Rethinking Economic Hardship: The Importance of Market Dynamics in Small Refinery Exemptions to the Renewable Fuel Standard Program

INTRODUCTION

The Environmental Protection Agency (EPA) plays a central role in balancing clean air protections with the economic pressure that comes with changing market structures. It also must use its research and expertise to shape that balance in light of the modern climate crisis. In *Sinclair Wyoming Refinery Co. v. EPA* (*Sinclair*), the Court of Appeals for the District of Columbia Circuit assessed this balance under the Clean Air Act (CAA) and its Renewable Fuel Standard program (RFS), which requires the EPA to balance its interest in reducing fossil fuels with its interest in preventing disproportionate economic hardship on regulated entities.[1]

The RFS program requires refiners (and importers) to meet annual renewable fuel requirements set by the EPA.[2] Each year, regulated entities must obtain and retire enough credits that represent renewable fuels, called "Renewable Identification Numbers" (RINs), to satisfy the EPA's mandatory renewable fuel volume targets for each category.[3] When enacting the RFS program, Congress created a blanket exemption for small refineries, and those exemptions can be extended upon a showing that compliance creates a disproportionate economic hardship on a particular refinery.[4]

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1. *See* 114 F.4th 693 (D.C. Cir. 2024).

2. *Overview of the Renewable Fuel Standard Program*, EPA (last updated May 7, 2025), https://www.epa.gov/renewable-fuel-standard/overview-renewable-fuel-standard-program [hereinafter RFS Overview]. Under the RFS program, "renewable fuel" falls into four categories: (1) biomass-based diesel, (2) cellulosic biofuel, (3) advanced biofuel, and (4) total renewable fuel. *Id.*

3. *Id.* According to the EPA, "RINs are generally generated when a producer makes a gallon of renewable fuel." In addition to producing renewable fuel, refiners can trade for RINs (including by trading with parties not regulated by the RFS program) or by purchasing RINs. *Id.* A RIN is "retired" when the renewable fuel has been blended with non-renewable fuel and then used to demonstrate compliance. *See Renewable Identification Numbers (RINs) under the Renewable Fuel Standard Program*, EPA (last updated Jan. 17, 2025), https://www.epa.gov/renewable-fuel-standard/renewable-identification-numbers-rins-under-renewable-fuel-standard-program.

4. 42 U.S.C. § 7545(o)(1)(K), (o)(9)(A)(i).

The D.C. Circuit opinion emphasized the court's reluctance to deviate from traditional metrics for assessing disproportionate economic hardship.[5] However, traditional metrics fail to encompass changing circumstances. As new market information emerges regarding how refineries manage RFS compliance, EPA decision making should reflect updated market research. EPA decision making that reflects new research on RIN market dynamics and RFS compliance will allow the agency to better enforce the congressionally intended balance between increasing the national renewable fuel supply and preserving the important economic value of small refineries.

First, this In Brief summarizes the CAA's RFS program and small refinery exemptions, market research on RIN compliance, relevant case law, and the standard of review under the Administrative Procedure Act (APA). Second, it summarizes the D.C. Circuit's decision in *Sinclair*. Finally, it critiques the existing metric for assessing disproportionate economic hardship and suggests areas to integrate theories on RIN market dynamics into decision making on small refinery exemption applications. Ultimately, the EPA should have the power to utilize current market trends, specifically RIN cost passthrough theory, in its decision to grant or deny RFS exemptions.

I. BACKGROUND

A. The Clean Air Act and Renewable Fuel Standard Program

Congress amended the CAA in 2005 and 2007 to add the RFS program, which requires oil refineries and importers to introduce renewable fuels into the nation's energy supply.[6] The EPA sets annual renewable fuel requirements in four renewable fuel categories, and refiners must meet these annual standards by obtaining the set number of RIN credits, which are "attach[ed] to a gallon of renewable fuel and must be sold with that gallon of renewable fuel for which it was generated."[7] Refiners can obtain a sufficient number of RIN credits in each fuel category by either blending renewable fuels into fossil fuels that are sold at gas stations or by purchasing RIN credits to comply with the EPA's annual standards.[8] Courts have interpreted the RFS program's overall goal to be

5. *Sinclair*, 114 F.4th at 703 (focusing on the EPA's use of the DOE matrix to make compliance decisions).

6. 42 U.S.C. § 7545(o). Congress created the RFS program under the Energy Policy Act of 2005 and expanded the RFS program under the Energy Independence and Security Act of 2007. RFS Overview, *supra* note 2.

7. DALLAS BURKHOLDER, A PRELIMINARY ASSESSMENT OF RIN MARKET DYNAMICS, RIN PRICES, AND THEIR EFFECTS 5 (2015) [hereinafter BURKHOLDER STUDY]; *see* RFS Overview, *supra* note 2.

8. *See* RFS Overview, *supra* note 2.

increasing the production of clean renewable fuels and moving the United States towards greater reliance on clean energy.[9]

When it first enacted the RFS program, Congress created three categories of exemptions for small refineries, originally defined as refineries that produce on average less than 75,000 barrels of fuel per day.[10] First, Congress provided a blanket exemption for all small refineries until 2011.[11] Second, Congress required the EPA to extend the blanket exemption for any small refinery for at least two years if the Department of Energy (DOE) determined that the refinery would suffer a disproportionate economic hardship if required to comply with the RFS program.[12] Third, Congress provided that a small refinery may petition the EPA at any time for an extension of its exemption "for reason of disproportionate economic hardship."[13]

In order to fulfill Congress's mandate in the second category of exemptions, the DOE released a study in 2011 that included a scoring matrix to assess whether a small refinery would experience disproportionate economic hardship by complying with the RFS program.[14] The matrix uses two metrics to determine disproportionate economic hardship: "high cost of compliance relative to the industry average" and "significant impairment of [ ] refinery operations" caused by the cost of compliance.[15] Until the Denial Actions at issue in *Sinclair*, the EPA maintained a longstanding practice of utilizing the DOE matrix to make exemption decisions, "nearly always grant[ing] hardship relief when DOE's scoring matrix recommended it."[16]

B. The Burkholder Study and The Knittel Study

In 2015, the EPA released its own research regarding RIN market dynamics, known as the Burkholder Study.[17] The study found that the retail price of gasoline and diesel was higher where refineries fulfilled RIN obligations, suggesting that refineries pass the full cost of obtaining RINs to consumers in

9. *See, e.g.*, *Sinclair*, 114 F.4th at 701 ("To achieve the goals of the RFS program, Congress requires refineries and other obligated parties to meet . . . 'mandatory and annually increasing quantities of renewable fuels that must be "introduced into commerce in the United States" each year.'").

10. *Id.* at 702; 42 U.S.C. § 7545(o)(1)(K), (o)(9)(A)(i).

11. *Sinclair*, 114 F.4th at 702; 42 U.S.C. § 7545(o)(9)(A)(i).

12. *Sinclair*, 114 F.4th at 702; 42 U.S.C. § 7545(o)(9)(A)(ii). The DOE was also required to conduct a study to "to determine whether compliance with the [RFS program] would impose a disproportionate economic hardship on small refineries." 42 U.S.C. § 7545(o)(9)(A)(ii)(I).

13. *Sinclair*, 114 F.4th at 702; 42 U.S.C. § 7545(o)(9)(B)(i).

14. *Sinclair*, 114 F.4th at 703; U.S. DEP'T OF ENERGY, OFF. OF POL'Y & INT'L AFFS., SMALL REFINERY EXEMPTION STUDY: AN INVESTIGATION INTO DISPROPORTIONATE ECONOMIC HARDSHIP 32-37 (2011), https://www.epa.gov/sites/default/files/2016-12/documents/small-refinery-exempt-study.pdf [hereinafter DOE SMALL REFINERY EXEMPTION STUDY].

15. *Sinclair*, 114 F.4th at 703 n.4; DOE SMALL REFINERY EXEMPTION STUDY, *supra* note 14, at 3.

16. *Sinclair*, 114 F.4th at 703.

17. *See generally* BURKHOLDER STUDY, *supra* note 7.

the price of fuel.[18] This phenomenon is called the "RIN cost passthrough theory."[19] The EPA first incorporated the findings of the Burkholder Study into its small refinery exemption decisions in 2016 and 2017, at issue in the Tenth Circuit opinion in *Renewable Fuels Association v. EPA*, discussed below.[20] The Burkholder Study and RIN cost passthrough theory were crucial justifications for the EPA's 2022 denial actions that were at issue in *Sinclair*.[21]

The findings of the Burkholder Study were reinforced in the Knittel Study, which "complement[ed] the analysis in Burkholder" by utilizing a "longer data set" and "econometric methods" to examine the extent of RIN passthrough and the overall dynamics of the RIN market.[22] The Knittel Study found that 73 percent of the change in RIN prices are passed on to consumers in the same day, and 98 percent of the change in cost is passed on after two business days.[23] Thus, petroleum refiners can effectively "recoup the cost of RINs," leading the Knittel Study researchers to conclude that "concerns that petroleum refiners bear the burden of the RFS appear to be unjustified. . .."[24]

C. Small Refinery Exemption Precedent

In addition to the analysis of RIN cost passthrough theory in the Burkholder Study and the Knittel Study, two past cases influenced the EPA's decision to reject the small refinery exemption applications at issue in *Sinclair*. These cases also provide a helpful foundation to understand the D.C. Circuit's reasoning in overruling the EPA's denial of these exemption applications.

1. Renewable Fuels Association v. EPA

The Tenth Circuit reviewed challenges to the EPA's decision to grant certain hardship exemptions for three small refineries in 2016 and 2017.[25] The Tenth Circuit vacated the EPA's orders granting exemption petitions based on three main holdings.[26] First, a small refinery was only eligible for an "extension" of an exemption if it received continuous exemptions from the beginning of the

18. *Id.* at 3.

19. *Sinclair*, 114 F.4th at 703.

20. *See id.* at 704.

21. *See id.* at 704-05.

22. CHRISTOPHER R. KNITTEL, BEN S. MEISELMAN & JAMES H. STOCK, THE PASS-THROUGH OF RIN PRICES TO WHOLESALE AND RETAIL FUELS UNDER THE RENEWABLE FUEL STANDARD, J. ASS'N ENV'T & RES. ECONOMISTS 1081, 1083 (2017). [hereinafter KNITTEL STUDY].

23. *Id.* at 1116.

24. *Id.* at 1118. While the Knittel Study did find a general trend of passthrough for RFS compliance costs, the study also noted a "near absence of passthrough" in national retail prices for E85, a category of renewable fuel that contains up to 83 percent ethanol. *Id.* at 1081, 1118.

25. Renewable Fuels Ass'n v. EPA, 948 F.3d 1206 (10th Cir. 2020).

26. *Id.* at 1258; *see also Sinclair*, 114 F.4th at 703-04 (summarizing the Tenth Circuit's holding in *Renewable Fuels Ass'n*).

RFS program.[27] Second, the EPA went "outside the scope of [its] statutory authority" by granting exemptions "based at least in part on hardships not caused by RFS compliance. . .."[28] Third, the EPA erred by failing to consider "the possibility of RIN cost recoupment" when analyzing economic hardship applications and the burden created by compliance, despite EPA's knowledge of the Burkholder Study.[29]

Under the Tenth Circuit's interpretation, the EPA did not adequately analyze the possibility of RIN cost recoupment by failing to consider that small refineries could pass costs on to consumers.[30] The Supreme Court explicitly reversed the first holding (regarding continuous exemptions) in its opinion in *HollyFrontier Cheyenne Refinery v. Renewable Fuels Association*, discussed below, but the Supreme Court did not address the scope of hardships that may be considered or the effect of RIN cost passthrough theory on the EPA's decision making.[31] Although the Supreme Court did not overrule all of *Renewable Fuels Association v. EPA*, the Tenth Circuit vacated its entire decision following the Supreme Court's ruling.[32] Although no longer good law, the Tenth Circuit ruling informed the EPA's analysis of economic hardship for small refinery exemptions following the release of the opinion in 2020, specifically by influencing the EPA to include RIN cost passthrough theory in its decisions on small refinery exemption applications.[33]

2. HollyFrontier Cheyenne Refinery v. Renewable Fuels Association

In *HollyFrontier Cheyenne Refinery*, the Supreme Court held that the Tenth Circuit erred in reading the CAA as requiring continuous qualification for exemption to the RFS program.[34] The Court interpreted the meaning of "extension" in the CAA as allowing small refiners to qualify for RFS exemptions even where there was a temporary lapse in exemption for certain compliance years.[35] Thus, so long as a small refinery qualified for Congress's initial blanket exemption, the small refinery can receive an extension of that exemption even if its eligibility for exemption lapsed for a few years.[36]

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27. *Renewable Fuels Ass'n*, 948 F.3d at 1245-49 ("[A] small refinery which did not seek or receive an exemption in prior years is ineligible for an extension, because at that point there is nothing to prolong, enlarge, or add to.").

28. *Id.* at 1254.

29. *Id.* at 1256.

30. *Id.* at 1257.

31. HollyFrontier Cheyenne Refinery v. Renewable Fuels Ass'n, 594 U.S. 382, 399 (2021); *Sinclair*, 114 F.4th at 704.

32. *See Renewable Fuels Ass'n v. EPA*, 2021 WL 8269239 (July 27, 2021) (order vacating the court's 2020 judgment following the Supreme Court's reversal).

33. *Sinclair*, 114 F.4th at 704.

34. *HollyFrontier Cheyenne Refinery*, 594 U.S. at 399.

35. *Id.* at 390.

36. *Id.* at 389-90.

D. Review under the Administrative Procedure Act

The Administrative Procedure Act (APA) empowers a reviewing court to "hold unlawful and set aside agency actions, findings, and conclusions" that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[37] Agencies are required to "examine the relevant data and articulate a satisfactory explanation for [their] action."[38] Courts consider whether the agency "offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."[39] In *Sinclair*, affected small refineries challenged the EPA's denial of exemptions from RFS program requirements as contrary to law and arbitrary and capricious.[40]

II. CASE SUMMARY

In 2022, the EPA denied all pending small refinery exemptions to the RFS program, concluding that small refineries passed the cost of compliance on to consumers and thus small refineries did not suffer economic hardship by complying with renewable fuel standards.[41] The EPA acknowledged that the 2022 Denial Actions were a change from its reliance on the DOE matrix, so it provided alternative ways for affected small refineries to comply with RFS requirements.[42]

Subsequently, several small refineries challenged the denials under the APA as arbitrary and capricious and contrary to law.[43] Fifteen of the petitioners filed petitions for review in the circuit where their refineries were located, and most circuits concluded that the case should be brought in the D.C. Circuit.[44] However, the Fifth Circuit rendered a decision on the merits.[45] Notwithstanding the consolidation of cases from other circuits, this case was brought directly to the United States Court of Appeals for the District of Columbia Circuit with no lower court proceedings.[46]

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37. 5 U.S.C. § 706(2)(A).

38. Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 30 (1983).

39. *Id.* at 43.

40. Sinclair Wyoming Refinery Co. v. EPA, 114 F.4th 693, 700 (D.C. Cir. 2024).

41. *Id.*

42. *Id.* The EPA allowed small refiners who had exemption petitions declined to comply with RFS obligations by "excusing the small refineries from buying and submitting compliance credits for certain years." *Id.*

43. *Id.*

44. *Id.* at 705.

45. *See* Calumet Shreveport Refin., LLC v. EPA, 86 F.4th 1121 (5th Cir. 2023) (denying the EPA's motion to transfer venue to D.C. Circuit and holding that the EPA's 2022 denial of small refinery fuel exemptions was arbitrary and capricious), *vacated*, 145 S. Ct. 1735 (2025). The Supreme Court granted certiorari and determined that the D.C. Circuit was the proper venue. EPA v. Calumet Shreveport Refin., LLC, 605 U.S. 627, 647 (2025).

46. *Sinclair*, 114 F.4th at 705.

There are six holdings from the D.C. Circuit's opinion. First, and most importantly for this analysis, the D.C. Circuit held that the 2022 Denial Actions were both arbitrary and capricious and contrary to law.[47] The court reasoned that denying the exemptions was opposite the EPA's prior posture in granting exemptions where the DOE matrix demanded, with no explanation for the EPA's change in approach.[48] The court found the EPA's assumption that ratable RIN purchases were consistently available to small refineries was not supported by evidence.[49] And, similar to the Fifth Circuit's holding in its decision on the merits,[50] the D.C. Circuit found that the EPA failed to support its assumption that RIN prices are immediately passed through to refineries' customers.[51] The court vacated all Denial Actions except for those issued to Company A and Company B, who were ineligible for the exemption on other grounds.[52]

Second, the court upheld the EPA's denial of a hardship petition for Company A on the grounds that small refineries must have sought and received the initial blanket exemptions and submitted a correct verification letter, and Company A failed to do so.[53] Third, EPA denied Company B's hardship petition, and the D.C. Circuit held that EPA's explanation for that denial was reasonable.[54] For the denial of both Company A and Company B, the court held that the "mere fact that an agency 'modif[ies] existing law' is not enough to justify withholding its new ruling's effect on parties to the agency adjudication."[55]

Fourth, the D.C. Circuit dismissed Growth Energy's petition challenging the alternative methods of compliance that the EPA provided to small refineries who had their exemption denied in 2022.[56] Fifth, the court dismissed Sinclair Wyoming Refinery Company's complaint against the EPA for denying alternative means of RFS compliance and RIN reissuance.[57] Sixth, the D.C.

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47. *Id.* at 711.

48. *See id.* at 714.

49. *Id.* at 713.

50. *Calumet Shreveport Refin.*, 86 F.4th at 1140 ("We agree that EPA's RIN-passthrough theory is contrary to the evidence.").

51. *Sinclair*, 114 F.4th at 714.

52. *Id.* at 700.

53. *Id.* at 717. The court held that Company A could have raised a timely challenge to the verification letter requirement, but it did not and complied with renewable fuel requirements in 2008, 2009, and 2010, so it can no longer bring a challenge. *Id.* at 717-18.

54. *Id.* at 718.

55. *Id.* at 720 (quoting Dist. Lodge 64 v. NLRB, 949 F.2d 441, 447 (D.C. Cir. 1991)).

56. *Sinclair*, 114 F.4th at 701. Growth Energy describes itself as the "leading biofuel trade association in the country" with a base that "represents nearly half of all American biofuel plants." GROWTH ENERGY, https://growthenergy.org (last visited Mar. 20, 2025). Growth Energy claimed the alternative compliance methods reduced the demand for renewable fuels, constituting an injury to its members who constitute a large market share of the renewable fuel industry, but the court held that it failed to establish associational standing because it did not show that "its members would otherwise have standing to sue in their own right." *Sinclair*, 114 F.4th at 721-22.

57. *Sinclair*, 114 F.4th at 724. Sinclair Wyoming Refinery is a refinery owned by the HF Sinclair Corporation that serves the Rocky Mountain region. *Sinclair, WY (Parco)*, HF SINCLAIR, https://www.hfsinclair.com/operations/facilities/us/sinclair-wy-parco/default.aspx (last visited Mar. 20,

Circuit dismissed Wynnewood Refining Company's petition because it did not challenge a final agency action.[58]

III. ASSESSING "DISPROPORTIONATE ECONOMIC HARDSHIP"

The small refinery exemption to the RFS program provides that small refineries can petition for an exemption if compliance would pose a "disproportionate economic hardship on small refineries."[59] The D.C. Circuit's reasoning in *Sinclair* focused on the EPA's deviation from the DOE scoring matrix in favor of RIN cost passthrough theory when making economic hardship determinations for small refinery fuel exemptions, which the D.C. Circuit found was "not adequately support[ed]."[60] The EPA's change in approach and subsequent Denial Actions were a product of the EPA's reliance on the Tenth Circuit's holding in *Renewable Fuels Association*, which found that the EPA did not do enough to consider emerging research about the ability of small refineries to pass RIN costs through to consumers.[61] In *Sinclair*, the D.C. Circuit rejected the Tenth Circuit's attempt to force the EPA to incorporate RIN cost passthrough theory in favor of reverting back to the traditional DOE matrix to assess claims of disproportionate economic hardship under the small refinery exemption.[62]

This poses crucial questions for the future of the RFS program and small refinery exemptions. Does the EPA's prior use of the DOE matrix to make exemption determinations, by itself, provide a sufficient justification for its continued use? How can the DOE matrix be altered to reflect RIN passthrough theory following findings in the Burkholder Study and Knittel Study? Analysis of the DOE matrix suggests that it is an effective tool for gaining a well-rounded understanding of a small refinery's economic hardship, but the DOE matrix should be altered to better reflect updated market research and the findings in the Burkholder Study and Knittel Study.

A. Sinclair *and the DOE Scoring Matrix*

The goal of the DOE scoring matrix is to "evaluate the full impact of disproportionate economic hardship on small refiners" through an individualized

2025). The court found that Sinclair's circumstances were unique from the other thirty-one refineries that were offered alternative methods of compliance, so the EPA was reasonable in its explanation for treating Sinclair differently. *Sinclair*, 114 F.4th at 726.

58. *Sinclair*, 114 F.4th at 701. Wynnewood is a refinery in Oklahoma with a crude oil processing capacity of 74,500 barrels a day. *Wynnewood Refinery*, NS ENERGY, https://www.nsenergybusiness.com/projects/wynnewood-refinery (last visited Mar. 20, 2025). The EPA never ruled on Wynnewood's request for RIN reissuance, meaning there was no final agency action, and the APA only allows courts to set aside final agency actions, findings, and conclusions. *Sinclair*, 114 F.4th at 726.

59. 42 U.S.C. § 7545(o)(9)(B)(i); The DOE characterized "disproportionate economic hardship" as "increased cost of compliance to the point that the current or future viability of the refinery is impacted." *See* DOE SMALL REFINERY EXEMPTION STUDY, *supra* note 14, at vii.

60. *See Sinclair*, 114 F.4th at 703, 713.

61. *See* Renewable Fuels Ass'n v. EPA, 948 F.3d 1206, 1257 (10th Cir. 2020).

62. *See Sinclair*, 114 F.4th at 714.

analysis of the economic impact of compliance with the RFS program.[63] The DOE matrix uses two prongs to achieve this goal: the Disproportionate Impacts Index and the Viability Index.[64] In *Sinclair*, the D.C. Circuit signaled that the EPA should utilize a broad inquiry to assess economic hardship and avoid narrowing disproportion economic hardship determinations to compliance costs alone.[65] This command makes the DOE matrix an appealing, and historically judicially approved, method for assessing disproportionate economic hardship because it involves a robust consideration of the various market influences.[66] The D.C. Circuit primed the EPA to address a difficult question: Should the agency incorporate RIN cost passthrough theory alongside the DOE matrix to ensure that the RFS program strikes the right balance between preserving small refineries and demanding rigorous commitment to renewable fuels, and, if so, how should the EPA implement this change?

If the DOE matrix is to continue to be utilized to make decisions on small refinery exemption applications, RIN cost passthrough theory should be integrated as a qualifier to the results of the matrix as its own separate inquiry. After calculating a disproportionate economic hardship score with the DOE matrix, RIN cost passthrough theory should be integrated to qualify the score. Alternatively, the EPA could modify the DOE matrix to incorporate research from the Burkholder Study and Knittel Study into each prong. Both prongs of the DOE matrix, and the places where RIN cost passthrough theory could be incorporated, are analyzed below. Despite the D.C. Circuit's clear mandate to avoid sole reliance on RIN passthrough theory in compliance decisions,[67] the EPA should strive to integrate RIN cost passthrough theory at some stage so that RFS compliance decisions accurately reflect the economic realities of the RIN market.

1. Disproportionate Impacts Index

The first prong of the DOE scoring matrix is sensitive to both the market attitude of the region in which the small refinery sits and the refinery's unique economic capabilities. It considers access to capital and credit, other business lines beyond refining, local market acceptance of renewable fuels, percentage of diesel production, exceptional state regulations, refining margins, percentage of renewable fuel blending compared to total production, position in a niche market, and RINs' net revenue or cost.[68] Each of these metrics is weighted equally.[69]

63. DOE SMALL REFINERY EXEMPTION STUDY, *supra* note 14, at 32-33.

64. *Id.*

65. *See Sinclair*, 114 F.4th at 707 ("While EPA may consider a variety of economic factors when deciding what a hardship is, it cannot reduce the broad statutory term 'economic hardship' to *only* one factor.").

66. *See id.* at 709.

67. *See id.* at 707.

68. DOE SMALL REFINERY EXEMPTION STUDY, *supra* note 14, at 34-35.

69. *Id.* at 32.

This inquiry aims to provide a nuanced understanding of market pressures on small refineries in complying with the RFS program.

One variable in the Disproportionate Impacts Index considers the local market where a small refinery is located and how accepting that market is of renewable fuel, a variable that may yield problematic results in light of the RFS program's overall goal of increasing renewable fuel in the U.S. market supply.[70] This variable subsidizes refiners that operate in difficult markets by allowing small refiners to avoid RFS compliance, creating an obstacle to the EPA's authority to regulate the RFS program on a national scale.[71] The RFS program requires the EPA to balance increasing renewable fuel with avoiding undue economic pressure on small refineries, but that balance cannot be properly considered if refiners are subsidized for participating in unfavorable markets.[72] This variable may create incentives for small refineries to continue to operate in hostile environments at the cost of RFS compliance.

Instead of considering this variable with a default weight, the local market acceptance variable should be modified to account for RIN cost passthrough theory. If small refiners in difficult local markets can pass the cost of purchasing RINs on to consumers, this factor should hold less weight in the EPA's assessment of disproportion economic harm. A case specific inquiry into the region of the small refiner, the type of renewable fuel it produces,[73] and the ability of the refiner to pass the cost of RFS compliance on to consumers would better serve the EPA in enforcing its commitment to renewable fuel production.

2. Viability Index

The second prong of the DOE scoring matrix considers the small refinery's ability to stay "competitive and profitable" if it complies with RFS guidelines.[74] Small refineries play a crucial role in regional economies by employing large amounts of people and providing easy access to fuel.[75] The viability of these firms plays an important role for stakeholders beyond economic rationales, so

70. *See id.* at 34.

71. *See id.* at 33 (providing higher scores for refineries in markets with low or no acceptance of renewables).

72. *See id.*

73. The Knittel Study suggested that the cost of E85 compliance could not be passed through like other renewable fuel categories, so a fuel-specific inquiry would be beneficial to fully capture market realities. *See* KNITTEL STUDY, *supra* note 22, at 1118.

74. *Id.* at 36.

75. *See, e.g.*, *Producers and Refiners Corporation*, AM. OIL & GAS HIST. SOC'Y, https://aoghs.org/old-oil-stocks/producers-and-refiners-corporation (last visited Nov. 10, 2025) (explaining the importance of Sinclair's Parco Refinery on shaping the town of Parco and the economy of the Rocky Mountain region it serves); Danielle Riedl & Devashree Saha, *In a Clean Energy Future, What Happens to California's Thousands of Oil Refinery Workers?*, WORLD RES. INST. (Apr. 23, 2024), https://www.wri.org/insights/ca-oil-refineries-just-transition (noting the economic impact of refinery closures on local communities and arguing that legislators and regulators should consider "the thousands of workers, families and communities who rely on the state's oil refineries for jobs and tax revenues" as part of a just energy transition framework).

there are clear incentives for ensuring that RFS compliance does not disrupt small refineries or the markets they operate in. The viability prong considers refinery-specific events that impact compliance capacity, whether compliance costs eliminate efficiency (impairment), and whether compliance costs are likely to lead to a shutdown.[76]

However, new market insights from the Burkholder Study and the Knittel Study suggest that the Viability Index does not accurately reflect the reality of how refineries interact with the RIN market.[77] In fact, there is no indicator for how compliance costs are impacted by RIN cost passthrough theory in the DOE matrix at all. Even though the D.C. Circuit made clear that RIN cost passthrough theory alone is insufficient grounds to reject a small refinery exemption,[78] the theory warrants consideration alongside some of the other factors the DOE scoring matrix considers. The DOE should revise the Viability Index to include a variable analyzing the ability of the small refiner to pass the cost on to consumers to capture the full picture of how RFS compliance will impact the long-term viability of the small refinery.

CONCLUSION

The EPA's 2022 denial of all pending small refinery fuel exemption applications reflected a shift in how the agency understands the balance between preserving a small refinery market and demanding a higher renewable fuel supply. The D.C. Circuit's rejection of the EPA's shifting rationale for small refinery exemptions paints a perilous picture for interpreting what constitutes disproportionate economic hardship, stagnating EPA decision making by confining exemption decisions to the traditional models of economic hardship as reflected in the DOE matrix. If the EPA's decisions on petitions for RFS exemptions are to be tied to the DOE matrix, as the D.C. Circuit in *Sinclair* suggested they must be, then the matrix must be accurate to ensure the EPA's decisions comply with the court's ruling and strike the appropriate balance between promoting renewable fuel and small refineries' continued economic viability.

Considering novel information from market research in the Burkholder Study and the Knittel Study, the EPA should be empowered to utilize RIN cost passthrough theory in its decision to grant or deny small refinery exemptions. Ideally, this would be a separate element in the inquiry to qualify the results of the DOE scoring matrix. If it is infeasible to create a wholly separate inquiry, RIN cost passthrough theory should be integrated into each prong of the DOE matrix to better capture the full economic picture of RFS compliance. First, the local market acceptance variable in the Disproportionate Impacts prong should

76. *Id.*

77. *See* KNITTEL STUDY, *supra* note 22, at 1118 (finding that "concerns that petroleum refiners bear the burden of the RFS appear to be unjustified").

78. Sinclair Wyoming Refinery Co. v. EPA, 114 F.4th 693, 710 (D.C. Cir. 2024).

include a case-by-case inquiry that analyzes the ability of the refinery to pass on the cost of purchasing RIN credits, as passing on the cost of purchasing RINs to consumers would mitigate the impact of a small refinery being located in a region that does not favor renewable fuels. Second, the Viability Index prong should include a variable that integrates RIN passthrough theory to assess how a small refinery's ability to pass the cost of RFS compliance on to consumers impacts its long-term viability.

These proposed adjustments are timely and relevant considering the EPA's decision to almost entirely rely on the DOE matrix in its August 2025 decisions on small refinery exemptions.[79] The EPA specifically clarified that, in light of the D.C. Circuit's decision in *Sinclair*, the small refinery exemption decisions "are not based on the conclusion that all obligated parties, including small refineries, are able to fully recover their RFS compliance costs through RIN cost passthrough."[80] The EPA stated that it is not able to integrate RIN cost passthrough theory in its decision making because it "lacks the granular market-level data necessary to precisely evaluate the degree to which a small refinery recovers its RFS compliance costs in each and every market into which it sells transportation fuel."[81] These administrative difficulties may yield a long, difficult road to integrating passthrough principles into the EPA's decision making. However, considering the findings of both the Burkholder Study and Knittel Study, the EPA should consider the possibility that refineries generally can pass the cost of compliance on to their consumers at some point in its analysis.[82] This consideration is an essential aspect of a vigorous and demanding standard for renewable fuel production in the U.S. fuel market.

Further, the *Sinclair* decision lays a dangerous foundation for the flexibility of executive agencies in responding to changing market understandings. The EPA should be able to respond quickly and efficiently to new research that empowers it to make better decisions about how best to achieve the congressional intent of the RFS program. The threat of stymied decision making is magnified in modern environmental law, where rapid changes in information should be met with rapid responses as the climate crisis intensifies.

Isabelle Eby

79. *See* U.S. EPA, AUGUST 2025 DECISIONS ON PETITIONS FOR RFS SMALL REFINERY EXEMPTIONS 9 (2025) (noting the EPA's determination that the DOE matrix "properly assesses" disproportionate economic hardship and that DOE matrix scores "will generally determine" whether the EPA finds that a small refinery is experiencing disproportionate economic hardship).

80. *Id.* at 12.

81. *Id.*

82. *See generally* KNITTEL STUDY, *supra* note 22; BURKHOLDER STUDY, *supra* note 7.