to forecast that obligated parties or independent retailers will make potentially uneconomic decisions and then base RFS standards on such an assumption.

c) Liability Concerns

Finally, the potential liability issues associated with marketing E15 fuel will hinder its introduction. EPA must factor in the risks and potential liabilities presented by E15 in terms of vehicle and infrastructure incompatibility. EPA must avoid promulgating a rule that incentivizes the manufacture and sale of a fuel product (E15) that carries with it a number of substantial (and unresolved) liability issues. Specifically, E15:

- Could damage engines and other systems in millions of vehicles that have been "approved" by EPA for E15, but which are unapproved for such fuel by the vehicle manufacturers and for which use may void the vehicle warranty;
- Is illegal for use in tens of millions of older automobiles, trucks, off-road vehicles, boats and small-equipment products, and may decrease the availability of the gasoline required by owners of these products;
- Results in diminished fuel economy for most vehicles, thus reducing vehicle efficiency;
- Is incompatible with, and thus cannot legally be stored in or dispensed from, the vast majority of the existing gasoline retail distribution system, requiring enormous costs to upgrade retail systems.

A recent Report by Iowa Department of Revenue shows that the average per station E15 sales in Iowa is only 15% of average per station E10 sales.[55] Given this history and the concerns raised in

[54] The Fuels Institute, *A Market Performance Analysis and Forecast*, 2014.
[55] "2015 Retailers Fuel Gallons Annual Report," Kathy Harpole, Research and Analysis Division, Iowa Department of Revenue, April 2016

this section, the EPA's aspirational goal of half of the gasoline sold at the average retail gasoline station being E15[56] is unlikely at best.

4. Conventional Renewable Imports

Since 2013, when EPA's RFS standards breached the E10 blendwall, EPA's EMTS has reported sharp annual increases in D6 RINs from renewable diesel and biodiesel and simultaneously an increase in imports of D6 RINs. Similarly, EIA has reported high biodiesel imports from Indonesia, a major palm oil producer and exporter. In its 2012 NODA, EPA presented data that disqualified palm oil biodiesel/renewable diesel from being categorized as conventional renewable fuel. [57] In a recent 2016 report funded by the European Commission,[58] GHGs emitted from land use change using palm oil as biodiesel feedstock are estimated at 231 gCO2e/MJ of biofuel produced, resulting in palm oil to biodiesel pathway GHG emissions that are greater than 200% higher than diesel fuel emissions. Nonetheless, palm oil imports into the U.S. have been permitted to qualify for the RFS due to grandfathering provisions of the Energy Independence and Security Act of 2007 (EISA).

A direct implication of setting renewable fuel volume standards that exceed the ethanol blendwall is that it encourages imported biodiesel that is produced from palm oil[59]. EPA's own analysis[60] finds that biodiesel produced from palm oil fails to meet GHG emission reduction requirements of the RFS, except it is allowed if it meets grandfathering provisions of EISA. Biodiesel imports into the U.S. from Indonesia, a leading palm oil producing country, have increased from zero in 2012 to 73 million gallons in 2015[61]. This outcome of increased palm oil biodiesel consumption in the U.S. is another inconsistency with EISA's stated purpose to "…to increase the production of clean renewable fuels…"

In the 2017 RFS proposal, EPA set the conventional volume at 14.8 billion RINs or 10.42% of the gasoline pool if all conventional biofuel were ethanol, hence breaching the E10 blendwall. In Table IID.1 of the proposal, EPA assumes 400 million gallons of conventional biodiesel/renewable diesel are included in the conventional D6 pool. This continued practice of EPA to encourage imports from grandfathered facilities, including palm based biodiesel/renewable diesel results in significant increases in GHGs, contrary to the stated intents of the Agency to lower GHGs.

API recommends that EPA remove the 400 million gallons of conventional biodiesel/renewable diesel from the calculated standards volume.

---

[56] Page, 34800 "Since the average retail station will sell about 950 thousand gallons of gasoline in 2017, 800 million gallons of E15 could be sold if about half of the gasoline sold at each of these 1,700 stations was E15."

[57] https://www.epa.gov/renewable-fuel-standard-program/learn-more-about-notice-data-availability-noda-renewable-fuels

[58] ec.europa.eu/energy/sites/ener/files/documents/Final%20Report_GLOBIOM_publication.pdf

[59] http://www.theicct.org/blogs/staff/unexpected-tax-bill-for-imported-palm-oil-biodiesel

[60] https://www.epa.gov/sites/production/files/2015-08/documents/420f11046.pdf

[61] www.eia.gov/dnav/pet/pet_move_impcus_a2_nus_EPOORDB_im0_mbbl_a.htm

B. Advanced Biofuels Volume

EPA is proposing to again set an aggressive advanced biofuel target in 2017. EPA proposes a 2017 advanced biofuel volume requirement of 4 billion gallons, which is a 600 million gallon increase over the proposed volume of 3.4 billion gallons for 2016. Using EMTS data up to and including May 2016, the 2016 annualized volume for advanced biofuels is approximately 3.2 billion ethanol equivalent RINs.

In the Proposed Rule, EPA applied most, but not all, of its exercise of the cellulosic waiver to the advanced biofuel and total renewable fuel RVOs. Due to the nested nature of the standards, to lower the overall cost of the program to consumers and to make the regulations more achievable, EPA should always extend the full volume of any cellulosic waiver to both the advanced biofuel and the total renewable fuel RVO requirements.

Sugar cane ethanol use has decreased over the last few years. According to data from EIA that show renewable fuel imports from Brazil have decreased down to zero for the first four months of 2016. [62] Therefore, EPA should not presume any sugarcane imports in 2017 given the issues associated with the ethanol blendwall. If, however, EPA does presume that some of the advanced biofuel obligation will be met with sugarcane ethanol, it is necessary to consider this volume when assessing the total ethanol that can be consumed in 2017. In other words, given the constraints of the blendwall, EPA should presume any sugarcane ethanol will displace domestic corn ethanol.

Our recommended forecast of advanced biofuel volumes available in 2017 is summarized in the table below. The advanced biofuel volume standard for 2017 should be set at 3.2 billion gallons.

2017 Advanced Biofuel Volume Standard Recommendations

	Billion RINs
Biomass-Based Diesel D4 RINs[63]	3.0
Cellulosic Biofuel D3 & D7 RINs	Last 3 months annualized (estimated at 0.2 billion)[64]
Sugar Cane Ethanol D5 RINs	0.0
Total Advanced Biofuel RINs	3.2

[62] U.S. Imports by Country of Origin https://www.eia.gov/dnav/pet/pet_move_impcus_a2_nus_epooxe_im0_mbbl_m.htm

[63] [63] 2.0 billion gallons X 1.5 equivalency value. The biomass-based diesel number is based on the 2 billion gallon mandate that EPA has finalized for 2017. That mandate is currently in litigation. Should the court require EPA to lower the biomass-based diesel volume for 2017, the values for biomass based diesel, advanced, and general renewable in this table should all be adjusted accordingly.

[64] Based on March, April & May 2016 cellulosic RIN generation per EPA's EMTS website.

C. **Cellulosic Biofuels Volume and Concerns with EPA's Methodologies**

EPA must conduct a *thorough* and *objective* assessment of likely cellulosic biofuel production for 2017 before setting RFS standards for that year. If EPA overestimates cellulosic biofuel production, it will cause fees to be imposed on obligated parties through no fault of their own, and will likely exacerbate issues that can undermine the stability and effectiveness of the RFS.

To provide some context for our comments below, it is useful to briefly review EPA's previous attempts to estimate cellulosic biofuel production. In several earlier proposals, the Agency has attempted to develop a methodology that can accurately assess the likely cellulosic biofuel production in the upcoming year. Each year EPA has recognized that cellulosic biofuel production would not meet the statutory volumes and has therefore reduced the cellulosic biofuel applicable volume as required by § 7545(o)(7)(D). Despite those reductions, EPA grossly overestimated cellulosic biofuel production every year from the program's inception in 2010 through 2014[65]:

Compliance Year	Statutory requirement (gallons)	EPA Projected production (gallons)	Actual production (gallons)	Extent of EPA Error
2010	100 million	5 million	0	100%
2011	250 million	6.6 million	0	100%
2012	500 million	8.65 million	20,069	99.8%
2013	1 billion	6 million	810,185	86.5%
2014	1.75 billion	67 million (≤17 million liquid cellulosic; 50 million CNG/LNG)	33.1 million (≤0.83 million liquid cellulosic; 32.6 million CNG/LNG)	95.1% (liquid cellulosic) 50.7% (total cellulosic)[66]

[65] The statutory requirements in this table are set forth in 42 U.S.C. § 7545(*o*)(2)(B)(i)(III). The EPA projected production levels are set forth in the final rules for 2010–2013 and the NPRM for 2013. *See* 75 Fed. Reg. 14,670 (2010 final rule); 75 Fed. Reg. 76,790 (2011 final rule); 77 Fed. Reg. 1,320 (2012 final rule); 78 Fed. Reg. 49,794 (2013 final rule); 78 Fed. Reg. 71,732 (2014 NPRM). The actual production totals are drawn from EPA's Public Data for the Renewable Fuel Standard website, https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard, and from two memoranda: Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2015-0111, *Assessment of Cellulosic Biofuel Production from Biogas (2015–2016)*, at 2 (Apr. 27, 2015); Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2016-0004, *April 2016 Assessment of Cellulosic Biofuel Production from Biogas (2017)*, at 2 (Apr. 2016).

[66] EPA's final rule for 2014 has an error rate of 0% because it adopts the actual production level and was published 11 months after the compliance year ended. *See* 80 Fed. Reg. 77,502. The data in the 2014 row above are based on the projected totals set forth in the 2014 proposed rule,

The D.C. Circuit held EPA's 2012 cellulosic biofuel projection was arbitrary and capricious and vacated the 2012 cellulosic biofuel RFS. *API*, 706 F.3d at 474. The Court concluded that the CAA does not allow EPA "to adopt a methodology in which the risk of overestimation is set deliberately to outweigh the risk of underestimation." *Id.* at 479. It further emphasized that EPA acted arbitrarily and capriciously by not "tak[ing] neutral aim at accuracy" in its projection, and that the CAA requires EPA to determine "what will *actually* happen." *Id.* at 476, 479 (emphasis in original).[67] EPA is *not* permitted to "try[] hard to push the envelope" – in direct contradiction with the court's prior admonition.[68]

There has been an increase in cellulosic biofuels over the past couple years due to EPA adopting an expanded definition of "cellulosic biofuel." In July 2014, EPA approved a new pathway under which compressed natural gas ("CNG") and liquefied natural gas ("LNG") derived from landfills and similar sources qualify as cellulosic biofuel. *See* 79 Fed. Reg. 42,128 (July 18, 2014). EPA's expansion of the definition of cellulosic biofuel to include CNG/LNG "led to a significant increase in cellulosic RIN generation" beginning "in late 2014." 80 Fed. Reg. 77,499. Indeed, the "vast majority" of the cellulosic biofuel RINs generated in 2014—"approximately 32 million" out of 33 million total—were for CNG or LNG. *Id.* at 77,502 n.209.[69] The same holds

---

issued November 29, 2013—one day before the *final* rule for 2014 was due under the CAA. *See* 78 Fed. Reg. 71,732, 71,750–51; 42 U.S.C. § 7545(*o*)(3)(B)(i). The difference between liquid cellulosic biofuels and total cellulosic biofuels is explained below and results from EPA's approval in July 2014 of a new pathway for renewable compressed natural gas (CNG) and liquefied natural gas (LNG) to be counted as cellulosic biofuel.

[67] Following the D.C. Circuit's decision, EPA acknowledged that its 2011 cellulosic biofuel requirements was also flawed, and reduced the requirements for 2011, 2012, and 2013 to match the number of cellulosic RINs actually made available for those years. *See, e.g.*, 79 Fed. Reg. 25,025 (May 2, 2014) (direct final rule re-setting 2013 cellulosic biofuel standard).

[68] EPA Newsroom. Speeches by Administrator Gina McCarthy, Remarks at National Corn Growers Association, As Prepared, July 16, 2015.

[69] EPA has publicly released monthly breakdowns of the number of cellulosic biofuel RINs generated from CNG/LNG in 2014 and 2015. *See* Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2015-0111, *Assessment of Cellulosic Biofuel Production from Biogas (2015–2016)*, at 2 (Apr. 27, 2015); Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2016-0004, *April 2016 Assessment of Cellulosic Biofuel Production from Biogas (2017)*, at 2 (Apr. 2016). However, EPA has not publicly released monthly breakdowns of the number of RINs generated from conventional liquid cellulosic biofuel, and instead has treated this information as confidential business information (CBI). The maximum volume of conventional liquid cellulosic biofuel production can be derived by subtracting the number of RINs reported for CNG/LNG from the total number of cellulosic biofuel RINs reported for each month on EPA's website. *See, e.g.*, EPA, *2015 Renewable Fuel Standard Data* (May 10, 2016), https://www.epa.gov/fuels-registration-reporting-and-compliance-help/2015-renewable-fuel-standard-data. The difference between those sums constitutes the maximum number of conventional liquid cellulosic biofuel RINs, rather than the actual number of such RINs, due to production of nontraditional cellulosic biofuels such as heating oil, and due to after-the-fact RIN generation error corrections. Worksheets showing the

true for 2015, as EPA estimated that over 94% of cellulosic biofuel production would be from CNG/LNG for the final three months of the year. *See* 80 Fed. Reg. 77,506. But for the expansion to include CNG/LNG, EPA's annual error rate in estimating the annual level of cellulosic biofuel production would remain well above 90%. In its NPRM for the 2014 program year, EPA estimated that 17 million gallons of liquid cellulosic biofuel would be produced in 2014. 78 Fed. Reg. 71,748. Actual liquid cellulosic biofuel production in 2014 was at most 0.83 million RINs.[70] Thus, had EPA not amended the definition of cellulosic biofuel by adding the CNG/LNG pathway, EPA's 2014 estimate would have been off by 95.1%. Similarly, while EPA forecast in its 2014–2016 final rule that 2 million gallons of liquid cellulosic biofuel would be produced in the fourth quarter of 2015, *see* 80 Fed. Reg. 77,505–06, EPA records show that at most 0.58 million gallons were produced during that period.[71] Thus, EPA's estimate—issued in November 2015 for October–December 2015—overshot the mark by at least 71%. The simple truth is that EPA's model is not designed to, and does not in fact, forecast "what will *actually* happen." *API*, 706 F.3d at 479.

The Proposed Rule repeats these errors by applying the same methodology for 2017. As in recent years, the Proposed Rule analyzes the CNG/LNG and conventional (liquid) cellulosic biofuel markets separately. EPA's estimates for both fuel sub-categories are arbitrary and capricious, and must be substantially reduced in the final rule.

1. Estimated Liquid Cellulosic Biofuel Production

The Proposed Rule estimates that 30 million gallons of liquid cellulosic biofuel will be produced in 2017—more than *ten times* the amount of liquid cellulosic biofuel produced in 2015. 81 Fed. Reg. 34,806. This estimate is flawed in numerous respects.

2. Individual Facility Production Ranges

The Proposed Rule's method for calculating the production ranges for each facility "runs counter to the evidence before the agency" and "is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). This is so for four reasons.

First, EPA's unquestioning acceptance of producers' projected start-up dates is unreasonable in light of past experience. EPA has consistently erred in forecasting liquid cellulosic biofuel facility start-up dates in prior years. In nearly every case, EPA has adopted start-up dates that prove to be months or years earlier than a facility's actual start-up date.[72]

Given EPA's long history of adopting overly optimistic projected start-up dates, it is incumbent on EPA to come forward with hard evidence that the start-up dates in the Proposed Rule are

---

maximum number of conventional liquid cellulosic biofuel RINs for 2014 and 2015 are attached as Appendix C.

[70] *See* Appendix C (2014 worksheet).

[71] *See* Appendix C (2015 worksheet).

[72] For examples, see Appendix B at 7-8.

grounded in fact and describe "what will *actually* happen." *API*, 706 F.3d at 479. The Proposed Rule fails to carry this burden; indeed, it provides no meaningful evidence that the projected start-up dates it adopts are any more realistic than the start-up dates adopted in prior years. Nor does EPA factor into its analysis the possibility that new liquid cellulosic plants will repeatedly miss their target start-up dates for years on end, as the Cool Planet, DuPont, and Poet-DSM plants have.

Second, EPA's use of a six-month ramp-up to expected capacity is unreasonable in light of past experience. *See* 81 Fed. Reg. 34,805. EPA has produced no evidence that a six-month ramp-up period is reasonable, and so far as API is aware, no liquid cellulosic biofuel facility capable of producing commercial-scale quantities of fuel has *ever* reached planned capacity within six months. Indeed, as of December 2015, "[n]o biofuel startups have managed to produce a next-generation biofuel at commercial scale in the U.S.," period.[73] The record shows that many facilities take a year or more to reach even a fraction of design capacity.[74]

It is true that the Proposed Rule employs a six-month ramp-up only to compute "the high end of the projected production range for each group of companies." 81 Fed. Reg. 34,805. But EPA has offered no evidence that a six-month ramp-up period is attainable even under the best of circumstances.[75] Despite the abundance of data on ramp-up periods from past years, the Proposed Rule does not cite one example in which a facility achieved substantial production within six months of initial production. Even if EPA could identify a handful of instances in which a facility did ramp up to full capacity within six months, that data would need to be balanced against the considerable data showing that it takes facilities years to ramp up to meaningful production, and against the data showing that facilities often go out of business before generating *any* cellulosic biofuel RINs.

Third, EPA failed to consider the possibility that facilities would encounter difficulties that cause them to fall below prior production levels, or even to zero. *See* 80 Fed. Reg. 77,503–05 (setting the low end of the range for companies with "consistent commercial scale production" at a level equal to those companies' "actual production volumes" over the preceding 12-month period). This omission is unreasonable given the considerable evidence that cellulosic biofuels producers are often unable to sustain production levels over extended periods.[76]

The Proposed Rule incorporates by reference the methodology used in EPA's final rule for 2014–2016, *see* 81 Fed. Reg. 33,804, which concedes that "the low end of the range does not necessarily represent a worst-case scenario," 80 Fed. Reg. 77,503. Indeed, "[t]he worst-case scenario for any" facility "is no production." *Id.* Yet in spite of these concessions and the data above, EPA nevertheless concludes that "it is generally appropriate to use the production over

[73] Katie Fehrenbacher, *How Tech Billionaire Vinod Khosler's Biofuel Dream Went Bad*, Fortune (Dec. 15, 2015), http://fortune.com/kior-vinod-khosla-clean-tech/.
[74] For examples, see Appendix B at 7-8.
[75] In fact, EPA has even acknowledged there has been a "history of start-up delays and missed production targets in the cellulosic biofuels industry." 80 Fed. Reg. at 77,503.
[76] For examples, see Appendix B at 9-11.

the previous 12 months as the low end of the range." *Id.*; *see also* 81 Fed. Reg. 34,805 ("The low end of the range for each group . . . reflects actual RIN generation over the last 12 months for which data are available."). EPA's view of what is "generally appropriate" is not consistent with the facts or with the CAA's command that the agency take "neutral aim at accuracy." *API*, 706 F.3d at 724. The Proposed Rule cites no data in support of its approach, and the record overwhelmingly shows that the low end of a facility's future production range is *not* the facility's production over the past year.[77]

EPA should remedy this error by adopting zero as the low end of the expected range for each conventional liquid cellulosic biofuel facility. Such an approach would better harmonize with past experience and better predict "what will *actually* happen" in the future. *API*, 706 F.3d at 479.

Fourth, the Proposed Rule ignores completely several producers that EPA has relied upon in prior rulemakings, but which went out of business or have been unable to produce meaningful volumes of liquid cellulosic biofuel.[78] The Proposed Rule (and its supporting memorandum)[79] do not acknowledge or discuss Cool Planet and INEOS Bio, two firms that EPA relied upon in fashioning its final rule for 2016. *See* 80 Fed. Reg. 77,508. As discussed in Appendix B, neither of these firms has produced cellulosic biofuel RINs in recent years, and neither of them is expected to begin producing such RINs any time soon. Nor does the Proposed Rule "reflec[t] on" the failures of other liquid cellulosic biofuel producers in past years, despite the abundance of available and highly relevant data. *API*, 706 F.3d at 427. An agency seeking to take "neutral aim at accuracy," *id.*, may not bury its head in the sand in this fashion.[80]

* * *

In each of these respects, EPA's failure to take account of past "experience" and to "reflec[t] on the success of earlier [projections]" constitutes arbitrary and capricious decision making. *API*, 706 F.3d at 427; *see also State Farm*, 463 U.S. at 29 (rule invalid where agency has "entirely failed to consider an important aspect of the problem" or "offered an explanation that runs counter to the evidence before the agency").

3. 25th Percentile Model for Forecasting Production by "New" Facilities

EPA's assumption that new facilities with no track record of RIN generation will produce cellulosic biofuel volumes in the 25th percentile of that facility's estimated production range is unreasonable and contrary to the record. *See* 81 Fed. Reg. 34,806.

---

[77] The roster of companies that once produced liquid cellulosic biofuel, but are no longer in business, illustrate the point. Together, EPA's final rules for 2010 through 2013 list numerous companies that fall into this category.

[78] For examples, see Appendix B at 11-12.

[79] Memorandum from Dallas Burkholder, Office of Transportation and Air Quality, EPA, to Air and Radiation Docket EPA-HQ-OAR-2016-0004, *April 2016 Assessment of Cellulosic Biofuel Production from Biogas (2017)*, at 2 (Apr. 2016).

[80] For further discussion, see Appendix B at 13-14.

EPA provides no factual support for the 25th percentile method, which amounts to an assumption that new facilities will produce at approximately 23.5% of design capacity.[81] Historically, new facilities produce at approximately 3 percent of capacity. In fact, industry-wide, cellulosic biofuel facilities—new and established—failed to reach 3 percent of capacity in 2015.[82] Among other things, EPA failed to consider whether a 10th percentile of 5th percentile model would better explain the available data.

EPA should rectify this error by adopting a percentile model that is in line with the record. The data above shows that 2.8% of capacity is a more accurate estimate for cellulosic biofuel production from facilities without a proven production track record.[83] Applying this model to the aggregate design capacity of 51 million gallons for facilities without prior commercial-scale production[84] would yield an estimate of 1.4 million gallons of cellulosic biofuel production in 2017 for new liquid cellulosic biofuel producers, rather than the projection of 12 million gallons included in the Proposed Rule. *See* 81 Fed. Reg. 34,806.

4. 50th Percentile Model for Forecasting Production By "Established" Facilities

EPA's assumption that facilities with "consistent commercial scale production" will produce in the 50th percentile of their estimated production range is equally invalid. As with the 25th percentile method, EPA provides no factual support for its approach, and the approach is contrary to record evidence from prior program years. Indeed, the 50th percentile model bears no relationship whatsoever to the available data.[85]

---

[81] This calculation is based on the reported design capacities for DuPont (30 million gallons) and GranBio (21 million gallons). A precise calculation is impossible because the Proposed Rule does not provide a design capacity for Edeniq, the third firm in the new-producer data set. *See* 81 Fed. Reg. 34,805 (stating "various" as Edeniq's "Facility capacity"). API is unable to construct an estimate for Edeniq because the record material pertaining to Edeniq's production is designated as CBI. *See, e.g.*, Edeniq Call Notes 3.10.16, https://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2016-0004-0023. Thus, the utilization rate given above thus assumes that Edeniq's capacity is zero.

[82] According to the 2014–2016 final rule, design capacity was at least 105 million gallons in 2015, excluding facilities for which no specific capacity was provided (e.g., Edeniq) or for which production was not expected to begin until 2016. *See* 80 Fed. Reg. 77,501. The maximum possible level of actual liquid cellulosic biofuel production was 2.3 million gallons, or 2.2 percent of industry-wide design capacity.

[83] This ratio is based on the highest industry-wide production rate since the cellulosic biofuel program began in 2010—2.8% of cumulative design capacity in the fourth quarter of 2015.

[84] *See, e.g.*, National Renewable Energy Laboratory, Technical Report, *2015 Survey of Non-Starch Ethanol and Renewable Hydrocarbon Biofuels Producers*, at 5 (Jan. 2016), *available at* http://www.nrel.gov/docs/fy16osti/65519.pdf; *Robert Rapier, Cellulosic Ethanol Falls A Few Billion Gallons Short*, Energy Trends Insider (Feb. 13, 2016), http://www.energytrendsinsider.com/2016/02/13/cellulosic-ethanol-falls-a-few-billion-gallons-short/; Katie Fehrenbacher, *How Tech Billionaire Vinod Khosler's Biofuel Dream Went Bad*, Fortune (Dec. 15, 2015), http://fortune.com/kior-vinod-khosla-clean-tech/.

[85] For a further discussion on this issue, see Appendix B at 18-19.

Based on the data discussed in Appendix B, and accounting for the possibility (albeit unlikely) that liquid cellulosic biofuel producers will produce at a higher overall rate in 2017 than in prior years, a proper substitute model would use 10% of the "established" producer group's cumulative capacity. Only a handful of firms have reached production rates above 10% in recent years, and EPA has provided no evidence that these small firms (e.g., Quad County Corn Producers) are representative of the "established" producer group as a whole. Moreover, a model using 10% of the "established" producer group's capacity vastly outperforms the Proposed Rule's 50th percentile model when applied to the data for 2010–2015 shown above. This model would generate an expected production volume from the "established" producer group of 2.9 million gallons in 2017, rather than the projection of 18 million gallons included in the Proposed Rule. *See* 81 Fed. Reg. 34,806.[86]

5. Additional Issues

The Proposed Rule's forecast for liquid cellulosic biofuel also fails on other grounds. *First*, EPA's estimate for liquid cellulosic biofuel (30 million gallons) is out of step with the EIA's estimates for recent years. For example, EPA's estimate for 2016 (23 million gallons) was more than double the estimate set forth by the EIA for 2016 (10 million gallons). While the EIA projection for 2017 is not yet available, given EPA's substantial increase in the volume estimate for 2017, EPA is likely to have an estimate significantly, and unreasonably, higher than EIA's estimate. EPA has consistently departed upwards from EIA's estimates in the past, *see, e.g.*, 77 Fed. Reg. 1,328–29, and in each instance this departure has made EPA's estimate more inaccurate than it would have been had EPA stuck with EIA's estimate.

Second, the CAA requires EPA to obtain the required EIA estimates for cellulosic biofuel production and place it in the docket for this rulemaking. *See* 42 U.S.C. § 7525(o)(7)(D)(i). These estimates are not only mandated by the statute, but they are intrinsic to the calculation of annual percentage standards. It is well settled that "[a]n agency commits serious procedural error when it fails to reveal . . . the technical basis for a proposed rule in time to allow for meaning commentary." *Connecticut Power & Light Co. v. Nuclear Regulatory Comm'n*, 673 F.2d 525, 530-31 (D.C. Cir. 1982); *see also Chamber of Commerce of U.S. v. SEC*, 443 F.3d 890, 901-06 (D.C. Cir. 2006) (vacating a rule on that basis). EPA's failure to obtain and publish the EIA estimates for cellulosic biofuel production renders the cellulosic biofuel volume requirements for 2017 arbitrary and capricious, notwithstanding EPA's statement that is "anticipate[s] considering these estimates . . . for the final rule."[87]

Third, EPA has not provided sufficient transparency on data that form the central basis for EPA's liquid cellulosic biofuel projections. EPA has withheld call notes, production data, and other key materials for liquid cellulosic biofuel producers, claiming that this information is CBI. EPA needs to improve its transparency when establishing the cellulosic biofuel mandate, and, at minimum, provide sufficient information on which the public can provide meaningful comments.

[86] In the aggregate, the data-driven projection models recommended in this comment forecast actual liquid cellulosic biofuel production of 4.3 million gallons in 2017.
[87] 81 Fed. Reg. 34,803.

6. CNG/LNG Cellulosic Biofuel Production Estimate

Because CNG/LNG biogas will be providing the overwhelming majority of cellulosic RINs during 2017, the Agency must provide a much more transparent analysis of its determinations. Much of the significant information underlying that analysis has been designated as Confidential Business Information (CBI). Within such constraints, EPA must, however, support its analysis of the availability of such fuels in order to facilitate the opportunity for public comment. This is especially true because of the much larger population of facilities (at least 37) and the vastly larger volumes expected by EPA for biogas fuels in 2017 (148-217 million gallons), which could result in a sizeable overestimation of actual volumes that will generate RINs. EPA's current analysis of these larger volumes fails the "neutral aim at accuracy" standard that was set forth by the D.C. Circuit.

Furthermore, EPA's projection of CNG/LNG includes several invalid assumptions in the estimation of potential future volumes. Specifically, the Proposed Rule uses a 50th percentile estimate of production for facilities that have not yet generated a cellulosic biofuel RIN. This approach is overly optimistic for the following reasons:

- Not all new facilities are capable of producing transportation-grade biogas. Of the approximately 640 US landfill biogas projects, it is estimated that less than 8% produce a high BTU gas capable of being upgraded into a transportation-grade biogas.[88,89] An even smaller percentage of high BTU projects exist for digester and other biogas projects.

- Facilities producing biogas-derived cellulosic fuel need to be located near an existing pipeline to enable movement to areas where biogas-derived cellulosic fuel will be utilized by the transportation fleet. Since most biogas-derived cellulosic fuel is consumed in California, pipeline transportation is required (except for small quantities currently used in local fleet use). It is unreasonable to assume that all facilities not currently generating cellulosic biofuel RINs would be located near a pipeline.

- There are alternative uses and competition for biogas-derived cellulosic fuel. State renewable portfolio standards (RPSs) require an increasing amount of renewable electricity. One cost-effective method of meeting the RPS requirements is through the use of biogas to generate electricity. Also, many biogas facilities use at least a portion of the generated biogas to generate local power. Any additional existing capacity would need to be diverted away from these uses.

- Generating cellulosic RINs from RNG requires additional recordkeeping and reporting after the RNG is produced to document that it is used as a transportation fuel. This is an additional burden that can be a deterrent from generating additional RINs as the volume

[88] Biogas Opportunities Roadmap, US Department of Agriculture, Aug 2014
[89] EPA Landfill Methane Outreach Program, http://www.epa.gov/lmop/documents/xls/opprjslmopdata.xlsx, Last Available July, 2015

of RNG in the market continues to grow. In other words, growth in RNG volume may not translate directly into proportional growth in RIN generation.

Given these factors, a more appropriate method for estimation of cellulosic-derived biogas RINs is to look at historic proven RIN generation and project cumulative volumes.[90]

* * *

The above discussion underscores the need for EPA to use credible data inputs in its analysis of potential cellulosic biofuel volumes. Instead, EPA continues to rely upon calculations using unsupported assumptions and estimates provided by cellulosic producers to generate production estimates. Indeed, EPA continues to accept production forecasts from cellulosic biofuel manufacturers even though these forecasts have been wrong every year. In a recent example, the Coalition for Renewable Natural Gas estimated that August 2014 to December 2014 Cellulosic Biogas Production would be 69 million equivalent gallons,[91] more than twice the actual production of 32 million equivalent gallons during that period. In this RFS proposal, EPA is basing its projections on input collected from the Coalition for Renewable Gas.

Data on EPA's EMTS shows 140 million RINs were generated from renewable natural gas in 2015. Through May 2016, EMTS shows about 62 million RINs have been generated this year, roughly equating to an annual average of 150 million RINs. The EPA forecast for 2017 of 284 million RINs is almost double the historic rate over the past 17 months. We continue to recommend that EPA use historical production data when setting the annual cellulosic biofuel standard. Otherwise, the Proposed Rule will fail to "take neutral aim at accuracy."

D. Total Renewable Volume for 2017

Based on the issues raised in the above comments API recommends the Final RFS volumes be based on the following volumetric requirements:

	Billion RINs
Cellulosic Biofuel	0.2
Biomass-based Diesel[92]	3
Advanced Biofuel	3.2
Conventional Renewable	13.92
Total Renewable Fuel	17.12

[90] For a further discussion on this issue, see Appendix B at 19-20.

[91] Presentation by Coalition for Renewable Natural Gas, Waste to Biogas & Clean Fuels Finance & Investment Summit, Santa Clara, CA March, 2015.

[92] 2.0 billion gallons X 1.5 equivalency value. The biomass-based diesel number is based on the 2 billion gallon mandate that EPA has finalized for 2017. That mandate is currently in litigation. Should the court require EPA to lower the biomass-based diesel volume for 2017, the values for biomass based diesel, advanced, and general renewable in this table should all be adjusted accordingly.

III. Biomass-Based Diesel (BBD) Volume for 2018

The RFS specifies a timeframe and requires a rigorous analytical review (six factor analysis discussed later) for increasing the biomass based diesel volume standard; EPA needs to adhere to these requirements. EPA's proposal to set the 2018 BBD volume at 2.1 billion gallons lacks the required comprehensive analysis and could lead to consequences contradictory to the objectives of the RFS.

A. Lead time requirement

CAA section 211(o)(2)(B) specifies the volumes for the categories of total renewable fuel, advanced biofuel, and cellulosic biofuel that must be consumed through calendar year 2022. For biomass-based diesel, however, section 211(o)(2)(B)(i) does not prescribe specific statutory volumes after 2012. Instead, CAA section 211(o)(2)(B)(ii) sets a 1 billion gallon floor and requires EPA to establish the biomass-based diesel volume requirements based on an analysis of six statutory criteria (*i.e.*, environmental impact, energy security, expected production, impact on infrastructure, cost to consumers, and certain other factors such as food prices and rural development). CAA section 211(o)(2)(B)(ii) expressly requires EPA to provide 14-months lead time when establishing such requirements. Specifically, under this provision:

> The Administrator shall promulgate rules establishing the applicable volumes under this clause no later than 14 months before the first year for which such applicable volume will apply.[93]

EPA can comply with the 14 month lead-time requirement by finalizing the proposed rule by October 31, 2016. If it fails to meet that deadline, it cannot increase the biomass-based diesel levels beyond the last year for which it met this deadline, which, as explained below, was the 2013 level of 1.28 billion gallons.

EPA was required to have determined the 2014 biomass-based diesel applicable volume by October 31, 2012, the 2015 volume by October 31, 2013, the 2016 volume by October 31, 2014, and the 2017 volume by October 31, 2015. EPA failed to meet any of these deadlines. Compliance with the statutory lead time requirements for these years now is impossible. EPA also has not undertaken an adequate analysis of the six factors specified in CAA section 211(o)(2)(B)(ii) for 2014-2017, for the same reasons it has failed to conduct an adequate analysis for 2018.

Noncompliance with the statutory schedule and EPA's lack of examination regarding the six statutory factors raise the issue of what level of biomass-based diesel can be required in 2018. In this regard, section 211(o)(2)(B)(ii) is clear: EPA cannot alter its most recent determination for 2013 of 1.28 billion gallons, because this is the highest volume for which obligated parties have had the requisite advance notice and an opportunity to comment on EPA's application of the six statutory criteria.[94] While EPA could potentially meet the timing requirements for 2018, if it

[93] 42 U.S.C. § 7545(o)(2)(B)(ii).

[94] We note that even using the 2013 determination would not explicitly satisfy the requirement of CAA section 211(o)(2)(A)(ii) that the Administrator determine applicable volumes for "calendar

finalized the proposed rule by October 31, 2016, the proposed rule's failure to adequately consider the six factors specified in the CAA would preclude increasing the level beyond the 2013 level of 1.28 billion gallons. Any higher applicable volume for biomass-based diesel (or percentage standard based on this volume) for 2018 would be contrary to the plain language of the statute.[95]

B. Six Factor Analyses

Even if EPA were to meet the deadline, it has not undertaken an adequate analysis of the six factors specified in CAA section 211(o)(2)(B)(ii) for 2018. Consideration of these factors is a statutory prerequisite to revising the applicable volume of biomass-based diesel for years after 2012. When EPA increased the BBD volume to 1.28 billion gallons for 2013, it concluded review of actual implementation, at the time, was of "limited value" because the RFS had a short history. Now, with a longer history of the RFS, EPA is in a better position to conduct a more rigorous analysis.

Although EPA has attempted an analysis of the six specified factors, EPA's analysis is woefully inadequate and ignores information relevant to implementation and impacts of the RFS. Instead, EPA relies on the approach that the 2018 advanced biofuel volume requirement will determine the level of BBD production and import regardless of where the BBD volume requirement is set. Therefore, before EPA conducts the six factor analysis, EPA's approach marginalizes BBD volume increases and, because EPA continues to rely on final rulemaking from 2010, EPA does not uncover negative impacts of increasing the BBD volume. It should be noted that the RFS RIA in 2010 was based on 1.5 billion gallons of biomass based diesel, a 31% lower volume than the proposed 2018 standard of 2.1 billion gallons.

EPA should, for example consider new studies on biomass-based diesel impacts on air quality, GHGs, water use, fertilizer run-off into the Gulf of Mexico, food prices, as well as energy security (in light of the reliance upon imported fuel). The Agency should also consider land use impacts and whether it is appropriate to continue to exempt domestically-produced crop-based biofuels like soy-based biodiesel (and corn-based ethanol) from EISA's land use restrictions especially given recent information indicating that EPA's assumptions underlying that exemption were incorrect.[96]

---

years after the calendar years specified in the tables" since EPA's determination was with respect to the year 2013 only.

[95] For further discussion on the Biomass-Based Diesel Standard for 2018, see Appendix B at 5-7.

[96] EISA requires that renewable fuels be produced from renewable biomass. The law further restricts the definition for crop-based renewable fuels to crops from land that was in agricultural use as of the date of enactment of EISA. However, in the original RFS2 rulemaking, EPA effectively exempted domestic crop-based biofuels from this requirement based on the assumption that there would be no new crop-land created. Recent reports including a University of Wisconsin study (http://m.iopscience.iop.org/1748-9326/10/4/044003/article) and an Associated Press investigation (http://bigstory.ap.org/article/secret-dirty-cost-obamas-green-power-push-1) indicate this was an invalid assumption.

Because it has failed adequately to analyze these factors, EPA may not increase the 2018 levels above the last year for which it properly promulgated a biomass-based diesel standard, which was 2013.

Six factors for EPA to address in increasing biomass-based diesel volume:

1. **Environment:** EISA does not require EPA to rely on initial rule-making for subsequent assessments. In fact, the purpose is to review information that may become available. Science has evolved since EPA's 2010 RIA and additional studies are available on the environmental impacts of biodiesel (GHGs, air quality, etc,) including the 2016 European Commission study referenced earlier. [58] EPA should take into consideration constraints and limitations of other advanced renewable fuels and new environmental information related to biomass-based diesel and compare with findings from 2010, not just rely on 2010 findings.

2. **Energy Security:** The U.S. is less reliant on imported oil now than when EISA was enacted and the RFS has "played only a small part in reducing projected net import dependence"[97] according to the Deputy Administrator of the EIA, who also said reliance on oil imports is "significantly lower" and reductions in net imports are primarily driven by increased domestic petroleum production and reduced petroleum demand. [98]

3. **Expected annual rate of future commercial production of renewable fuels:** To date, corn-ethanol and biomass-based diesel have been the two primary fuels utilized for compliance with the RFS, and based on current state of technology, these two fuels will continue to be the primary fuels utilized for compliance with the RFS. However, both of these fuels face real world constraints as the fuel pool becomes saturated with volumes that are compatible with existing infrastructure (i.e. E10 and B5). This saturation could likely cause barriers that must be overcome by other renewable fuels.

4. **Impacts of renewable fuel on infrastructure:** The RFS has been ineffective in its ability for mandated renewable fuel volumes to effect infrastructure changes. The ethanol blendwall occurs at 10 volume percent and biodiesel blending limits effectively occur at 5 volume percent. EPA has acknowledged real word constraints that exist and are barriers to renewable fuel consumption. In EPA's justification for utilizing its general waiver authority, these real world constraints limit the supply of renewable fuels, including biomass-based diesel.

5. **Impacts of renewable on cost to consumers:** The Deputy Administrator of the EIA testified to congress that "biodiesel is significantly more costly than petroleum-based diesel under recent market conditions. Between August 2015 and January 2016, the

[97] Howard Gruenspecht, Deputy Administrator, Energy Information Administration Before the Committee on Environment and Public Works. February 24, 2016

[98] Howard Gruenspecht Deputy Administrator, Energy Information Administration. Statement before the House of Representatives Committee on Energy and Commerce Subcommittee on Energy and Power, June 22, 2016

difference between the Gulf Coast spot market prices of biodiesel and petroleum-based diesel averaged $1.25 per gallon."[99] EPA's own analysis as part of this rule-making concludes that fuel costs will increase as a result of the RFS. However, the EPA analysis is likely an underestimate of actual costs to the broader economy because EPA only focuses on the wholesale level. By EPA's own approach to inadequate domestic supply in using its waiver authority, this is an insufficient analysis because it does not measure the costs of actual renewable fuel consumption.

6. **Impacts of renewable on other factors (i.e. agricultural commodities, rural economic development):** In the U.S., soybean oil is the single largest feedstock input to biodiesel production. The implications of increasing BBD requirements and impacts on direct land use and soybeans should be considered. For example, adjusted for energy density, soybean based biodiesel energy production (Btu per acre) is less than ¼ of corn based ethanol Btu production. So in terms of land use requirements, the biodiesel volume mandate is relatively large when compared to renewable fuel produced from corn starch ethanol.

C. Cost Impacts of Proposed Standards

In EPA's "Illustrative Costs" memo, EPA has conducted a woefully inadequate assessment of the cost impacts of its proposed standards for 2017.

First, EPA presents only three illustrative scenarios, but leaves out another important scenario. EPA should include the scenario where biodiesel / renewable diesel is used to cover both the advanced and remaining conventional renewable beyond E10 and the de minimus volumes of E10+. EPA should evaluate this scenario based on EMTS data in 2014 and 2015. The ethanol blendwall constraints that exist have resulted in increasing volumes of biodiesel/renewable diesel D6 and D4 RINs and declining D5 RINs.

Secondly, EPA's illustrative cost analysis stops at the point of producing and delivering renewable fuel to the blender, as EPA focuses on the wholesale level. As analyzed, this approach is meaningless and falls short of actually measuring the costs and economic impacts of achieving objectives of the RFS. This approach is inconsistent with EPA's justification for using general waiver authority in setting renewable fuel standards for 2014-2016. As EPA[100] discussed in RFS 2014-2016 final rule making, renewable fuel must be "used to replace or reduce the quantity of fossil fuel" to be part of the supply. Biofuel availability by itself (i.e. at the wholesale level) is not considered as renewable fuel if it is not consumed. EPA's illustrative approach focuses on wholesale level and ignores significant cost factors (i.e. infrastructure, energy density penalty, and other constraints) required for actual consumption of renewable fuels. It is important to take these cost factors and economic impacts into consideration because, unless actually consumed, renewable fuels do not achieve objectives of the RFS.

[99] Howard Gruenspecht, Deputy Administrator, Energy Information Administration Before the Committee on Environment and Public Works. February 24, 2016

[100] Federal Register /Vol. 80, No. 239 /Monday, December 14, 2015 /Rules and Regulations

D. Implications of Biomass-Based Diesel Requirements within Nested Standards.

Because the BBD standard is nested within the advanced and total renewable fuel standards (i.e. a sub-mandate), increasing the BBD standard above 1.28 billion gallons has a limited ability to help meet fundamental objectives of the RFS. EPA[101] has previously acknowledged the BBD volumes responded to advanced and / or total renewable fuel requirements. EPA has previously stated that competition among market participants is good[102]. In increasing BBD volume EPA attempts to strike a balance between supporting BBD volumes and other advanced biofuels. Increasing the BBD sub-mandate, above 1.28 billion gallons and within the nested structure is not irrelevant, and EPA should not increase the BBD above 1.28 billion gallons.

The agency's proposal to increase the BBD sub-mandate potentially interferes with market competition. It is not a requirement for EPA, per statutory authority, to encourage production and consumption of any specific biofuel over another biofuel.

BBD production capacity and capacity utilization within the U.S. have remained relatively stagnant in recent years. According to the Energy Information Administration[103], annual biodiesel production capacity has averaged 2.1 billion gallons between 2011 and 2015. During the same time period, capacity utilization has been in a range of 20.1% to 72.6%. Domestic production of biodiesel reached a peak of nearly 1.4 billion gallons in 2013 and declined to less than 1.3 billion gallons in 2014 and 2015. During this same time period, the U.S. switched from being a net exporter to a net importer of biodiesel. EPA's approach of increasing BBD is most likely encouraging imported BBD, which does not necessarily lead "…toward greater energy independence and security…", a stated purpose of EISA.

Increasing the BBD sub-mandate does not change the total ethanol equivalent RIN volume. Although CAA requires EPA to establish the BBD category requirement in advance of the other renewable fuel categories, setting the volumes and annual percentage standards should not be conducted in isolation. For 2017, EPA has acknowledged real-world constraints and limitations that exist for distribution, blending and dispensing infrastructure. Simultaneously, EPA is looking to the market to determine how compliance is achieved through the use of ethanol and non-ethanol fuels. Thus, EPA's biomass-based diesel proposal for 2017 contains inconsistencies and could result in unintended consequences (i.e. economies of scale that may exist with a more flexible standard are potentially undercut by the increased sub-mandate).

E. Feedstock Availability

EPA should not set volumes, either advanced or biomass-based diesel, that could require 2.5 billion gallons of biodiesel for 2018 as suggested by the National Biodiesel Board (NBB). There are inadequate supplies to meet this standard without potentially requiring a drawdown of carry-over RINs or causing disruptions to feedstock supplies.

---

[101] Federal Register / Vol. 80, No. 111 / Wednesday, June 10, 2015 / Proposed Rules
[102] Federal Register / Vol. 80, No. 239 / Monday, December 14, 2015 / Rules and Regulations
[103] http://www.eia.gov/biofuels/biodiesel/production/archive/2016/2016_03/biodiesel.cfm

Domestic biodiesel production capacity is too small. Between 2011 and 2015, domestic biodiesel production annual capacity has averaged 2.1 billion gallons and monthly production capacity utilization averaged 55%. Even with EPA's implementation of the RFS, the EIA reported that domestic biodiesel production peaked at 1.4 billion gallons in 2013.

Registered biodiesel production is unproven and likely too small. EPA reports in the proposed rule that registered biodiesel production for the RFS is around 2.7 billion gallons. Therefore it would require the industry to run at an average capacity utilization of 93% for a year to generate 2.5 billion gallons. In review of data on EPA's EMTS website, monthly biodiesel RIN generation has never reached 93% capacity utilization for even a single month. In recent years, capacity utilization has mostly been within the 60% to 80% range. Over the entire EMTS data base, the highest 12 consecutive month average for capacity utilization is 75%, which is far short of achieving 2.5 billion gallons. EPA points to limiting factors at registered biodiesel production facilities related to idled plants and availability of viable feedstocks.

Feedstock supply disruptions: EPA provides sound reasoning for focusing on soybean oil as a feedstock for biodiesel volume above 1.28 billion gallons. Data published by EIA[104] reports that soybean oil is the single largest feedstock input for biodiesel production and according to USDA[105] data, soybeans are the largest crushed oilseed in the U.S. Producing biodiesel from soybean oil is more land intensive than producing ethanol from corn[106] and potential bushel and acreage implications of increasing biodiesel above 1.28 billion gallons are illustrated in the table below. Compared to recent actual soybean production, increasing the biodiesel volume mandate could result in relatively large changes. For example, increasing the biodiesel volume from 1.28 to 2.5 billion gallons could require an additional 820 million bushels of soybeans and up to an additional 18 million acres.

Biomass-based diesel volumes and requirements for soybeans

BBD volume (billion gallons)	gal/bushel	soybean production (billion bushels)	yield (bu/ac)	harvested acres (million)
1.28	1.5	0.85	45	19.0
2.00	1.5	1.33	45	29.6
2.50	1.5	1.67	45	37.0
*2012-2015 average		3.6	45	79.2

*2012-2015 U.S. average U.S. production, yield, and harvested acreage; source: USDA.

Annual soybean crushing capacity in the U.S. is around 1.8 billion bushels per year producing around 20 to 22 billion pounds of soybean oil. The portion of soybean oil being used for biodiesel production (methyl ester) has increased from around 9% in 2005 to 28% in 2015. Food

[104] http://www.eia.gov/biofuels/biodiesel/production/
[105] http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1902
[106] Conversion assumptions for biodiesel (1.5 gallons per bushel and 45 bushels per acre) and corn (2.8 gallons per bushel and 170 bushels per acre).

use is the primary destination for soybean oil in the U.S., as it is the "most predominant[107]" source of food oil. Increasing the biodiesel volume mandate would require a larger diversion of soybean oil away from food use and / or U.S. export markets. Research indicates that global vegetable oil markets are well connected and fungible[108]. In the case of Europe, palm oil is the marginal oil that fills any domestic shortfall and contributes to indirect land use change emissions. To the extent that diverted soybean oil creates a gap for food oil and / or reduced U.S. exports, EPA should carefully consider the potential negative impacts of how the gap is filled.

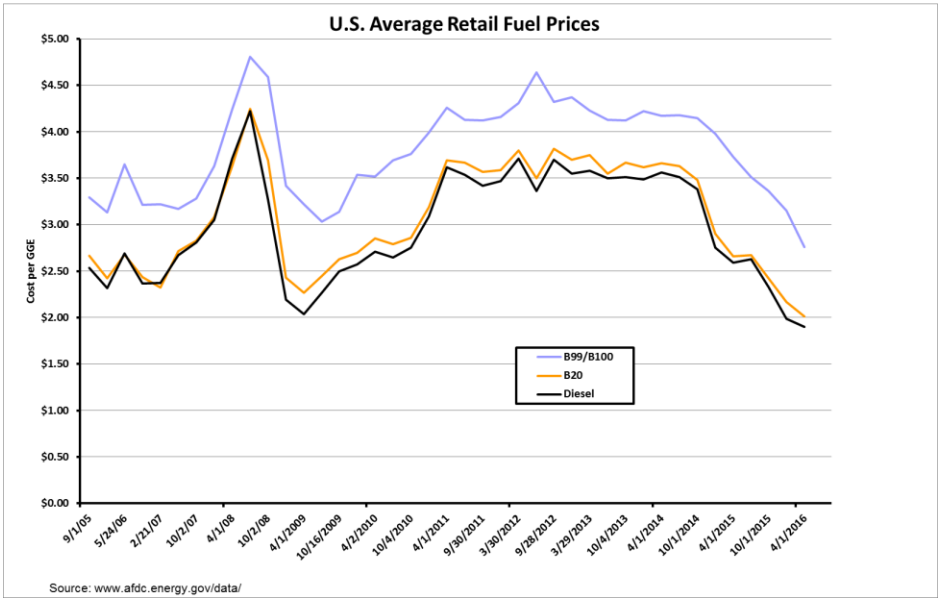
F. Vehicle constraints and consumer preference

API fundamentally agrees with EPA's assessment of potential limits on the growth of biodiesel and renewable diesel consumption capacity from the perspective of vehicle constraints and consumer preference. As EPA notes in the Preamble of the proposed rule, both the Federal Trade Commission and the ASTM International Specification for diesel fuel (ASTM D975) allow for biodiesel concentrations of up to five volume percent (B5) to be sold as diesel fuel. No separate labeling is required for blends containing up to B5 at the retail pump, so these blends are indistinguishable from petroleum-based diesel to the consumer. While many of the makers of passenger car and light truck diesel models offered for sale in the US warrant their vehicles for operation on B5 or less, the vast majority of diesel fuel in the US is consumed by heavy duty vehicles and non-road engines. Although a number of heavy-duty diesel engine OEMs have, in recent years, begun to upgrade and warrant their engine models to operate on biodiesel blends containing up to 20 volume percent (B20), it is important to recognize that heavy-duty vehicle and non-road engines have extremely long service lives (~500,000+ miles), and therefore fleet turnover will serve to constrain the overall growth in consumption of blends containing biodiesel in excess of 5% by volume.

The relative pricing of B20 versus petroleum diesel also may continue to limit consumer acceptance of biodiesel and renewable diesel blends greater than B5. The chart below shows that, on an energy equivalent basis, the price of B99/B100 has historically always been higher than petroleum diesel. Consequently, the price of B20 also has generally been higher than petroleum diesel, albeit less so because of the use of biodiesel as a blendstock.

[107] http://www.soyconnection.com/newsletters/soy-connection/health-nutrition/articles/Why-Soybean-Oil-Is-Called-Vegetable-Oil

[108] http://www.theicct.org/sites/default/files/publications/ICCT_vegoil_and_EU_biofuel_mandate_20130211.pdf



While the price difference has been small on a percentage basis, it is important to note that the vast majority of the consumers of highway diesel fuel are commercial truck owners/operators for whom fuel costs are a significant component of overall operating costs.

IV. Point of RFS Obligation

API opposes moving the point of RFS obligation. Changing the point of obligation will not fix the blendwall problem or meaningfully impact the overall volume of renewable fuels. A change to the point of RFS obligation will create uncertainty in the RIN market and will complicate the administration and function of the RFS program.

Moving the point of RFS obligation does not alleviate the infrastructure constraints throughout the distribution system. E15 and E85 will still face the current infrastructure hurdles, including retail equipment compatibility. The current RFS structure does not prevent renewable infrastructure investments, and as EPA recognized in the 2014 – 2016 RFS proposal, renewable producers are free to make such investments. Moving the point of obligation also will not address consumer behavior as the significant issue of vehicle compatibility will remain. E15 will continue to face significant hurdles including potential liability, and E85 will still be limited to FFVs. Changing the point of obligation will only shift the compliance responsibility to a different group of RFS participants.

In implementing the RFS, Congress directed EPA to promulgate regulations that "contain compliance provisions applicable to refineries, blenders, distributors, and importers, as appropriate." Based on EPA's consideration of numerous factors, EPA placed the point of RFS obligation where gasoline and diesel are refined or imported. EPA recognized that some obligated parties, including merchant refiners, did not control the downstream blending of ethanol or other biofuels, and would need to have access to RINs. EPA addressed this concern by including provisions in the rule allowing obligated parties the unique ability to separate RINs for biofuels, and limited the amount of RINs that can be carried over, in part to make RINs more

accessible in the market. EPA reconsidered the issue following the enactment of EISA, and decided not to change the point of obligation in that rulemaking.

Changing the point of RFS obligation would create uncertainty in the RFS program and in the RIN market. RFS compliance plans, investments and commercial agreements that were premised on the current structure would be disrupted. Such a major structural change nine years into the program creates uncertainty about other critical components of the program. The incentive for refiners to develop drop-in biofuels would diminish; and these fuels are not limited by the constraints of the ethanol blendwall.

Changing the point of obligation would increase the complexity for EPA to administer and enforce the program, as the number of obligated parties would increase. The increased complexity affects the fuel distribution industry as the identification of obligated fuels becomes more difficult. The current RFS structure already includes provisions to facilitate compliance for all obligated parties, including the ability for obligated parties to separate RINs, and a 20% limit on compliance demonstrated with carryover RINs.

As the only trade association representing all facets of the oil and natural gas industry, we urge the EPA to reject efforts by some to move the current point of RFS obligation.

V. Cellulosic Waiver Credits

At the June 9, 2016 public hearing on EPA's proposal, some commentators argued that EPA should restrict the availability of cellulosic waiver credits (CWCs) available to obligated parties. We disagree with this suggestion.

EPA discussed CWCs at length in the RFS2 rulemaking to implement the provisions of EISA. EISA states that whenever EPA reduces the minimum cellulosic mandate volumes specified in EISA, EPA "shall make available for sale cellulosic biofuel credits…." The law further directed EPA to promulgate regulations to implement this provision and states that "[t]he regulations 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."

EPA explained that they imposed a number of restrictions on the cellulosic biofuel waiver credits to ensure that they are not over utilized at the expense of actual renewable volume:[109]

> We have fashioned a number of limitations on the use of cellulosic that reflect these considerations. Specifically, the credits will be called ''Cellulosic Biofuel Waiver Credits'' (or ''waiver credits'') so that there is no confusion with RINs or allowances used in the acid rain program. Such waiver credits will only be available for the current compliance year for which we have waived some portion of the cellulosic biofuel standard, they will only be available to obligated parties, and they will be nontransferable and nonrefundable. Further, obligated parties may only purchase waiver credits up to the level of their cellulosic biofuel RVO less the number of cellulosic biofuel RINs that they own. A company owning cellulosic biofuel RINs and cellulosic waiver credits may use

[109] 75 Fed. Reg. 14727 (Mar. 26, 2010)

> both types of credits if desired to meet their RVOs, but unlike RINs obligated parties will not be able to carry waiver credits over to the next calendar year. Obligated parties may not use waiver credits to meet a prior year deficit obligation. These restrictions help ensure that waiver credits are not over utilized at the expense of actual renewable volume.
>
> In the NPRM, EPA proposed that the credits could be usable for the advanced and total renewable standards similarly to cellulosic biofuel RINs. Several commenters stated this provision could displace advanced and total renewable fuel that was actually produced which would be against the intent of the Act, and that unlike RINs a company should only be permitted to use waiver credits to meet its cellulosic biofuel obligation. We agree, and are limiting the use of waiver credits for compliance with only a company's cellulosic biofuel RVO.

In the course of discussing the CWC issue in the RFS2 rule, EPA explained that the purpose of the CWC provision in EISA was to ensure that there is a "predictable upper limit to the price that cellulosic biofuel producers can charge for a gallon of cellulosic biofuel…."[110] EPA also evaluated potential unintended consequences of this provision and solicited comments on additional restrictions. EPA recognized that additional restrictions, such as those called for by some commenters at the recent public hearing, would be counter to the purpose of the cellulosic waiver provision.

VI. E15 RVP Waiver

Several stakeholders testifying at the June 9, 2016 public hearing implored EPA to extend the 1.0 RVP waiver to E15 blends. API does not support such an extension. Section 211(h)(1) of the CAA restricts the RVP of summer gasoline sold in the United States, and the Act further grants a one pound waiver to E10 blends:

> *For fuel blends containing gasoline and 10 percent denatured anhydrous ethanol, the Reid vapor pressure limitation under this subsection shall be one pound per square inch (psi) greater than the applicable Reid vapor pressure limitations established under paragraph (1).*[111]

EPA considered the RVP waiver issue for ethanol blends in 1989, prior to the 1990 amendments, when EPA set an interim RVP level that was 1 psi higher "for gasoline-ethanol blends commonly known as gasohol."[112] EPA promulgated RVP regulations in 1990 that again granted a 1.0 psi allowance for E10.[113] It revisited the issue again in 1991, when it modified its RVP regulations the following year and clarified that the one pound waiver was limited to ethanol blends between nine and ten percent.[114]

---

[110] Id.
[111] 42 U.S.C. § 7545(h)(4).
[112] 54 FR 11868, 11879
[113] 55 FR 23658, 23660
[114] 56 FR 64704, 64708

More recently, in the context of the E15 partial waiver decisions and the Misfueling Mitigation Rule, EPA again reviewed the policies underlying the one pound RVP waiver and determined that it should not be extended to E15. In granting the partial waiver for E15 in 2010, EPA explicitly based its evaporative emissions analysis on the fact that E15 would NOT receive the one pound waiver that E10 does. EPA reached the same conclusion in 2011 when it extended the partial waiver to cover 2001 and newer light duty motor vehicles.[115] In the Federal Register notice for the Misfueling Mitigation Rule, EPA again reviewed the comprehensive history of the one pound waiver and concluded again that it should only apply to fuel blends containing up to ten percent ethanol.

VII. E15 Labeling

API submitted a request in April 2015 for EPA to clarify that E15 is a gasoline, and the retail sale of E15 as flex fuel is prohibited by regulation. We remain concerned that in neglecting to address the issue is resulting in confusion in the marketplace and creating an unlevel playing field for gasoline retailers that abide by the EPA's rules.

As a result of EPA's CAA section 211(f) substantially similar waiver for E15, the fuel is classified as gasoline under EPA's regulations (not sometimes gasoline and sometimes flex-fuel) and is subject to EPA's summer RVP and pump label regulations. Both the EPA regulations and the CAA could not be clearer. As EPA has consistently recognized, E15 does not qualify for the one pound waiver and must meet the summertime RVP requirements to be legally sold. The attempt to label and sell E15 as "flex-fuel" is an unlawful attempt to bypass the existing RVP regulatory requirements. If this labeling is allowed, then theoretically, the same logic could apply to virtually any blend of ethanol and gasoline such as E10.

Some ethanol groups have actively endorsed the practice of relabeling E15 as flex-fuel to circumvent the RVP controls. A recent op-ed in the Des Moines Register clearly states a misinterpretation of the regulations "*every summer when the calendar turns to June, I'm no longer allowed to sell E15 to 2001 and newer vehicles. It can be sold to flex-fuel vehicles only*."[116] A lack of clarification from EPA is leading not only to misinterpretations from individual station owners, but ethanol trade associations promoting the practice of relabeling E15 pumps in the summer as FFV only.[117] EPA should clarify the regulations and prevent an un-level playing field in the marketplace.

VIII. RIN Carry-over

EPA should adjust renewable fuel volumes downward as needed to ensure that carryover RINs are not intentionally drawn down, but instead remain fully available to meet unforeseen events

[115] 76 Fed. Reg. 4662, 4663

[116] Good, Charlie. "Summer brings ethanol quirk to Iowa gas stations." June 1, 2016, The Des Moines Register http://www.desmoinesregister.com/story/opinion/columnists/iowa-view/2016/06/01/summer-brings-ethanol-quirk-iowa-gas-stations/85193808/

[117] Lane, Isabel. "E15 blends will be good for the summer, says American Coalition for Ethanol" May 25, 2014, Biofuels Digest.

and facilitate market functionality. EPA has estimated 1.72 billion carryover RINs are available for compliance after 2013 and has not assumed an intentional drawdown through 2017.

In finalizing renewable fuel volume standards for 2013, EPA relied on carry-over RINs for meeting statutory volumes of advanced and total renewable fuels. Subsequent to finalizing volume standards for 2013, EPA did not finalize standards for years 2014 to 2016[118] until December 14, 2015. During this time period, EPA proposed standards for 2014, for years 2014-2016, and finalized standards for years 2014-2016 that took a different approach in the treatment of carryover RINs. EPA reverted to earlier rulemaking and focused on the important role of carryover RINs: "…to provide flexibility in the face of a variety of circumstances that could limit the availability of RINs. More specifically, carryover RINs provide a mechanism for offsetting the negative effects of fluctuations in either supply of or demand for renewable fuels."[119]

This important function provided by carryover RINs was reaffirmed by EPA in final rulemaking for years 2014 to 2016 where EPA agreed with commenters on RINs providing flexibility and operability to the RFS program.

To the extent that market conditions and available carryover RINs change, EPA should adjust renewable fuel volumes downward to adhere to their proposed approach for 2017 in that collective carryover RINs not intentionally be drawn down and that renewable fuel volumes are not set at levels that envision a reduction in carryover RINs. While EPA discusses its aim for carryover RIN neutrality in the 2017 proposal (i.e. collective carryover RINs not expected to increase after 2016 nor intentionally drawn down), there are strong indications that EPA's proposed volumes are not achieving the goal of preserving the collective number of carryover RINs. As reported by Oil Price Information Service (OPIS) and Reuters[120], a private firm has predicted that carryover RINs will decline to 1.39 billion at the end of 2016 and further decline to 786 million by the end of 2017. The private firm has attributed this decline in carryover RINs, along with higher and more volatile RIN prices, to EPA's proposed biofuel volumes.

EPA must also account for RINs deemed invalid in setting RFS standards to maintain the total inventory of RIN carryover. A recent report indicates that 60 million fraudulent RINs were generated. [121] The replacement of any fraudulent RINs may result in a drawdown of carry-over RINs in 2017, particularly if EPA finalizes the overly aggressive RFS targets as EPA proposes.

The potential economic harm and market disruptions of setting renewable fuel volumes at levels too high to be absorbed into the market results from an insufficient number of RINs has been analyzed by NERA Economic Consulting. EPA has recognized real world constraints that exist

[118] 80 Federal Register. No. 239, December 14, 2015.
[119] 78 Federal Register. Nov 230, November 29, 2013.

[120] http://www.reuters.com/article/usa-biofuels-idUSL1N19L14A
[121] http://www.biodieselmagazine.com/articles/1313144/2-florida-men-plead-guilty-to-multistate-biodiesel-fraud-scheme

in limiting the supply of renewable fuels, and thereby the available number of RINs and potential reliance on carryover RINs, for meeting compliance obligations.