The Renewable Fuel Program at an Inflection Point: Policy Implications of EPA's Proposed 2014-2016 Renewable Fuel Standard

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Summary

In May 2015, EPA released its delayed revisions to the Renewable Fuel Standard (RFS) for 2014 and beyond. This standard establishes volumetric requirements for total renewable fuels and several subcategories of advanced biofuels. With the current rulemaking, EPA is attempting to revise its standard-setting process as the practical realities of the transportation fuel market have caught up with many of the program's more ambitious policy aspirations. Regardless of how the rulemaking plays out, policymakers will need to decide whether EPA is best positioned to take the lead in reinterpreting those aspirations, or whether Congress should step back in.

I. Introduction

Ten years ago, the U.S. Congress launched an ambitious effort to transform the way we think about transportation fuel. The 2005 Amendments to the Clean Air Act (CAA), passed as part of the Energy Policy Act (EPAct) of 2005,[1] created the Renewable Fuel Program and reinvented the domestic market for transportation fuel: how it is composed, supplied, traded, and consumed. The goals were transcendent. By requiring the United States to displace traditional fossil fuels with continuously expanding amounts of renewable fuels to power cars, trucks, and other vehicles, the Renewable Fuel Program would create a market for the domestic production of these fuels, bolster rural economies, fight climate change, and put the country on a sustainable path toward energy independence.

Congress tasked the U.S. Environmental Protection Agency (EPA) with setting up the rules and administering the program, and EPA has made substantial progress on many of these original policy goals. Over the past 10 years, renewable fuel production under the program has tripled and now represents close to 10% of the national transportation fuel market.[2] These fuels are now an integral part of the domestic energy slate.

Notwithstanding this progress, the past decade has witnessed a dramatic shift in the domestic energy economy. Many of the economic assumptions and energy forecasts that underpin the program's policy goals have turned out to be inaccurate. As a result, EPA now finds itself struggling to keep pace with its statutory responsibility to ensure that the country continues to consume increasing amounts of renewable transportation fuel every year, irrespective of market forces. The Renewable Fuel Program has reached a turning point.

EPA is currently in the midst of a rulemaking to promulgate a fresh set of renewable fuel standards under the program for the years 2014 and beyond. EPA therein attempts to revise its standard-setting process and place it on a path more adaptable to shifting market conditions. The rulemaking serves to answer those who advocate reforming or repealing the entire program. However, it is unclear whether the Agency's recalibrated approach will

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1. Energy Policy Act of 2005 (EPAct), Pub. L. No. 109-58, §1501, 119 Stat. 594 (2005). The Renewable Fuel Program is codified at 42 U.S.C. §7545(o), as amended. The Clean Air Act (CAA) is codified at 42 U.S.C. §§7401-7671q, ELR Stat. CAA §§101-618.
2. EPA reports an increase in production of renewable fuels for program compliance from 5.2 billion gallons in 2006 to almost 16 billion gallons in 2014. *Compare* RFS1 Final Rule, *infra* note 3, at 23951, *with* Updated Proposed RFS 2014 Standard, *infra* note 59, at 15.

compromise the program's fundamental aspirations even as it endeavors to uphold them.

II. A National Program for Renewable Transportation Fuel

The EPAct was passed in response to increasing national demand for transportation fuel, declining domestic production of refined petroleum products, and rising environmental concerns associated with climate change. The EPAct amended CAA §211, which governs fuel and fuel additives. It authorized EPA to establish a complex program to replace traditional gasoline with increasing annual volumes of renewable fuel, primarily corn-based ethanol. In May 2007, after two years of rulemaking, EPA published the implementing regulations for the program.[3] These regulations became known as the original renewable fuel standard (RFS1).

RFS1 required refiners, importers, and certain fuel blenders (collectively known as "obligated parties") to demonstrate that they had introduced a specified volume of renewable fuel into their share of the domestic gasoline pool on an annual basis.[4] Obligated parties must demonstrate compliance by accruing an appropriate number of credits known as renewable identification numbers (RINs). RINs are generated by qualified producers of renewable fuel. EPA also established a tracking and trading program under which an obligated party could comply by either generating sufficient RINs itself or purchasing RINs from another party. Under limited circumstances, a portion of a prior year's RIN credits may be carried over to demonstrate compliance with the program requirements of a subsequent year.[5]

Just as EPA was completing its work on RFS1, Congress amended the Renewable Fuel Program with the passage of the Energy Independence and Security Act (EISA) of 2007.[6] EISA again amended CAA §211 and instructed EPA to make substantial changes to the original program. EPA published EISA's comprehensive regulations, subsequently referred to as RFS2, in March 2010.[7]

While most of the logistical provisions of the original RFS1 remained in place, the amended statute and regulations modified certain key aspects of the program. EISA and RFS2 expanded the scope of the program beyond gasoline to include diesel and certain other nonroad fuels. Moreover, it split the volumetric requirements into four distinct categories of renewable fuels: (1) total renewables; (2) advanced biofuels; (3) biomass-based diesel; and (4) cellulosic biofuels. The distinctions among these categories lies not only in the raw materials and production pathways used to produce each of them, but, importantly, in their potential to offset the impacts of transportation fuel on climate change.[8] The fuel categories are nested such that, for example, acquiring RINs for cellulosic biofuels and biomass-based diesel also works toward the credit requirements for advanced biofuels. Advanced biofuels, in turn, qualify toward the total renewable fuel requirement.

Relying upon then-existing forecasts for domestic fuel supply and consumption, Congress increased the total volume requirements under the program almost fivefold. While the volumetric requirements in the EPAct reached a ceiling of 7.5 billion gallons in 2012, EISA's mandates begin at 9.0 billion gallons in 2008 and will climb to 36 billion gallons in 2022. Volumes thereafter will be set by administrative rulemaking.[9] Critically, the statute does not index the volumes for production or supply constraints, demand, or any other macroeconomic conditions. The majority of the volumetric increase (a total of 16 billion gallons) must be from cellulosic biofuel, which, at the time of EISA's passage, was a nascent industry with no commercial-scale production whatsoever.[10]

The aggressive promotion of cellulosic biofuel thus became a primary focus of the revamped program. It is central to EISA's efforts to promote renewables derived from agricultural wastes rather than corn-based ethanol. Such fuels have a lower carbon footprint than corn-based ethanol, and do not displace agricultural feed stocks that are important to other sectors of the economy. Accordingly, the statute requires increasing amounts of cellulosic biofuel beginning in 2010. By 2022, more than three-quarters of advanced biofuel sold in the United States is supposed to be cellulosic.[11]

3. *See* Regulation of Fuels and Fuel Additives: Renewable Fuel Standard Program, Final Rule, 72 Fed. Reg. 23900 (May 1, 2007) [hereinafter RFS1 Final Rule]. The regulations are set forth at 40 C.F.R. pt. 80, as amended.
4. *See* RFS1 Final Rule, *supra* note 3. While Congress was interested in explicitly promoting corn-based ethanol in the original statute, it also displayed some interest in developing nascent markets for advanced renewable fuels such as biofuels derived from cellulosic plant material or organic waste. These renewable fuels were given a greater compliance value than ethanol. *See* 72 Fed. Reg. at 23909. This interest would play a much larger role when the law was amended in 2007.
5. *See id.*
6. Energy Independence and Security Act of 2007, Pub. L. No. 110-140, §§201-204, 121 Stat. 1492 (2007).
7. *See* Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program, Final Rule, 75 Fed. Reg. 14670 (Mar. 26, 2010) [hereinafter RFS2 Final Rule].
8. The statute requires advanced biofuel to achieve at least a 50% "lifecycle greenhouse gas emissions reduction" when compared to the gasoline or diesel it replaces. Biomass-based diesel, a subcategory of advanced biofuel, also must achieve at least a 50% reduction. Cellulosic biofuel, a separate subcategory of advanced biofuel, requires a 60% reduction. The rules for conventional ethanol, which counts toward total renewable fuel, are more complicated but generally require a 20% reduction for newer facilities. *See* 42 U.S.C. §7545(o)(1).
9. *See* 42 U.S.C. §7545(o)(2)(B)(ii).
10. *See* 42 U.S.C. §7545(o)(2)(B)(i)(III).
11. *See id.*

While the required volumes are statutory, EPA must conduct rulemakings to extrapolate from these volumes the percentages of each category of renewable fuel that must be introduced into the domestic transportation fuel market annually.[12] As a safety valve, Congress gave EPA the authority to waive the volumetric requirements under certain circumstances. EPA has a general authority to waive specified amounts for any category of renewable fuel if it determines either that the requirements would "severely harm the economy or environment of a State, a region, or the United States," or "there is an inadequate domestic supply."[13] EPA also may waive the standard for cellulosic biofuel if it determines that there is insufficient projected production for any calendar year, but it must make cellulosic RIN credits available in sufficient numbers to replace the missing physical gallons.[14]

III. The Shifting Domestic Energy Landscape

EPA's efforts to comply with its administrative mission illustrate an uphill battle to push the market to meet the law's policy ambitions notwithstanding practical difficulties. This primary administrative challenge can be traced directly back to the law's codified volumetric requirements and the shifting market conditions since their creation.

When Congress passed and later amended the Renewable Fuel Program's enabling statutes, lawmakers relied upon government predictions that domestic demand for gasoline and other transportation fuels would grow substantially over the ensuing years and, with it, U.S. dependence upon foreign sources of crude and refined products.[15] Accordingly, the program was designed to bolster the country's energy independence while promoting fuels that would have a lesser impact on climate change, and production of which would also support rural, farm-based economies.[16] EPA also believed renewable fuels would offer an economic advantage over traditional refined petroleum products due to the high cost of crude.[17]

In hindsight, many of these forecasts were not accurate. Over the past decade, technological developments in horizontal drilling and crude oil extraction, coupled with the discovery of shale oil resources in the United States, have transformed the country's energy landscape and dramatically increased government projections for domestic production far into the future. Accordingly, in its most recent annual energy outlook, the U.S. Energy Information Administration (EIA) now predicts that increases in U.S. energy production, led by strong growth in domestic crude extraction from tight formations, will eventually lead the United States to become a net petroleum exporter sometime between 2020 (if oil prices rebound) and 2040 (if prices remain relatively low).[18] Meanwhile, higher fuel economy standards for cars and light trucks promulgated in 2012,[19] coupled with the extended economic recession, have caused demand for transportation fuels to decline from previously projected rates. The government now projects that domestic demand for transportation fuels will decline steadily well into the foreseeable future.[20]

Accordingly, renewable fuels have lost much of their economic advantage and the country uses fewer gallons of transportation fuel in which renewable fuels can be blended. In a relatively short period of time, the national energy debate has shifted from how to meet demand and protect U.S. interests from the growing influence of rapidly rising petroleum product imports to whether and how export quotas should be lifted for domestic crude.[21] The global balance of power on petroleum energy issues has shifted toward Washington, D.C.[22]

IV. Administrative Efforts to Keep Pace

A. *Setting Annual Fuel Standards and Interpreting Waiver Authority*

Due to these changing market conditions, as well as the sheer complexity of the law, it has been difficult for EPA to keep up with its congressional mandate to continuously expand the market for renewable fuels. The Agency has repeatedly struggled simply to meet the statutory deadline for setting the annual renewable fuel standard, while giving little quarter to those whose compliance obligations are compromised as a result.

12. *See* 42 U.S.C. §7547(o)(3). The statute requires that EPA publish this renewable fuel obligation for a particular year by November 30th of the preceding year. That deadline has repeatedly proven difficult to meet.
13. 42 U.S.C. §7547(o)(7).
14. *See id.*
15. EIA's 2005 Annual Energy Outlook projected that domestic demand for transportation fuels would increase by greater than 20% over the proceeding decade. *See* U.S. EIA, Annual Energy Outlook 2005, DOE/EIA0383 (Feb. 2005). EIA's 2007 projections were adjusted downward, but still projected double-digit growth in demand to this point. *See* U.S. EIA, Annual Energy Outlook 2007, DOE/EIA0383 (Feb. 2006). As EIA now reports, actual demand has declined. *See* U.S. EIA, Annual Energy Outlook 2015, DOE/EIA0383 (Apr. 2015).
16. *See* RFS1 Final Rule, *supra* note 3, at 23902-03. In addition, EPA's website lists the primary goals of RFS2 as: (1) achieving significant reductions of greenhouse gas emissions through the use of renewable fuels; (2) reducing petroleum imports; and (3) encouraging the development and expansion of our nation's fuel sector. *See* U.S. EPA renewable fuels web page, http://www.epa.gov/otaq/fuels/renewablefuels/index.htm.
17. *See* RFS1 Final Rule, *supra* note 3, at 23902-03.
18. *See* U.S. EIA, Annual Energy Outlook 2015, DOE/EIA-0383(2015) [hereinafter 2015 AEO].
19. *See* 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62624 (Oct. 15, 2012) (codified at 40 C.F.R. pts. 85-86 & 600, and 49 C.F.R. pts. 523, 531, 533, 536 & 537).
20. *See* 2015 AEO, *supra* note 18.
21. Legislation to lift the decades-old crude oil export ban was introduced in the U.S. House of Representatives in February 2015. *See* H.R. 702, 114th Cong. (2015). Sen. Lisa Murkowski (R-Alaska), chair of the U.S. Senate Energy and Natural Resources Committee, recently co-sponsored parallel legislation introduced by Sen. Heidi Heitkamp (D-N.D.) to lift the crude export ban. *See* American Crude Oil Export Equality Act, S. 1372, 114th Cong. (2015).
22. *See* Clifford Krauss, *New Balance of Power*, N.Y. Times, Apr. 22, 2015, *available at* http://ww.nytimes.com/2015/04/23/business/energy-environment/new-balance-of-power.html.

For example, the 2009 standard was originally proposed in November 2008.[23] However, at that time, EPA had not yet completed its work on the updated regulations for RFS2 under EISA, the 2007 Amendments to the original EPAct of 2005. Consequently, even though EPA was required to set a 2009 standard for biomass-based diesel, one of the new categories of advanced renewables not contained in the original EPAct, it had not yet developed a mechanism for doing so. EPA purported to solve this problem by combining both the 2009 and 2010 requirements for biomass-based diesel into a single standard. EPA did not complete this rulemaking until March 2010, after the 2009 compliance year had ended and well into the 2010 compliance year.[24]

Due to this delay, members of the regulated community were not certain of their compliance obligations for 2009 and 2010 until one of those years had completely ended and the other had already begun. EPA's efforts, though tardy, were upheld in *National Petrochemical & Refiners Ass'n v. EPA*, in which petitioners representing the refining industry sought relief from the 2009 biomass-based diesel requirements. In reaching its decision, the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit was persuaded that holding EPA to a formalistic interpretation of the statutory language would frustrate the intent of the law. The court held further that any retroactive effect of the rules had been implicitly authorized by Congress and balanced out by EPA's mitigation efforts.[25]

Whereas the biomass-based diesel standard was central to the 2009 and 2010 rulemaking and its subsequent legal challenge, the cellulosic biofuel standard took center stage in the 2012 rulemaking.[26] As described earlier, Congress gave EPA the authority to waive the applicable statutory volumes for cellulosic biofuel if the Agency determines that projected production volumes for a given calendar year would be insufficient based upon estimates provided by EIA. Further, if EPA reduces the cellulosic standard, EPA also may reduce the applicable volume of total renewable fuel and advanced biofuels required for the same year.[27] EISA explicitly distinguishes cellulosic from other renewable fuels because, even with a clear intent to support rapid production growth, Congress recognized its virtual nonexistence and had a concern about production shortfalls.[28] Accordingly, if EPA concludes that the supply of cellulosic is insufficient to meet the statutorily mandated volumes, it must act by decreasing the standard for the year in question. By contrast, EPA has broader discretion to refuse to lower the standard for other renewable fuels.

Relying upon this waiver authority, and recognizing the practical impossibility of meeting the statutory standard for cellulosic biofuel where little or no commercial-scale production yet existed, EPA set the standard at barely 2% of the congressional mandate.[29] Even though it set the standard at a fraction of the statutory volumes, the Agency attempted to push the limits of the program to encourage growth. Relying heavily on government production estimates received from EIA, EPA nevertheless went beyond a neutral analysis of the data to a stated aspirational goal of promoting production.[30] Moreover, EPA did not exercise its waiver authority to provide some relief to obligated parties by lowering the otherwise applicable standards for either advanced biofuels or total renewable fuels. Instead, the agency required the regulated community to replace the decrease in cellulosic gallons with other forms of advanced biofuels.[31]

These efforts to keep the volume requirements for cellulosic biofuel, as well as the rest of the program, on an aggressive path were challenged in *American Petroleum Institute v. EPA*.[32] The D.C. Circuit upheld the overall standards for advanced biofuels and traditional renewables, but ruled that EPA had gone too far in its support of the program by impermissibly setting the cellulosic biofuel standard at an aspirational level. "While the program *as a whole* is plainly intended to promote that technology, we are not convinced that Congress meant for EPA to let that intent color its work as a predictor, to let the wish be father to the thought."[33] Practical market limitations were not cooperating with EPA's attempts to champion the goals of the program.

The court's discussion of technology-forcing is particularly informative when considering EPA's authority to determine the program's future path. EPA generally enjoys broad discretion where it bases a standard or mandate on the development of emerging technology.[34] Historically, therefore, EPA has been free to set aspirational rules, so long as they are based upon some rational connection between the regulatory target and the presumed innovation. According to the court in *American Petroleum*, how-

23. *See* Regulation of Fuels and Fuel Additives: 2009 Renewable Fuel Standards, Notice of Proposed Rulemaking, 73 Fed. Reg. 70643 (Nov. 21, 2008).
24. *See* RFS2 Final Rule, *supra* note 7.
25. National Petrochem. & Refiners Ass'n v. EPA, 630 F.3d 145 (D.C. Cir. 2010).The D.C. Circuit recognized that EPA had been given a difficult practical task. As the court stated, "[T]he rulemaking record suggests, moreover, that the deadlines in the EISA for promulgating the revised regulations and the 2010 standard were likely unrealistic." *Id.* at 156. Further, "[U]nder the circumstances, Congress' purpose in expanding the renewable fuel program under the EISA is better served by EPA's approach in the Final Rule than it would be by forgoing the 2009 applicable volume requirement as petitioners propose." *Id.*
26. EPA failed to meet the statutory deadline for setting the 2012 RFS and, similar to its prior efforts, published that standard after the compliance year had already begun. *See* Regulation of Fuels and Fuel Additives: 2012 Renewable Fuel Standards, Final Rule, 77 Fed. Reg. 1320 (Jan. 9, 2012) [hereinafter 2012 RFS].
27. *See* 42 U.S.C. §7545(o)(7)(D)(i).
28. Compare the nondiscretionary waiver authority for cellulosic biofuels in 42 U.S.C. §7545(o)(7)(D)(i) with the more discretionary waiver authority for biomass-based diesel in 42 U.S.C. §7545(o)(7)(E)(ii) or EPA's general waiver authority for renewable fuels in 42 U.S.C. §7545(o)(7)(A).
29. EPA set the standard at 8.65 million gallons where the statute calls for one-half billion gallons. *See* 2012 RFS, *supra* note 26, at 1325.
30. *See id.* at 1325.
31. *See id.*
32. American Petroleum Inst. v. EPA, 706 F.3d 474 (D.C. Cir. 2013).
33. *Id.* at 475.
34. *See, e.g.*, National Petrochem. & Refiners Ass'n v. EPA, 287 F.3d 1130, 32 ELR 20644 (D.C. Cir. 2002); National Res. Def. Council v. Thomas, 805 F.2d 410, 428-30, 17 ELR 20269 (D.C. Cir. 1986); Sierra Club v. Costle, 657 F.2d 298, 364, 11 ELR 20455 (D.C. Cir. 1981).

ever, the difference with the cellulosic standard is that EPA sought to compel one regulated community (refiners and importers) to comply with an aspirational standard, while a different industry (biofuel producers) holds the expertise and ultimate opportunity for profit and therefore can dictate whether compliance is possible. The court concluded, "Given this asymmetry in incentives, EPA's projection is not "technology-forcing in the same sense as other innovation-minded regulations . . . ."[35]

EPA's efforts to keep pace with the program's rapid growth are also illustrated by the Agency's test for reviewing waiver requests designed to provide relief from severe economic hardship pursuant to CAA §211(o)(7). EPA first enunciated its waiver test in response to a request for relief from the 2008 and 2009 fuel standards filed by the governor of Texas. In that proceeding, Texas alleged that the volume of ethanol necessary to meet the annual standards was inflating the price of corn during a period of extreme drought. The state alleged that this, in turn, was both raising food prices and causing severe damage to the livestock industry. Texas requested that EPA cut the ethanol mandate in half.

Following notice and comment (EPA received over 15,000 comments), the Agency denied the request.[36] While EPA conceded that waivers could be appropriate in certain circumstances, the bar was set high. Under the program's general waiver authority, it was not enough to show that the mandate was a significant material factor that could severely harm the economy. For EPA to approve a waiver, the fuel standard must create a "singular causal link" to the "severe harm" in question.[37] Given Texas' admission that economies at the state, regional, or national level are necessarily impacted by multiple factors, EPA's sole causation test appears to require a high threshold of harm coupled with an intimate connection between that harm and the Renewable Fuel Program.

EPA subsequently employed this test to deny a 2012 request for relief filed by the governors of Arkansas and North Carolina. That request was again tied to the impacts that ethanol demand under the program was having on regional corn prices.[38] As stated by EPA in an official regulatory announcement denying the waiver request, "EPA would have to determine that the implementation of the mandate *itself* would severely harm the economy; it is not enough to determine that implementation of RFS would *contribute* to such harm."[39]

B. Additional Efforts to Sustain the Program

While EPA has resisted efforts to waive RFSs under CAA §211(o)(7), it has simultaneously used its waiver authority under CAA §211(f)(4) to help the market absorb higher amounts of renewable fuels.[40] One clear example is a 2009 rulemaking approving elevated blends of ethanol in gasoline. This rulemaking was an early effort by EPA to address a systemic practical problem with the program known as the "blend wall." Although E10, a mixture of gasoline with 10% ethanol, is widely accepted as an industry standard that has already saturated the domestic gasoline market, EPA has grown increasingly concerned that unless higher blends of ethanol can be rapidly introduced into and accepted by the market, the Renewable Fuel Program will hit the blend wall—the point at which, given supply infrastructure and vehicle manufacturer constraints, it will be physically impossible to increase the use of conventional renewable fuel, regardless of the mandate.

In 2009, with concerns about the blend wall gaining momentum, Growth Energy, an ethanol industry trade group, petitioned EPA to permit the use of E15 (gasoline mixed with 15% ethanol) for transportation under CAA §211(f)(4). EPA eventually granted a conditional waiver authorizing the use of E15 in model year 2001 and later light-duty motor vehicles and engines as long as the fuel manufacturers submitted to EPA a plan to prevent misfueling of vehicles, engines, and equipment that could not effectively use the higher blend.[41] EPA's partial waiver was upheld in a challenge by a consortium of trade associations including engine manufacturers, petroleum suppliers, and food producers when the D.C. Circuit in *Grocery Manufacturers Ass'n v. EPA* concluded that the plaintiffs lacked standing. The court determined that EPA's waiver permitted but did not compel the use of E15 and, therefore, a causal link was missing between EPA's action and the alleged harm.[42]

Although the court did not reach the merits of the challenge, the *Grocery Manufacturers* case is informative because it discussed, albeit in dicta, the connection between EPA's consideration of the E15 waiver request and the Renewable Fuel Program, while noting the rapidly approaching impediments to meeting the growing volumetric mandates. Although the challenged waiver might not have compelled the use of E15, without some sort of modification the program would quickly compel its use. As stated by the dissent, "In the real world, does the petro-

35. *See American Petroleum*, 706 F.3d at 480.
36. *See* Notice of Decision Regarding the State of Texas Request for a Waiver of a Portion of the Renewable Fuel Standard, 73 Fed. Reg. 47168 (Aug. 13, 2008).
37. *Id.*
38. Many economists believe that the displacement of corn as an agricultural feedstock to the production of ethanol to be blended into conventional gasoline under RFS2 has caused corn price spikes in the past. *See generally* Energy Pol'y Research Found., Inc., *Implementation Issues for the Renewable Fuel Standard: Part 1, Rising Corn Costs Limit Ethanol's Growth in Gasoline Pool* (2011), http://eprinc.org/2011/04/implementation-issues-for-the-renewable-fuel-standard-part-i/.
39. U.S. EPA Office of Transp. and Air Quality, Decision to Deny Request for Waiver of the Renewable Fuel Standard, Regulatory Announcement, EPA-420-F-12-075 (2012).
40. Unlike the waiver provision designed to provide relief from the Renewable Fuel Program's annual fuel standards, CAA §211(f)(4) prohibits fuel manufacturers from introducing new fuels or fuel additives for most vehicles absent a waiver from EPA certifying that the fuel or fuel additive will not cause or contribute to a failure of any emission control device or system utilized by the vehicle or engine to comply with existing emissions standards. *See* 42 U.S.C. §7545(f)(4).
41. *See* Partial Grant of Clean Air Act Waiver Application Submitted by Growth Energy to Increase the Allowable Ethanol Content of Gasoline to 15 Percent, 76 Fed. Reg. 4662 (Jan. 26, 2011).
42. Grocery Mfrs. Ass'n v. EPA, 693 F.3d 169, 180, 42 ELR 20180 (D.C. Cir. 2012).

leum industry have a realistic choice not to use E15 and still meet the statutory renewable fuel mandate?"[43] Notwithstanding the waiver, E15 did not solve the blend wall problem. Gasoline stations are not widely equipped to sell it and consumer preferences do not favor it.

Other examples of EPA's use of regulatory authority to try to keep pace with the expanding mandates include liberalizing the program's definition of heating oil and streamlining production pathways for the certification of new fuels. Thus, under EISA, in addition to gasoline and diesel fuel, "additional renewable fuel" that is used to replace jet fuel or heating oil provides another way for obligated parties to generate RIN credits necessary to comply with their renewable volume obligations. Originally, the Renewable Fuel Program definition of heating oil was limited to renewable fuels that were chemically equivalent to diesel blends commonly used as heating fuel.[44] In 2013, EPA issued a direct final rule to include heating oil that differs from common diesel blends.[45] EPA's goals were twofold. First, the expanded definition further assisted program compliance by opening up additional uses of blended products. Second, EPA believed that the additional blending outlets would assist producers of cellulosic and other advanced biofuels.[46] The desire to encourage more renewable fuel use is also reflected in more recent rulemakings qualifying additional production pathways for advanced biofuels.[47]

V. EPA's Current Rulemaking

The current rulemaking process to set the RFS for a series of years beginning with 2014 exposes the point at which EPA's administrative efforts can no longer be exercised to meet the volume goals set forth by statute. In the current rulemaking, the Agency develops a different approach to promulgating the annual standard. EPA explicitly telegraphed its modified approach when it set the standard for 2013. The 2013 RFS was published that August.[48] Despite express concern about the blend wall and the rising price of transportation fuel, EPA continued to hold the volumetric line on all but the cellulosic standard.[49] However, EPA recognized that it had reached the limits of the program and was essentially buying one more year without meaningful adjustments across the entire spectrum of fuels.[50] Future standards would be set differently.[51] At that point, "it becomes more likely that the volume of ethanol that must be consumed to meet [RFS program] requirements will exceed the volume that can be consumed as E10."[52]

EPA originally published the proposed 2014 standard in November 2013.[53] For the first time, EPA proposed significantly scaled-back volumes not only for cellulosic biodiesel, but also for advanced renewable and total renewable fuel.[54] As in prior rulemakings, EPA exercised its waiver authority to lower the cellulosic standard because cellulosic biofuels are still not mass-produced. However, to justify lowering the advanced biofuel and total renewable fuel numbers, EPA also relied upon the program's general waiver authority. By then, EPA had been convinced that the statutory requirements are no longer achievable primarily due to what it considers to be an effective lack of supply.[55]

The original proposed 2014 standard generated a flurry of input from many stakeholder groups.[56] Due to EPA's first-time use of the program's general waiver authority and the large number of public comments, EPA was forced to withdraw its proposal and announce a delay in issuing the final rule. In the formal delay notification, EPA recognized the controversy stirred up by its new approach, and stated that it was evaluating its waiver authority in service of the enabling legislation's policy goals to increase the use of renewable fuels and diversify the nation's fuel supply.[57] While EPA did not then specify when it would complete the current standard and, with

43. *Id.* at 190 (Kavanaugh, J., dissenting).
44. 40 C.F.R. §80.1401.
45. *See* Regulation of Fuels and Fuel Additives: Modifications to Renewable Fuel Standard Program, Direct Final Rule, 78 Fed. Reg. 62462 (Oct. 22, 2013).
46. *Id.* at 62465.
47. *See, e.g.*, Regulation of Fuels and Fuel Additives: RFS Pathways II, and Technical Amendments to the RFS Standards and E15 Misfueling Mitigation Requirements, Final Rule, 79 Fed. Reg. 42128 (July 18, 2014).
48. Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards, Final Rule, 78 Fed. Reg. 49794 (Aug. 15, 2013) [hereinafter 2013 RFS Standard].
49. While EPA exercised its waiver authority under §211(o)(7)(D) to lower the cellulosic biofuel standard from the statutorily mandated one billion gallons to six million ethanol equivalent gallons, it kept the advanced biofuel and total RFS at 2.75 billion gallons and 16.55 billion gallons, respectively, as set forth in the statute. *See id.* at 49797-98.
50. EPA relied upon the availability of carryover RINs, the potential for expanded use of higher ethanol blends such as E15 and E85, and advanced fuel imports derived from Brazilian sugarcane. *See id.* at 49822.
51. As EPA stated:

> Given the history of the market and relevant constraints, EPA does not currently foresee a scenario in which the market could consume enough ethanol sold in blends greater than E10, and/or produce sufficient volumes of non-ethanol biofuels (biodiesel, renewable diesel, biogas, etc.), to meet the volumes of total renewable fuel and advanced biofuel stated in the statute.

Id. at 49823.
52. *Id.*
53. *See* 2014 Standards for the Renewable Fuel Standard Program, Proposed Rule, 78 Fed. Reg. 71732 (Nov. 29, 2013) [hereinafter Original Proposed 2014 RFS Standard].
54. The statutorily mandated volumes and EPA's original proposed volume requirements for the 2014 RFS compliance year are set forth in the Original Proposed 2014 RFS Standard at 71734.
55.

> We are proposing to use a combination of the cellulosic biofuel waiver authority and the general waiver authority to ensure that the proposed volumes are reasonably achievable given limitations in the volume of ethanol that can be practically consumed in motor vehicles considering constraints on the supply of higher ethanol blends to the vehicles that can use them and other limits on ethanol blend levels approved for use in motor vehicles.

Id. at 71754.
56. The docket contains close to 9,000 substantive comments (out of more than 340,000 total comments) from diverse interests such as corn growers, poultry and livestock farmers, refiners, oil and gasoline producers, fuel terminal operators, environmental groups, and biodiesel and advanced renewable fuel producers. The docket for the proposed rule, No. EPA-HQ-OAR-2013-0479; RFL-9900-90-OAR, can be found at www.regulations.gov.
57. *See* Delay in Issuing 2014 Standards for the Renewable Fuel Standard Program, 79 Fed. Reg. 73007, 73008 (Dec. 9, 2014).

it, the framework for future standards, a subsequent proposed consent decree in a case challenging the delay put the Agency on the clock.[58]

EPA circulated its refreshed proposed rulemaking for the current RFS on May 29, 2015.[59] The new administrative proposal differs from the original proposal in a number of important respects. To catch up with the applicable time frame for setting annual standards, the updated rulemaking proposes standards not only for 2014 (which has already concluded), but for 2015, 2016, and for biomass-based diesel, 2017 as well. In a meaningful nod to proponents of advanced renewable fuels, EPA makes substantial upward adjustments from its original proposal on advanced biofuels, biomass-based diesel, and cellulosic biofuel. While the proposed standard for cellulosic biofuel remains a mere fraction of the statutory number, the increase from EPA's original proposal is dramatic, starting at close to double the original proposal (going from 17 million gallons to 33 million gallons) and rising tenfold to 206 million gallons within two years. EPA also increases the required use of total renewable fuel to levels that could challenge the E10 blend wall in 2016. The two tables set forth below compare the volumes as required by statute to the volumes proposed by EPA for the periods covered by the updated rulemaking.

Applicable Statutory Volumes

Fuel Type	2014	2015	2016	2017
Cellulosic Biofuel	1.75	3.0	4.25	n/a
Biomass-Based Diesel	At least 1.0	At least 1.0	At least 1.0	At least 1.0
Advanced Biofuel	3.75	5.50	7.25	n/a
Renewable Fuel	18.15	20.5	22.25	n/a

EPA Proposed Volumes

Fuel Type	2014	2015	2016	2017
Cellulosic Biofuel	33 mill. gals.	106 mill. gals.	206 mill. gals.	n/a
Biomass-Based Diesel	1.63	1.70	1.80	1.90
Advanced Biofuel	2.68	2.90	3.40	n/a
Renewable Fuel	15.93	16.30	17.40	n/a

Note: Unless otherwise indicated, volumes are in billions of gallons. Volumes also are expressed in ethanol-equivalent terms, except for biomass-based diesel, which is actual.

Although EPA continues its attempts to keep the program on a growth path, calling its efforts "directionally consistent" with congressional intent,[60] it nevertheless reaffirms that the statutory targets cannot be met.[61] Consequentially, EPA has decided that, rather than try to meet the law's principal mandates, it will be forced to exercise its waiver authority year after year for the foreseeable future.[62] In application, EPA will interpret the practical effects of the blend wall and, coupled with its view of the maximum potential production of advanced biofuels such as cellulosic, will determine the maximum achievable volume of renewable fuel that can be absorbed by the transportation sector during a given compliance year in light of supply constraints.[63]

This exercise flips the preexisting process for setting the annual standard. Absent waiver, the statute directs EPA to accept the mandated volumes for the various categories of renewable fuels and apply those volumes to arrive at an annual blending percentage. The Agency now proposes to use its waiver authority to determine what percentage of total renewable fuels can be absorbed into traditional fuel and supplied to the market. From there, EPA would determine what volumes of renewable fuel can be used under the program to set the annual percentage standards. In effect, the fuel standard is reverse-engineered.

Viewed as a whole, up to and including the 2013 fuel standard, EPA has met its statutory obligation to rapidly expand the use of renewable fuels even where market forces and macroeconomic conditions would conspire against its efforts. The standard for 2014 and beyond illustrates that market forces have finally caught up with the initial policy goals of the program. Whereas economic arguments in favor of scaling back the program have not held sway in the past, the physical limits of fuel production and supply now cannot be overcome. As stated by the Agency, "[T]he challenge EPA faces in developing this proposal is increasing renewable fuels over time to address climate

58. Under the proposed consent decree, EPA agreed to: (1) issue a notice of proposed rulemaking setting the 2015 standards by June 1, 2015; and (2) issue a final rule setting both the 2014 and 2015 standards no later than November 30, 2015. *See* Notice of Lodging of Consent Decree, American Fuel & Petrochem. Mfrs. v. McCarthy, No. 1:15-cv-394 (D.D.C. Apr. 10, 2015). EPA announced on its website that it would also issue the 2016 standards, and the 2017 biodiesel standard under the same time line as set forth in the settlement agreement.

59. *See* Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, Proposed Rule (submitted for publication on May 29, 2015) [hereinafter Updated Proposed 2014 RFS Standard]. As this Article went to press, the updated proposed rule had not yet been published in the *Federal Register*. A pre-publication version is located on EPA's website at http://www.epa.gov/otaq/fuels/renewablefuels/documents/rfs-2014-2016-standards-nprm.pdf. Once published, the official version will appear on www/regulations.gov in Docket No. EPA-HQ-OAR-2015-0111.

60. EPA Proposes Renewable Fuel Standards for 2014, 2015, and 2016, and the Biomass-Based Diesel Volume for 2017, Regulatory Announcement, EPA-420-F-15-028 at 2 (May 2015), *available at* http://www.epa.gov/otaq/fuels/renewablefuels/documents/420f15028.pdf [hereinafter EPA 2015 Regulatory Announcement].

61. *See id.*

62. In coordination with EPA's updated proposed RFS, the U.S. Department of Agriculture announced $100 million in funding for clean energy infrastructure to encourage the distribution of higher ethanol blends such as E15 and E85. *See* USDA Fact Sheet: USDA Invests in Clean Energy Economy, Supporting U.S. Producers and Seeking to Double Number of Higher Blend Renewable Fuel Pumps Available to Consumers, USDA Release No. 0157.15 (May 29, 2015), http://www.usda.gov/wps/portal/usda/usdahome?contentid=2015/05/0156.xml&contentidonly=true.

63. *See* Updated Proposed 2014 RFS Standard at 40. *See also* EPA 2015 Regulatory Announcement at 2. As expressed by EPA, "Our objective . . . is to set the volume requirements at the boundary between an adequate domestic supply and an 'inadequate domestic supply.'" Updated Proposed 2014 RFS Standard at 39.

change and increase energy security while also accounting for the real-world limitations that have slowed progress towards such goals . . . ."[64] The Agency has concluded that it is not feasible to meet its volume goals given both anemic production numbers for advanced biofuels and the practical limitations to delivering higher levels of conventional ethanol to the consumer. Even though ethanol continues to be manufactured in sufficient amounts to meet the program requirements, the blend wall prevents its expanded use as a transportation fuel.

The policy dilemma identified by the current rulemaking is not simply that Congress predicated the law on a series of inaccurate forecasts in a complex and rapidly changing energy market. Rather, the upshot is that in order to address fluid market conditions, EPA itself may end up repeatedly reinterpreting the policy even as it attempts to honor the program's broad statutory goals.[65]

VI. Congressional Activity

Members of Congress from both parties have been considering reform for a number of years. And although Congress thus far has taken a wait-and-see approach, a growing recognition of the practical constraints upon meeting the statutory goals despite EPA's past efforts, coupled with the Agency's repeated inability to set the annual standards in a timely fashion, is increasing the calls for a legislative fix.

Over the past several years, there have been many committee hearings, and no fewer than 16 separate pieces of legislation addressing the Renewable Fuel Program have been introduced. In prior sessions, some of the legislation sought to strengthen the uses of conventional, corn-based ethanol,[66] while competing legislation sought to phase out corn-based ethanol completely.[67] Other bills focused primarily on cellulosic and other advanced biofuels.[68] Still other proposals focused upon discrete areas of the program[69] or would repeal it entirely.[70] These attempts illustrate how the scale and scope of the Renewable Fuel Program cuts across a variety of interests and constituencies. Involved stakeholders include traditional fossil fuel groups, ethanol manufacturers, biodiesel and advanced biofuel groups, farmers, agriculture and food groups, as well as environmentalists. Many of these interests defy conventional party affiliations and line up more closely with regional economies.

Early legislation introduced in the current Congress seeks to address the very same issues that EPA is attempting to handle through the current rulemaking. Sens. Jeff Flake (R-Ariz.) and Mike Crapo (R-Idaho) have introduced the Phantom Fuel Reform Act. This act would abandon the aggressive promotion of cellulosic biofuels and base the annual cellulosic biofuel standard on actual production numbers.[71] Sens. Dianne Feinstein (D-Cal.) and Mike Toomey (R-Pa.) have introduced the Corn Ethanol Mandate Elimination Act of 2015, which would abolish entirely the corn ethanol mandate while maintaining the volumetric standards for both cellulosic and advanced biofuel. These senators believe the original program is no longer workable and will lead to higher food and fuel costs. Moreover, they believe that the problems associated with the ethanol blend wall distract from development of more advanced renewable fuels, such as biodiesel and cellulosic, that have the potential for greater greenhouse gas emissions reductions.[72] While this bill currently has no counterpart in the U.S. House of Representatives, draft legislation on that side of the Hill would both prohibit gasoline blends greater than 10% ethanol by volume (that is, the blend wall) and limit the cellulosic biodiesel requirement to estimates of actual annual production.[73] An alternative bill introduced by many of the same House co-sponsors would simply repeal the program.[74]

Legislation is not likely to move forward while EPA continues its work on the current standards. However, lawmakers are carefully following the timing and substance of the rulemaking.[75] Any legislative action would

64. Updated Proposed 2014 RFS Standard at 6.
65. The statute contemplates the possibility that EPA may need to modify the volumes set forth therein. Under CAA §211(o)(7)(F), 42 U.S.C. §7545(o)(7)(F), if EPA waives a statutory volume for a particular fuel type by greater than 20% for two successive years, or by greater than 50% in any single year, it shall modify the applicable volumes for all future years beginning in 2016.
66. *See* Leave Ethanol Volumes at Existing Levels Act (LEVEL Act), H.R. 424, 112th Cong. (2011); Securing America's Future With Energy and Sustainable Technologies Act (SAFEST Act), S. 559, 112th Cong. (2011).
67. *See* Renewable Fuel Standard Amendments Act, H.R. 1482, 113th Cong. (2013); RFS Reform Act of 2013, H.R. 1462, 113th Cong. (2013). A separate approach set forth in the Renewable Fuel Standard Flexibility Act, H.R. 3097, 112th Cong. (2011), would give EPA some additional flexibility in setting the ethanol mandate based upon existing market conditions in the agriculture sector.
68. *See* H.R. 1149, 112th Cong. (2011); Renewable Fuel Parity Act of 2011, S. 1564, 112th Cong. (2011); Foreign Fuels Reduction Act, S. 977, 113th Cong. (2013); Phantom Fuel Reform Act of 2013, H.R. 550, 113th Cong. (2013); S. 1085, 112th Cong. (2011); H.R. 796, 113th Cong. (2013).
69. *See* Domestic Alternate Fuels Act of 2012, H.R. 3773, 112th Cong. (2012) (qualifying natural gas as a renewable fuel); Stop RIN Fraud Act of 2012, H.R. 6444, 112th Cong. (2012) (seeking to establish an RIN certification program).
70. *See* Renewable Fuel Standard Repeal Act, S. 1195, 113th Cong. (2011); Renewable Fuel Standard Elimination Act, H.R. 3098, 112th Cong. (2011); Remove Incentives for Producing Ethanol Act of 2011 (RIPE Act), H.R. 426, 112th Cong. (2011).
71. Phantom Fuel Reform Act, S. 934, 114th Cong. (2015).
72. Corn Ethanol Mandate Elimination Act of 2015, S. 755, 114th Cong. (2015). *See also* Press Release, Sen. Dianne Feinstein, Feinstein, Toomey Introduce Bill to Repeal Ethanol Mandate (Feb. 26, 2015), http://www.feinstein.senate.gov/public/index.cfm/2015/2/toomey-feinstein-introduce-bill-to-repeal-ethanol-mandate.
73. RFS Reform Act of 2015, H.R. 704, 114th Cong. (2015).
74. Renewable Fuel Standard Elimination Act, H.R. 703, 114th Cong. (2015). While no repeal legislation has been introduced in the Senate, Sen. James Inhofe (R-Okla.), chair of the Environment and Public Works Committee, remains a vocal critic of the program and has called for its full repeal.
75. A bipartisan group of 32 senators in a letter to EPA formally expressed concern over how the rulemaking delay impacts the biomass-based diesel market. *See* Letter from Sen. Heidi Heitkamp et al., to EPA Administrator Gina McCarthy (Feb. 9, 2015). Sen. Heidi Heitkamp (D-N.D.) followed up with another letter when EPA announced the settlement. "Should the EPA stick to its newly proposed timeline . . . it will be almost a full three years late in setting biodiesel volumes. This delay has caused serious harm to biodiesel producers. . . ." Letter from Sen. Heitkamp, to EPA Administrator Gina McCarthy (Apr. 14, 2015). *See* Press Release, Sen. Heidi Heitkamp, Heitkamp Presses EPA, New Timeline on Production Levels Continues Unacceptable Delays (Apr. 14, 2015), http://www.heitkamp.senate.gov/pub-

provide an opportunity for lawmakers to reconsider the original policy goals in light of the energy landscape of today, which differs significantly and on many points from the one that existed when the law was originally enacted. This legislative opportunity, however, engenders the risk that some of those goals might be reshuffled in the process. For example, the infrastructure-related constraints to increasing blends of conventional renewables as fuel, EPA's concession to the blend wall as a practical impediment to the program, the statutory limitations to its regulatory authority to address the issue, and some recent legislative proposals, all reflect some momentum for reconsidering ethanol's place in the program.

Elsewhere, EPA's regulatory actions on fuel pathways, coupled with draft legislation related to cellulosic biofuel, reflect continued support for advanced biofuels, but in a method that is feedstock-neutral and with a focus more clearly fixed on lowering greenhouse gas emissions. There has been no lack of suggested revisions to the program.[76] More fundamentally than any individual policy recommendation, Congress may decide to revise the program lest the Agency be forced to do it administratively.

VII. Conclusion

Since the advent of the Renewable Fuel Program in 2005, EPA has exercised its regulatory authority in an attempt to honor the policy goals reflected in the program's statutory design. But EPA is running short on administrative levers. The current rulemaking setting the RFS for 2014 and beyond represents a critical juncture in the evolution of the program. It marks the point at which the practical realities of the transportation fuel market have caught up with many of the program's more ambitious policy aspirations. It also marks the point at which EPA will be forced to take the lead in reinterpreting the broad contours of those aspirations. Regardless of how the current rulemaking plays out, policymakers will need to decide whether EPA is best positioned to fulfill that responsibility or whether Congress should step back in.

lic/index.cfm/2015/4/heitkamp-presses-epa-new-timeline-on-production-levels-continues-unacceptable-delays.

76. In a December 2014 report, the Bipartisan Policy Center, a nongovernmental organization, discusses a series of regulatory and legislative policy options for modifying the Renewable Fuel Program that recognizes the difficulty in forging consensus. Although the authors see great value in a legislative overhaul, they also point to risks inherent in opening up the law for a refreshed comprehensive debate. *See* Bipartisan Pol'y Ctr., *Options for Reforming the Renewable Fuel Standard*, http://bipartisanpolicy.org/library/options-for-reforming-the-renewable-fuel-standard/. An April 2015 paper discusses in depth the economic inefficiencies in the evolving program as well as the economic implications of certain policy changes. *See* James H. Stock, *The Renewable Fuel Standard: A Path Forward*, Columbia Univ. Ctr. for Global Energy Pol'y (2015), http://energypolicy.columbia.edu/on-the-record/renewable-fuel-standard-path-forward/.