STATE POLICY AND REGULATORY APPROACHES TO SUSTAINABLE AVIATION FUEL ACROSS THE UNITED STATES*

BY

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Sustainable Aviation Fuel (SAF) represents a critical lever for achieving near-term decarbonization of the aviation industry. SAF can be manufactured for "drop-in" use in existing aircraft and fueling systems, allowing manufacturers to achieve lifecycle greenhouse gas (GHG) savings relative to standard jet fuel. However, U.S. policy is still disjointed: federal incentives are accompanied by diffuse state efforts, which means uneven market-based feedback and investment risk. After outlining the federal policy context, this Article conducts a comparative analysis of SAF-related policy frameworks across the fifty states. This includes a variety of government solutions offered in the form of enacted and proposed statutes, clean fuel standards, executive actions, and public-private initiatives. States are categorized based on observed activity. These observations are contextualized with recent changes to federal law, most prominently the Inflation Reduction Act provisions regarding the production of clean fuels, and the evolution of administrative-law doctrines following the Supreme Court effectively ending the doctrine of Chevron deference.

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At this point, leadership for SAF development lies in jurisdictions with enforceable clean fuel requirements and clear SAF routes (for example, California, Oregon, Washington), and states that have opted to go after specific tax breaks (for example, Colorado). There are numerous states that have not yet engaged in SAF policymaking. A case study in Pennsylvania demonstrates that policies to support renewable natural gas (RNG) resources and farm-based anaerobic digestion can enhance SAF potential by building on feedstock and infrastructure ecosystems. This analysis highlights three cross-cutting issues as critical: definitional inconsistency, infrastructure gaps, and legal/regulatory uncertainty. This Article provides some ideas on how to resolve these issues by harmonizing definitional inconsistency, aligning incentives, and expanding very broad regional cooperation. The findings offer a decision-ready baseline to legislators, government, and industry stakeholders interested in how to quickly deploy SAF to meet U.S. climate targets.

I. INTRODUCTION

Aviation is one of the most difficult industries to decarbonize. Airplanes have long design life, safety criteria are high, and energy density requirements are constraining the availability of propulsion strategies in the short term.[1] Sustainable Aviation Fuel (SAF) has become a significant element in the decarbonization of the aviation industry and an energy security lever.[2] Although the United States federal government has developed some incentives (such as tax credits in the Inflation Reduction Act[3] and the Blenders Tax Credit) to stimulate SAF production to reach a national goal of production of 3 billion gallons of SAF by 2030, state governments have largely taken initiative and adopted their own policies.[4] Indeed, the absence of consistent federal policy has prompted states to take the lead, creating a state-centered and piecemeal effort to promote SAF production and use.[5] State efforts have included incorporating SAF into other low-carbon fuel policies, offering tax credits based on SAF, and developing legislative proposals or issuing statements in support of SAF without yet making legislative policy.[6] Analyzing the varied state-level policy environment is an important element in closing

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[1] *See* Tavish Pattanayak & Dimitri Mavris, *Battery Technology for Sustainable Aviation: A Review of Current Trends and Future Prospects*, APPLIED ENERGY, June 30, 2025, at 1, 3–4, 9.

[2] *Sustainable Aviation Fuel Grand Challenge*, U.S. DEP'T OF ENERGY, https://www.energy.gov/eere/bioenergy/sustainable-aviation-fuel-grand-challenge [https://perma.cc/D7P3-NXYB] (last visited Feb. 22, 2026); *Sustainable Aviation Fuels*, U.S. DEP'T OF ENERGY, https://www.energy.gov/eere/bioenergy/sustainable-aviation-fuels [https://perma.cc/5UTB-QEPT] (last visited Feb. 22, 2026); *Sustainable Aviation Fuels (SAF)*, INT'L CIV. AVIATION ORG., https://www.icao.int/environmental-protection/pages/SAF.aspx [https://perma.cc/E6 LH-BDBT] (last visited Feb. 22, 2026).

[3] Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1932 (codified as amended in scattered sections of 26 U.S.C.).

[4] *Id.* (providing a base credit of $1.25 per gallon of SAF achieving at least a 50% lifecycle greenhouse gas emissions reduction, plus a supplemental credit of $0.01 per percentage point above 50%, capped at an additional $0.50 per gallon); 26 U.S.C. § 6426(c) (2018) (providing a blender's tax credit for biodiesel and renewable diesel mixtures); *Sustainable Aviation Fuel Grand Challenge*, *supra* note 2 (establishing a federal goal of producing three billion gallons of domestic SAF annually by 2030).

[5] Ekrem Korkut & Lara B. Fowler, *Regulatory and Policy Analysis of Production, Development and Use of Sustainable Aviation Fuels in the United States*, FRONTIERS ENERGY RSCH., Nov. 15, 2021, at 1, 8.

[6] *Sustainable Aviation Fuel Policy in the United States*, CLIMATE CATALYST (Aug. 2025), https://climatecatalyst.org/wp-content/uploads/2025/08/US-SAF-Policies.pdf [https://perma.cc/XP3C-AT73].

the price gap between SAF and conventional jet fuel as well as catalyzing SAF adoption to achieve climate objectives. In contrast to propulsion-based redesigns that are unlikely to realize significant short-term decarbonization, manufacturers can integrate SAF into the established fleet and fuel systems as a "drop-in fuel," thereby reducing greenhouse gas (GHG) emissions sooner (albeit in small steps as longer-term technologies develop).[7] One of the feedstocks available for SAF production is renewable natural gas derived from biogas, which can be generated on farms in the United States.[8]

While existing federal policy alone may not be adequate to reach ambitious goals of scaling SAF, state policies can serve as a key piece of the puzzle.[9] Scholars have often described states as laboratories of innovation. This has proven true in the SAF context: California pioneered a credit market approach through the Low Carbon Fuel Standard (LCFS) that now serves as a model for other states.[10] In the absence of federal mandates for SAF use, state measures are creating demand signals and local incentives. In practice, the different states provide a policy testing ground: some states have implemented comprehensive clean fuel standards or focused tax credits that acknowledge SAF directly, while others are still determining how to include SAF in such policies.[11]

These diverse policy mechanisms create both challenges and opportunities for SAF producers and government policymakers. While the range of policies allows policymakers to study the impacts of a wide menu of policy options, such diversity poses challenges to the market-formation process as well as opportunities to learn from states' experiences with existing policy.[12] For example, a new facility producing SAF or a firm

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[7] *See Sustainable Aviation Fuel*, U.S. DEP'T OF ENERGY, https://afdc.energy.gov/fuels/sustainable-aviation-fuel [https://perma.cc/JFW7-8A53] (last visited March 21, 2026).

[8] PATHWAYS TO COMMERCIAL LIFTOFF: SUSTAINABLE AVIATION FUEL, U.S. DEP'T OF ENERGY 32 (2024), https://static1.squarespace.com/static/67f555826ee1df58205ff806/t/6827aff7b683612106b8581e/1747431428668/Liftoff_DOE_Sustainable+Aviation+Fuel_Nov+2024.pdf [https://perma.cc/6YEQ-BR8R].

[9] JANE O'MALLEY, NIKITA PAVLENKO & YI HYUN KIM, INT'L COUNCIL ON CLEAN TRANSP., MEETING THE SAF GRAND CHALLENGE: CURRENT AND FUTURE MEASURES TO INCREASE U.S. SUSTAINABLE AVIATION FUEL PRODUCTION CAPACITY 3 (Amy Smorodin ed., 2023), https://theicct.org/wp-content/uploads/2023/11/ID-37-%E2%80%93-SAF-Grand-Challenge-white-paper-letter-40036-v3.pdf [https://perma.cc/9YUY-D67H] (describing efforts at the federal level to promote SAF development).

[10] *See generally* DANNY CULLENWARD, KLEINMAN CTR. FOR ENERGY POL'Y, CALIFORNIA'S LOW CARBON FUEL STANDARD (2024) (discussing California's Low Carbon Fuel Standard); *Low Carbon Fuel Standards*, GROWTH ENERGY, https://growthenergy.org/policy-priority/low-carbon-fuel-standards/ [https://perma.cc/ZUT5-KBML] (last visited Feb. 22, 2026).

[11] David McCullough & Steve R. Brenner, *Revving Up: Eight States in Gear with Low-Carbon Fuel Standard Legislation*, PILLSBURY WINTHROP SHAW PITTMAN LLP (Apr. 17, 2024), https://www.pillsburylaw.com/en/news-and-insights/eight-states-low-carbon-fuel-standard-legislation.html [https://perma.cc/UB3C-NVPU].

[12] *See Sustainable Aviation Fuel Policy in the United States*, *supra* note 6 (explaining that policymakers are responding to other region's SAF implications with legislation within

trying to monetize the environmental benefits of SAF may have to deal with a conflict of definitions, verification requirements, and credit effects across jurisdictions.[13]

This fifty-state study provides a comparative perspective and a map of the U.S. policy landscape. Through a survey of statutes, bills, executive actions, and partnership programs, this Article reviews the extent to which SAF-specific policy has gained a foothold, areas where momentum is building, and areas where states have adopted few, if any, incentives. Although state policy inevitably exists in the shadow of federal efforts, this Article only briefly outlines federal policy, such as production-based incentives and recent administrative and regulatory developments, as a preface to focusing on state incentives. The Article conducts this analysis in six parts. Part II frames the background and methodology. Part III outlines the federal policy context, while Part IV reviews the state trends observed on the number of enacted laws, proposed measures, and clean fuel standards. Part V identifies cross-cutting themes and issues. Part VI includes a case study of Pennsylvania, demonstrating how other incentive programs, such as renewable natural gas (RNG) and anaerobic digestion, can be used to de-risk feedstock and infrastructure required to sustain SAF supply chains. Finally, Part VII concludes with practical recommendations for policy actors, airports, and industry stakeholders.

The Article aims to aid short-term decision making by consolidating different legal and policy cues into one framework. State governments, including state energy offices and legislatures, can use the findings of this Article to compare policy benchmarks, determine where their policies align with federal incentives, and address infrastructure gaps in airports. The comparative map can provide airlines and fuel producers with an opportunity to assess where there are durable market signals and where regional collaboration might be necessary to pool feedstocks and demands. Researchers and advocates can also use this Article to prioritize future analysis, namely techno-economic modeling and spatial planning.

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their own market, and that various region's SAF approaches are not "complete in terms of assuring market certainty").

[13] *See Sustainable Aviation Fuel Assumptions*, NAT'L LAB'Y OF THE ROCKIES, https://atb.nrel.gov/transportation/2024/sustainable_aviation_fuel_assumptions [https://perma.cc/7DAN-R88C] (last visited Feb. 22, 2026); CONG. RSCH. SERV., IF12757, SUSTAINABLE AVIATION FUEL (SAF): AN OVERVIEW OF CURRENT LAWS AND LEGISLATION INTRODUCED IN THE 119TH CONGRESS 1 (2024); Saketh Kumar Vishwakarma, *Sustainable Aviation Fuel (SAF) Procurement Challenges*, 10 J. INFO. SYS. ENG'G & MGMT. 996, 1000–01 (2025); Michael Buffham & Alexander Jullienne, *Navigating the SAF Transition: Risks, Opportunities, and Contractual Strategies*, HOLMAN FENWICK WILLAN LLP (Jan. 7, 2026), https://www.hfw.com/insights/navigating-the-saf-transition-risks-opportunities-and-contractual-strategies/ [https://perma.cc/PYN8-4GPE]; ANDY NAVARRETE, NIKITA PAVLENKO & JANE O'MALLEY, INT'L COUNCIL ON CLEAN TRANSP., SAF POLICY SCORECARD: EVALUATING STATE-LEVEL SUSTAINABLE AVIATION FUEL POLICIES IN THE UNITED STATES 6–7 (2024); *Sustainable Aviation Fuel Policy in the United States*, *supra* note 6.

II. BACKGROUND AND METHODOLOGY

The literature on SAF has evolved over time from technical and economic analysis to analysis of how policy levers influence SAF production and use. In early SAF literature, much of the focus was on technology readiness and lifecycle assessment (LCA) of technical SAF production pathways.[14] At the federal level, scholars have identified research and development expenditures, certification achievements, and early incentives in low-carbon fuels.[15] Subsequent studies have assessed the market-making potential of clean fuel standards, including California's LCFS, as creating crediting opportunities to supply clean aviation fuels and spurring industry investment in low-carbon supply chains.[16] With accelerating federal action, researchers evaluated the impacts of incentive design (for example, credit duration, transferability, and stackability with state programs)[17] on bankability and deployment.[18]

While federal laws and policies are necessary, they are insufficient. Instead, states have had to fill the gap with their own approaches. However, comparative analyses at the state level are scarce. Most related studies emphasize specific programs or certain areas without providing a synthesis of all implemented and planned state programs that directly concern SAF. In responding to this gap, this Article provides a fifty-state legal survey combined with a thematic analysis of the definitional alignment, the infrastructure readiness, and the legal uncertainty; it also locates state effort within the federal incentive architecture. This Article adds to federal-level evaluations and provides a state-oriented map that can be used in policy design.[19]

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[14] *See* Fan Yang & Yuan Yao, *Sustainable Aviation Fuel Pathways: Emissions, Costs and Uncertainty*, RES., CONSERVATION & RECYCLING, Jan. 15, 2025, at 1, 2 (citing several early studies that focus on technology readiness and LCA).

[15] O'MALLEY, PAVLENKO & HYUN KIM, *supra* note 9, at 3; PETER TROUSDALE & JOHN HOLLER, SCALING SUSTAINABLE AVIATION FUEL: RECOMMENDATIONS TO FEDERAL POLICYMAKERS FROM WASHINGTON STATE 6 (2024).

[16] Sonia Yeh et al., *A Review of Low Carbon Fuel Policies: Principles, Program Status and Future Directions*, 97 ENERGY POL'Y 220, 221 (2016).

[17] These terms refer to some of the many aspects of an incentive policy. Credit duration means the length of time the government plans to leave the credit in place (sometimes indefinitely but often limited to a defined time). Transferability signifies the ability of an asset (in this case, often a tax credit) to be offered for sale to a third party, which may, for various reasons, value the asset more highly. Stackability refers to the question of whether multiple benefits—for example, a state low-carbon fuel standard credit and a federal tax credit—can both be claimed for the same commodity.

[18] Kristin L. Brandt, Lina Martinez-Valencia & Michael P. Wolcott, *Cumulative Impact of Federal and State Policy on Minimum Selling Price of Sustainable Aviation Fuel*, FRONTIERS ENERGY RSCH., Mar. 10, 2022, at 1, 4; Haixiao Huang et al., Stacking Low Carbon Policies on the Renewable Fuels Standard: Economic and Greenhouse Gas Implications 5 (Aug. 29, 2013) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1998887 [https://perma.cc/EFJ5-FSHW].

[19] Huang et al., *supra* note 18, at 5–6.

This research is based on an extensive survey of law and policy measures related to SAF in all fifty U.S. states. Researchers reviewed state statutes, enacted legislation, administrative codes, executive orders, and pending bills to identify any provisions that appeared to specifically cover SAF or any area directly linked to SAF, such as renewable or low-carbon fuels, which may include SAF. The research method included: 1) searching legal databases using terms such as sustainable aviation fuel, aviation biofuel, and renewable jet fuel; 2) verifying findings on the state's official legislative websites; and 3) reading secondary sources (state agency reports, press releases, etc.) to capture non-statutory initiatives.

This Article categorizes state actions into major groups for analysis: 1) states with enacted SAF-specific policies (including binding legislation or regulations); 2) states with SAF-related incentives or programs as part of broader alternative fuel or climate policies; 3) states with pending or recently introduced SAF legislation; and 4) states with no significant SAF policy action to date. Policies were further coded by type (low-carbon fuel standard, tax credit, or grant) and by their alignment with sustainability themes. Where applicable, this Article uses the International Civil Aviation Organization's (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) sustainability criteria as a reference, such as whether a policy addresses lifecycle carbon reductions, land use, social impacts, etc., based on the survey data. This approach ensures a comprehensive capture of the state-level SAF policy landscape as of April 2025.

This research followed conservative rules. General biofuel provisions were not counted as SAF activity unless some rules or guidance designated SAF eligibility. Sources were cross-checked to provide consistency, and differences were resolved by reference to primary legal text. The quantitative summaries were performed based on a consolidated fifty-state survey spreadsheet. The research also highlighted examples in state memos that were illustrative of policy approaches. The following discussion focuses on state-level results—federal-level effects are mentioned only where they provide insights into motivations, eligibility, and the possibility of pre-emption or coherence concerns. The results are expressed in two ways: first as an overview of policy activity by category and region, and second as an analysis and narrative of trends where feasible.

III. FEDERAL POLICY CONTEXT

A brief discussion of federal policy provides context for the state-level policies discussed below by laying out the incentives and distribution of risk associated with SAF at the federal level.[20] There are not yet any

[20] Bofan Wang, Zhao Jia Ting & Ming Zhao, *Sustainable Aviation Fuels: Key Opportunities and Challenges in Lowering Carbon Emissions for Aviation Industry*, CARBON

federal laws or regulations mandating the use of SAF by airlines or regulating the carbon intensity of jet fuel. The Federal Aviation Administration (FAA) and Environmental Protection Agency (EPA) each have jurisdiction over certain aspects of aviation.[21] Although EPA sets aircraft engine emissions standards under the Clean Air Act,[22] EPA has relied primarily on incentives and voluntary industry commitments to maintain flight and commerce, allowing states to experiment with their own regulatory and incentive strategies in the interim.[23] Established under the Energy Policy Act of 2005[24] and expanded through the Energy Independence and Security Act of 2007,[25] federal incentives—all voluntary—for low-carbon aviation fuels began with the Renewable Fuel Standard (RFS).[26] The RFS created mandatory renewable volume obligations for transportation fuels and a credit system based on Renewable Identification Numbers (RINs), providing the first national framework to promote renewable fuel blending.[27] While this is a mandatory system for ground transportation, RFS also created an opt-in system for aviation where SAF producers can generate RIN credits when the fuel meets the definition of renewable fuel.[28] These compliance-based

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CAPTURE SCI. & TECH., July 29, 2024, at 1, 2 (discussing incentives and funding at the federal level and its impact on production and demand of SAF).

[21] AIRLINES FOR AM., DEPLOYMENT OF SUSTAINABLE AVIATION FUEL IN THE UNITED STATES: A PRIMER 5, 7 (2020).

[22] 42 U.S.C. § 7571 (2018).

[23] Control of Air Pollution From Airplanes and Airplane Engines: GHG Emission Standards and Test Procedures, 86 Fed. Reg. 2136 (Jan. 11, 2021) (to be codified at 40 C.F.R. pts. 87, 1030). These standards are authorized in part by a 2016 EPA finding that greenhouse gas emissions from aircraft endangered public health and welfare. Finding That Greenhouse Gas Emissions From Aircraft Cause or Contribute To Air Pollution That May Reasonably Be Anticipated To Endanger Public Health and Welfare, 81 Fed. Reg. 54422, 54474 (Aug. 15, 2016) (to be codified at 40 C.F.R. pts. 87, 1068). EPA recently moved to reconsider a 2009 endangerment finding that holds that greenhouse gas emissions "from new motor vehicles and engines contribute to air pollution which may endanger public health or welfare." Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards, 90 Fed. Reg. 36288 (proposed Aug. 1, 2025). In that rulemaking, EPA noted that it has "initiated or intend[s] to initiate separate rulemakings that will address any overlapping issues," including those related to aircraft. *Id.* at 36298.

[24] 42 U.S.C. § 7545(o); *Overview of the Renewable Fuel Standard Program*, U.S. ENV'T PROT. AGENCY (May 7, 2025), https://www.epa.gov/renewable-fuel-standard/overview-renewable-fuel-standard-program [https://perma.cc/PP9P-RCPS] (identifying the Renewable Fuel Standard program under the Clean Air Act being created under the Energy Policy Act of 2005 and further expanded by the Energy Independence and Security Act of 2007).

[25] 42 U.S.C. § 7545(o).

[26] *See Overview of the Renewable Fuel Standard Program*, *supra* note 24.

[27] Maria Gerveni, Scott Irwin & Todd Hubbs, *Overview of the US Renewable Fuel Standard*, FARMDOC DAILY, May 17, 2023, at 1, 3, https://farmdocdaily.illinois.edu/2023/05/overview-of-the-us-renewable-fuel-standard.html [https://perma.cc/78AY-XR6C]; *Overview of the Renewable Fuel Standard Program*, *supra* note 24.

[28] *What Is a Fuel Pathway?*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/renewable-fuel-standard/what-fuel-pathway [https://perma.cc/37T7-AYMQ] (last visited Feb. 22, 2026); *While There Is No Renewable Fuel Obligation Under the RFS2 Program for the*

incentives remain in effect and continue to complement fiscal mechanisms, linking environmental performance verification with market-based crediting.

In 2021, federal agencies coordinated the "SAF Grand Challenge," which set a goal of producing at least 3 billion gallons of domestically produced SAF by 2030 and 35 billion gallons by 2050 (to meet 100% of anticipated domestic jet fuel demand).[29] This collaboration, introduced by the U.S. Department of Energy (DOE), U.S. Department of Transportation, and the U.S. Department of Agriculture (USDA) in 2021, included an extensive roadmap that addresses the research needs, development of feedstocks, and policy choices for bringing SAF supply up to speed.[30] In November 2021, a Memorandum of Understanding formalized the Grand Challenge, and, in 2022, the group published a Flight Plan for Sustainable Aviation Fuel Roadmap containing the 2030 and 2050 domestic production goals referenced above.[31] Executive initiatives have tried to harmonize standards, speed up approval processes, and provide more clarity regarding book-and-claim accounting.[32] Congressional initiatives have focused on supply-chain vulnerabilities, such as biomass logistics and regional hub-like production centers, with airports at the core.[33]

Seeking to jumpstart the Grand Challenge, the federal government augmented the RFS framework with incentives for SAF production under the Inflation Reduction Act in 2022. The Inflation Reduction Act of 2022 (IRA) established a Blender's Tax Credit and a new technology-neutral

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Production or Importation of Conventional Jet Fuel, RINs Can Be Generated for Renewable Jet Fuel. Is That Right?, U.S. ENV'T PROT. AGENCY (July 14, 2025), https://www.epa.gov/fuels-registration-reporting-and-compliance-help/while-there-no-renewable-fuel-obligation-under [https://perma.cc/CP2R-FGAH].

[29] *Sustainable Aviation Fuel Grand Challenge*, *supra* note 2.

[30] *Id.*; *Sustainable Aviation Fuel Grand Challenge Progress*, BIOMASS RSCH. & DEV. BD., https://biomassboard.gov/sustainable-aviation-fuel-grand-challenge-progress [https://perma.cc/PK6L-CVHN] (last visited Feb. 22, 2026); U.S. DEP'T OF ENERGY, U.S. DEP'T OF TRANSP. & U.S. DEP'T OF AGRIC., SAF GRAND CHALLENGE ROADMAP: FLIGHT PLAN FOR SUSTAINABLE AVIATION viii (2022) [hereinafter FLIGHT PLAN FOR SUSTAINABLE AVIATION], https://www.energy.gov/sites/default/files/2022-09/beto-saf-gc-roadmap-report-sept-2022.pdf [https://perma.cc/7A9H-VLYD].

[31] FLIGHT PLAN FOR SUSTAINABLE AVIATION, *supra* note 30, at vii.

[32] AIRLINES FOR AM., U.S. AIRLINE PRINCIPLES ON USE OF BOOK AND CLAIM IN SUSTAINABLE AVIATION FUEL ACCOUNTING 1, 3 (2024), A4A-Position-SAF-Accounting-Book-and-Claim-Rev-April-2024-Final-R1.pdf [https://perma.cc/2SY8-ZS6X]; U.S. DEP'T OF ENERGY, U.S. DEP'T OF TRANSP. & U.S. DEP'T OF AGRIC., SUSTAINABLE AVIATION FUEL GRAND CHALLENGE IMPLEMENTATION FRAMEWORK 40 (2024) [hereinafter IMPLEMENTATION FRAMEWORK], https://www.energy.gov/sites/default/files/2024-11/SAF-Implementation-Framework-Nov-2024.pdf [https://perma.cc/8XMA-2TSV].

[33] *See* IMPLEMENTATION FRAMEWORK, *supra* note 32, at 28; Letter from Meron Tesfaye, Senior Pol'y Analyst, Bipartisan Pol'y Ctr., to Off. of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy (Nov. 30, 2023), https://bipartisanpolicy.org/wp-content/uploads/2024/03/BPC-RFI-response-Sustainable-Aviation-Fuel-Grand-Challenge-Building-Supply-Chains-11.30.2023.pdf [https://perma.cc/M72C-ZMBM].

Clean Fuel Production Credit, which includes SAF starting in 2025.[34] The Blender's Tax Credit under Internal Revenue Code (I.R.C.) § 40B rewarded SAF production volumes that exceeded specified carbon-intensity thresholds for production through 2024 with a subsidy of $1.25 to $1.75 per gallon (depending on the greenhouse gas reduction percentage of the fuel) of SAF produced in 2023 and 2024.[35] The Clean Fuel Production Credit under I.R.C. § 45Z provides a technology-neutral, performance-based credit beginning in 2025.[36] The § 45Z credit moves away from a fixed volumetric incentive and, instead, ties credit value directly to the lifecycle carbon intensity of the fuel as measured against a statutory baseline.[37]

Some of these incentives have shifted recently. In 2025, the One Big Beautiful Bill Act (OBBB)[38] amended § 45Z by extending it through December 31, 2029, while reducing the enhanced credit rate for SAF from $1.75/gal to $1.00/gal for fuel produced after 2025; the OBBB also restricted eligible feedstocks to those grown or produced in the United States, Canada, or Mexico, and eliminated negative emissions and enhanced land-use allowances for SAF.[39] By prioritizing localized production networks and U.S.-based inputs, these updates refine national policy emphases and incorporate more rigorous environmental benchmarks.[40] Functionally, the legislation repositions § 45Z as a focused

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[34] *Inflation Reduction Act of 2022*, ALT. FUELS DATA CTR. (Aug. 16, 2022), https://afdc.energy.gov/laws/inflation-reduction-act-summary [https://perma.cc/7ZAE-R2LN]; *Clean Fuel Production Credit*, ALT. FUELS DATA CTR., https://afdc.energy.gov/laws/13321 [https://perma.cc/BQ38-GR9M] (last visited Feb. 22, 2026).

[35] Sustainable Aviation Fuel Credit, Pub. L. No. 117-169, § 13203, 136 Stat. 1932, 1932–34 (2022) (codified at 26 U.S.C. § 40B); *IRS Release Guidance to Drive American Innovation, Cut Aviation Sector Emissions*, U.S. DEP'T OF THE TREASURY (Apr. 30, 2024), https://home.treasury.gov/news/press-releases/jy2307 [https://perma.cc/GWU2-Y9LC]; *Growth Energy Statement on Treasury Department's Guidance for 40B SAF Tax Credit*, GROWTH ENERGY (Dec. 15, 2023), https://growthenergy.org/2023/12/15/growth-energy-statement-on-treasury-departments-guidance-for-40b-saf-tax-credit/ [https://perma.cc/4STA-U7D5].

[36] CJI Team, *SAF Blender's Tax Credit 'Will Boost SAF Production*,*'* SAF INVESTOR (Apr. 14, 2021), https://www.safinvestor.com/news/131608/saf-blenders-tax-credit-will-boost-saf-production-191/ [https://perma.cc/Q23P-Q959]; Inflation Reduction Act, Pub L. No. 117-169, § 13704, 136 Stat. 1997, 1997–98 (codified at 26 U.S.C. § 45Z).

[37] *Statutory Overview of 45Z*, CLEAN AIR TASK FORCE (Aug. 19, 2024), https://www.catf.us/2024/08/45z-statutory-overview/ [https://perma.cc/4N4E-NWLC].

[38] Pub. L. No. 119–21, 139 Stat. 72 (2025).

[39] *The "One Big Beautiful Bill" Act—Navigating the New Energy Landscape*, SIDLEY AUSTIN LLP (July 15, 2025), https://www.sidley.com/en/insights/newsupdates/2025/07/the-one-big-beautiful-bill-act-navigating-the-new-energy-landscape [https://perma.cc/JB4H-RMZ5]; Samantha Ayoub & Faith Parum, *Ag-Powered Fuels: 45Z Clean Fuel Production Credit*, AM. FARM BUREAU FED'N (July 24, 2025), https://www.fb.org/market-intel/45z-clean-fuel-production-credit [https://perma.cc/RV4V-58NK].

[40] Ayoub & Parum, *supra* note 39 ("The amendment was designed to prevent large imports of used cooking oil (UCO), which had more favorable carbon intensity scores . . . [and] [t]here was also increasing scrutiny over the possibility of fraud in imported feedstocks [due to false labeling] to qualify for higher credits.").

subsidy for manufacturing outputs, departing from its prior emphasis on outcome-driven metrics; it thereby fosters SAF market expansion within a framework of intensified emissions evaluation.[41]

In addition to legislative and administrative policy changes, judicial changes to administrative law may affect SAF deployment, given the importance of administrative capacity and statutory clarity for federal SAF regulation.[42] Historically, the judicial doctrine of *Chevron* deference served as a protective cushion against agency interpretations of ambiguous statutes.[43] Under *Chevron U.S.A., Inc. v. NRDC*,[44] courts had to defer to reasonable agency interpretations of ambiguous federal statutes that the agency was charged with administering, meaning federal judges granted deference to the interpretations of ambiguities in federal statutes related to SAF by the FAA or EPA.[45] In *Loper Bright Enterprises v. Raimondo*,[46] however, the Supreme Court limited *Chevron* deference and thus diminished the extent to which agency interpretations of ambiguous statutes are accorded deference by courts.[47] In the case of SAF policy, this has the potential to increase both litigation costs and the weight placed on statutory detail (such as definitions, lifecycle accounting, and MRV protocols). Specifically, where MRV—"measurement, reporting, and verification," or the systematic process of measuring emissions reductions, compiling and reporting data to relevant authorities, and subjecting the data to independent

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[41] Rachel Starr & Jonathan Lewis, *H.R. 1 Expands 45Z Clean Fuel Production Credit for Conventional Biofuels While Cutting Sustainable Aviation Fuel Tax Credit*, CLEAN AIR TASK FORCE (Oct. 16, 2025), https://www.catf.us/2025/10/h-r-1-expands-45z-clean-fuel-production-credit-for-conventional-biofuels-while-cutting-sustainable-aviation-fuel-tax-credit/ [https://perma.cc/W3JE-2R4H] (describing the legislation's reorientation of § 45Z); Ayoub & Parum, *supra* note 39 (discussing the emissions evaluation implications of 45Z); *Proposed Regulations: Clean Fuel Production Credit Section 45Z*, KPMG TAXNEWSFLASH (Feb. 3, 2026), https://kpmg.com/us/en/taxnewsflash/news/2026/02/proposed-regulations-clean-fuel-production-credit-section-45Z.html [https://perma.cc/Y2WL-S9N2].

[42] *See* Cass R. Sunstein, *Chevron as Law*, 107 GEO. L.J. 1613, 1620, 1670–72 (2019) (arguing that overturning the *Chevron* doctrine could lead to uncertainty in administrative law).

[43] Chevron U.S.A. Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837, 844 (1984) (holding that when Congress has not directly addressed the precise question at issue in a statute, courts must defer to the administering agency's reasonable interpretation of the statutory ambiguity), *overturned in relevant part by* Loper Bright Enter. v. Raimondo, 603 U.S. 369 (2024).

[44] *Id.*

[45] *See generally* DANIEL T. SHEDD & TODD GARVEY, CONG. RSCH. SERV., R43203, *CHEVRON* DEFERENCE: COURT TREATMENT OF AGENCY INTERPRETATIONS OF AMBIGUOUS STATUTES (2013) (explaining the *Chevron* doctrine).

[46] Loper Bright Enter. v. Raimondo, 603 U.S. 369, 412–13 (2024).

[47] Shay Dvoretzky et al., *Supreme Court's Overruling of* Chevron *Deference to Administrative Agencies' Interpretations of Statutes Will Invite More Challenges to Agency Decisions*, SKADDEN (July 9, 2024), https://www.skadden.com/insights/publications/2024/07/the-supreme-courts-overruling-of-chevron-deference [https://perma.cc/K8D6-39QX].

verification[48]—and lifecycle accounting are the key factors, the clarity of definitions and stability of rulemaking processes may become decisive.[49]

While federal action may be limited for now, there may be bipartisan support for changes. In 2025, Congressional representatives offered language to incorporate SAF into federal mandates such as the pending Farm to Fly Act.[50] Under the Farm to Fly Act, the USDA will support SAF through existing farm bill energy provisions and fund research into feedstocks.[51] Whether this bill moves forward remains to be seen. Given federal changes and uncertainty, the places to watch right now are state law and policy actions.

IV. STATE-LEVEL POLICY TRENDS

This fifty-state survey reveals a wide variation in SAF policy activity across the United States. As of 2025, slightly fewer than half of U.S. states have taken some form of action to support or recognize SAF, while the remainder have not addressed SAF in any substantive way. Figure 1 below shows the progress of the SAF initiatives across the states, comparing states that have passed or introduced initiatives related to SAF (active states) to those that have not passed anything at all (inactive states). The map also contrasts the kinds of measures among the states that are already active: clean fuel standard programs, tax incentives, and proposals that are awaiting action.

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[48] U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, HANDBOOK ON MEASUREMENT, REPORTING AND VERIFICATION FOR DEVELOPING COUNTRY PARTIES 8, 37–38 (2014).

[49] *See generally* Weronika Klimczyk et al., *Sustainable Aviation Fuels: A Comprehensive Review of Production Pathways, Environmental Impacts, Lifecycle Assessment, and Certification Frameworks*, ENERGIES, July 14, 2025, at 1 (discussing SAF emission performance based on life cycle assessment studies and need for heightened regulatory support).

[50] Farm to Fly Act of 2025, S. 144, 119th Cong. (2025) (directing the Department of Agriculture to integrate advancement of SAFs into USDA programs by clarifying SAF eligibility within current USDA Bio-Energy Programs and affirming the common definition of SAF as requiring at least 50% lifecycle greenhouse gas emissions reduction).

[51] *Budzinski Introduces Farm to Fly Act to Expand Use of Homegrown Sustainable Aviation Fuel*, OFF. OF CONGRESSWOMAN NIKKI BUDZINSKI (Feb. 28, 2025), https://budzinski.house.gov/posts/budzinski-introduces-farm-to-fly-act-to-expand-use-of-homegrown-sustainable-aviation-fuel [https://perma.cc/ER9B-QBWV].

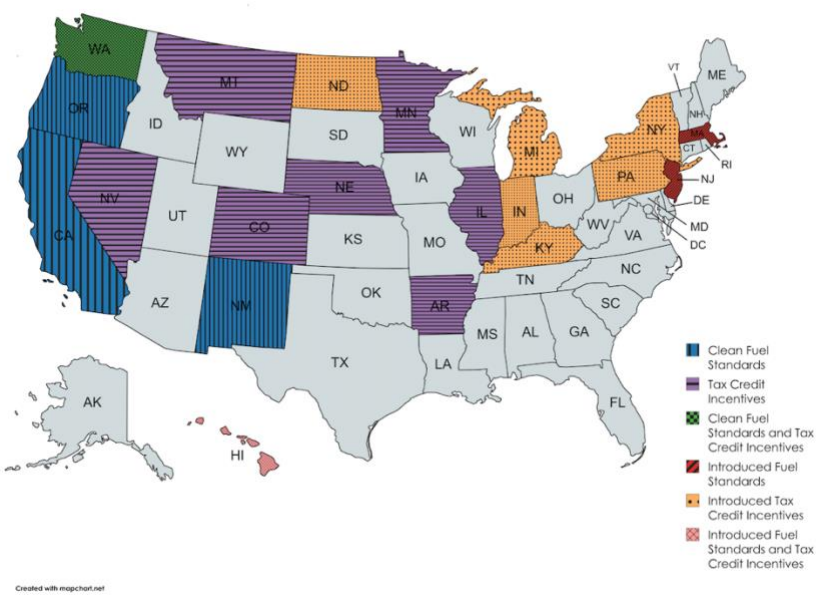

Figure 1: States with Passed and Introduced Legislative SAF Initiatives. (Figure developed for this paper using www.mapchart.net.)

States that have adopted SAF as part of a clean fuel standard are shown in blue (vertical stripes); states with existing SAF tax credit and incentive policies are shown in purple (horizontal stripes); the state (Washington) with both an existing clean fuel standard and tax credit incentive is shown in green (checkerboard pattern); states with bills proposing a low-carbon fuel standard are shown in red (diagonal stripes); states with bills proposing an SAF tax credit or incentive are shown in orange (dots); and a state (Hawaii) that has both a proposed fuel standard and proposed tax credit or incentive is shown in pink (cross-hatching). The gray states have taken no substantive SAF measures.

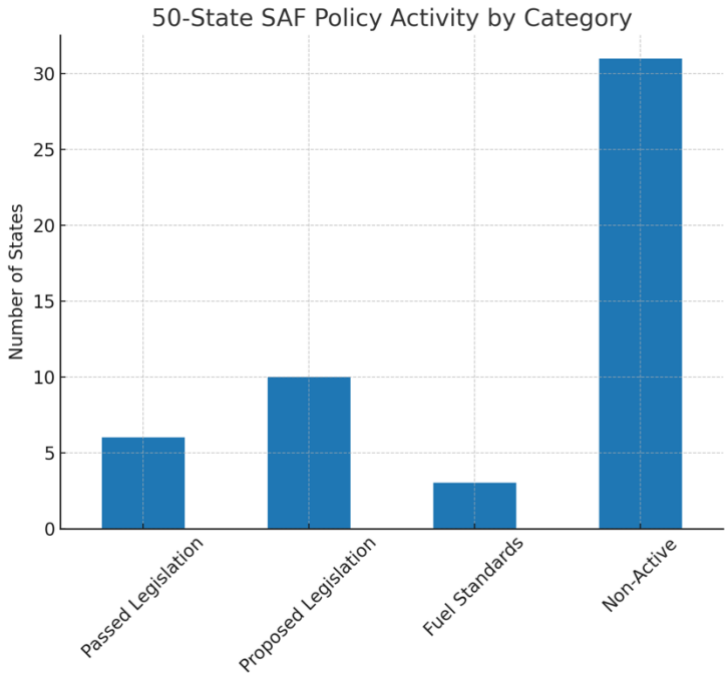

Figure 2: Fifty-State SAF Policy Activity by Category.

As shown in Figure 2, nineteen states are "active" to varying degrees in pursuing SAF policies. In comparison, thirty-one states have not yet enacted or formally proposed any SAF-specific policy and are inactive. The active states break down into a few key categories:

1. States with clean fuel standards (blue/vertical stripes and green/checkerboard pattern on the map):[52] A small number of states have implemented clean fuel standard (or low-carbon fuel standard) programs that include SAF. These programs require reducing the carbon intensity of transportation fuels and give SAF an allowance to create credits as an emission-free substitute to conventional jet fuel. States with clean fuel standards include California, Oregon, Washington, and New Mexico, all of which have enacted clean fuel standard legislation that either encompasses SAF as one possible fuel category or provides an opt-in mechanism for SAF producers. These states are regarded as leaders in SAF policy because of the exhaustiveness of their policies and their enforceability.

2. States with SAF tax incentives or production credits (purple/horizontal stripes and green/checkerboard pattern on the map):[53] Some states have established financial incentive programs to promote either the production or use of SAF, usually in the form of a per-gallon

[52] *See* discussion *infra* Section IV.A.
[53] *See* discussion *infra* Section IV.B.

tax credit. Such measures have been adopted in Washington, Illinois, Minnesota, Colorado, Montana, Arkansas, Nebraska, and Nevada, while Hawaii has adopted a broader renewable fuels policy that also incentivizes SAF production. These measures include efforts ranging from credits to SAF blenders or producers (for example, a $1.50 per gallon credit in Minnesota[54]and Illinois[55]) to tax exemptions or abatements on the property used to build a SAF facility (seen in Nevada[56] and Montana[57]). Such policies, frequently based on models of the federal tax credit system, are intended to bring SAF closer to parity with conventional jet fuel on a price-per-gallon basis.

3. States with introduced SAF legislation (red/diagonal stripes, orange/dots, and pink/cross-hatching on the map):[58] Several other states have yet to enact SAF laws but have proposed bills or officially considered SAF policies in their state lawmaking institutions. Massachusetts and New Jersey have each introduced programs to implement a clean fuel standard or similarly low-carbon fuel program (red/diagonal stripes, pink/cross-hatching), and states like Indiana, Kentucky, Michigan, New York, North Dakota, Pennsylvania, and others have each introduced laws that would create a SAF tax credit or other incentive (orange/dots and pink/cross-hatching). In a notable case, the Commonwealth of Kentucky proposed a senate bill that provides airlines with a $2.50 per gallon SAF tax credit (in an apparent move by the state to spur SAF business).[59] Similarly, Pennsylvania proposed to provide a universal SAF support structure, including tax credits, grants, and consumption requirements.[60] Even though these bills were not finalized at the time of writing, they demonstrate increasing legislative interest in SAF across a number of regions.

4. States with no SAF-specific Action (gray on map): This research identified thirty-one states that have not yet enacted any SAF-specific policies. This does not imply that SAF is completely absent in all of those

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[54] Christopher Ingraham, *Why Minnesota Wants to Be a Leader in Sustainable Aviation Fuel*, MINN. REFORMER (May 7, 2025, at 06:00 CT), https://minnesotareformer.com/2025/05/07/why-minnesota-wants-to-be-a-leader-in-sustainable-aviation-fuel/ [https://perma.cc/CGN3-WVHK].

[55] *Illinois Sustainable Aviation Fuel Tax Credit*, BAKER BOTTS (Feb. 16, 2023), https://www.bakerbotts.com/thought-leadership/publications/2023/february/illinois-sustainable-aviation-fuel-tax-credit [https://perma.cc/NH9E-DWX5].

[56] Erin Krueger, *Nevada Approves Tax Abatements for Proposed Renewable Diesel, SAF Project*, SAF MAG. (Feb. 2, 2024), https://safmagazine.com/articles/nevada-approves-tax-abatements-for-proposed-renewable-diesel-saf-project [https://perma.cc/3DKM-EYFW].

[57] *Federal Tax Credits*, MONT. DEP'T OF ENV'T QUALITY, https://deq.mt.gov/energy/Programs/tax-credits [https://perma.cc/S4YK-V5PF] (last visited Feb. 22, 2026).

[58] *See* discussion *infra* Section IV.C.

[59] S.B. 313, 2024 Gen. Assemb., Reg. Sess. (Ky. 2024); *Kentucky SAF Coalition Applauds Introduction of SB 313*, KY. SUSTAINABLE AVIATION FUEL COAL. (Mar. 1, 2024), https://kentuckysafcoalition.com/kentucky-saf-coalition-applauds-introduction-of-sb-313 [https://perma.cc/L9QL-LXLZ].

[60] H.B. 2402, 2024 Gen. Assemb., Reg. Sess. (Pa. 2024).

states. In some cases, officials have made clarion calls about SAF or added aviation fuels to climate action plans. Nevertheless, these states have not undertaken any significant steps (laws, regulations, or the active incentive programs). This includes states such as Texas, Florida, Georgia, and the like, which have to date not implemented state-level incentives or requirements to SAF, deferring instead to federal policy and to industry action. Though some states in this inactive group have at least made non-binding statements regarding SAF (for example, through statements by governors or recommendations of special task forces), as of 2025 they have yet to take any significant action in its implementation. Such states would have to pass new laws or regulations to join the active categories outlined above.

The subsections below explore each of these categories in more detail.

A. Clean Fuel Standard Programs Incorporating SAF

States with clean fuel standard (CFS) or low-carbon fuel standard (LCFS) programs are leading the way in developing climate policy that includes SAF. These initiatives establish decreasing carbon intensity goals of transportation fuels and credit markets to financially reward producers of fuel with lower lifecycle emissions than conventional gas or diesel. States have modified programs that were initially designed primarily to credit on-road fuels to include jet fuel or provide an avenue where SAF can opt in to generate credits. The blue/vertical stripes-highlighted states in Figure 1—California, Oregon, Washington, and New Mexico—have established such standards, which include mechanisms benefiting SAF. Each of these states is explored below.

1. California (Low Carbon Fuel Standard—LCFS):

California originally introduced the LCFS in 2011.[61] This market-based program focuses on reducing the overall carbon intensity of transportation fuel by a given percentage annually.[62] In 2018, California officially amended the LCFS to permit opt-in credit for SAF production.[63] This amendment allows producers that supply sustainable jet fuel that is used in California to generate LCFS credits when their fuel has carbon intensity levels that are lower compared to those of the set benchmark.[64] Producers can then sell these credits to emitters to satisfy their compliance obligations.[65] Thanks to this opt-in, a few SAF producers have

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[61] *Low Carbon Fuel Standard*, CAL. AIR RES. BD., https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about [https://perma.cc/2G88-75AZ] (last visited Feb. 22, 2026).

[62] CAL. CODE REGS. tit. 17, § 95480 (2026); CAL. CODE REGS. tit. 17, § 95484 (2026); CHENG TUNG CHONG & JO-HAN NG, BIOJET FUEL IN AVIATION APPLICATIONS: PRODUCTION, USAGE AND IMPACT OF BIOFUELS 54 (2021).

[63] Korkut & Fowler, *supra* note 5.

[64] *Id.*

[65] *Id.*

been able to generate additional revenues with the environmental value of SAF. The effect of the California policy is that it brings additional revenue from selling SAF beyond just federal incentives, effectively reducing the price difference between SAF and standard jet fuel ("Jet A"). However, it is important to note that airline use of SAF in California remains voluntary—the LCFS does not mandate SAF use, but it incentivizes it by attaching a price signal (the credit value) to each ton of carbon dioxide equivalent (CO_2e) emissions reduced.[66] In 2025, the California Air Resources Board adopted revisions to the LCFS program, including a significant increase in the stringency of its carbon intensity reduction targets, that could create increased incentives for production of low-carbon fuels like SAF.[67]

California has also funded SAF via grant programs (for example, the FUEL Initiative) as well as pilot projects, but the LCFS is its primary SAF initiative and one that has set the stage for other states.[68]

2. Oregon (Clean Fuels Program):

Oregon's legislature enacted its Clean Fuels Program in 2009, based on California's LCFS.[69] It was fully implemented starting in 2016.[70] Although the program initially focused on road transportation fuels only, Oregon recently revised its program to include alternative jet fuel as a category of production eligible to generate credits.[71] The state rules allow low-carbon aviation fuel producers to participate voluntarily, as in California, so that SAF blended in Oregon draws Clean Fuel credits, which have a market value.[72] Oregon has a 10% target to reduce carbon intensity by 2025 on transportation fuels; Oregon can use SAF production to satisfy this goal by replacing more carbon-intensive petroleum-based

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66 Megan Boutwell, *SAF in the IRA Era—How Do the Incentives Stack Up?*, STILLWATER ASSOCS. (Apr. 13, 2023), https://stillwaterassociates.com/saf-in-the-ira-era-how-do-the-incentives-stack-up/?cn-reloaded=1 [https://perma.cc/ZYC5-8C4C].

67 *See* CAL. AIR RES. BD., UPDATED INFORMATIVE DIGEST: PROPOSED AMENDMENTS TO THE LOW CARBON FUEL STANDARD 1, 2 (2025), https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/lcfs_uidfinal.pdf [https://perma.cc/YVB2-QEYF].

68 Jane O'Malley, *Will California Rise to the Biden Administration's SAF Grand Challenge?*, INT'L COUNCIL ON CLEAN TRANSP. (Jan. 25, 2023), https://theicct.org/ca-sustainable-aviation-fuels-jan23/ [https://perma.cc/N85A-496T]; Pamela Wu, *Policies and Incentives Support Sustainable Aviation Fuels*, REUTERS (Sep. 13, 2024), https://www.reuters.com/legal/legalindustry/policies-incentives-support-sustainable-aviation-fuels-2024-09-13/ [https://perma.cc/V79J-FSRM].

69 Elizabeth Hilbourn, *Snapshot LCFS: California Versus Oregon*, TURNER, MASON & CO. (Sep. 15, 2020), https://www.turnermason.com/blog/snapshot-lcfs-california-versus-oregon-2/ [https://perma.cc/N8Q3-SDLJ].

70 *Id.*

71 OR. ADMIN. R. 340-253-0040 (2019); OR. ADMIN. R. 340-253-0350 (2019).

72 Hilbourn, *supra* note 69.

jet fuel.[73] In practice, Oregon's SAF credit uptake has been more gradual, in part because of low SAF availability and because opt-in is voluntary. However, the fact that Oregon includes aviation fuels is a notable step to show that the state considers SAF as an element of its decarbonization strategy. The scheme provides a framework which the state could modify in the future with elements that add obligations to producers or users of aviation fuel in Oregon.

3. Washington (Clean Fuel Standard):

Though Washington adopted its CFS in 2021, implementation was delayed until 2023, when enforcement officially began.[74] The program's rollout required additional rulemaking and administrative preparation, which postponed the effective date even though the legislation had already been enacted.[75] Similar to its West Coast counterparts, Washington law establishes a carbon intensity reduction program and specifically makes jet fuel an opt-in category that is eligible to generate credits.[76] Washington's program is distinguished from others by combining a CFS with a separate state-level tax incentive on SAF, enacted in 2023, making it a hybrid program.[77] The tax incentive is discussed further below. On the CFS side, Washington aims for a 20% reduction in transportation fuel carbon intensity by 2038.[78] By choosing to participate, individual SAF producers will receive credits that, when combined with federal incentives such as federal RFS credits and the Clean Fuel Production Credit, greatly improve SAF economics.[79] A recent

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[73] Jeremy Martin, *Oregon's Clean Fuels Program Off to a Great Start*, THE EQUATION (Apr. 28, 2017, at 10:37 PT), https://blog.ucs.org/jeremy-martin/oregons-clean-fuels-program-off-to-a-great-start/ [https://perma.cc/KK3Z-USS3].

[74] *Plan to Cut Statewide Fuel Emissions 20% Starts Jan. 1*, WASH. DEP'T OF ECOLOGY (Nov. 28, 2022), https://ecology.wa.gov/about-us/who-we-are/news/2022/nov-28-clean-fuel-standard-adoption [https://perma.cc/54VB-KYEN].

[75] *Id.*; *see also Washington Clean Fuel Standard (CFS) 101*, STILLWATER PUBL'NS (July 9, 2025), https://stillwaterpublications.com/washington-clean-fuel-standard-cfs-101/ [https://perma.cc/2T8E-G6U9].

[76] Ryan Rudman, *Scaling Sustainable Aviation Fuel in Washington: Meeting CFS Requirements and Capitalizing on Emerging Incentives*, AFS COMMODITIES (May 28, 2025), https://www.afscommodities.com/blog/scaling-sustainable-aviation-fuel-in-washington-meeting-cfs-requirements-and-capitalizing-on-emerging-incentives [https://perma.cc/QS5J-YRE8].

[77] *Id.*

[78] H.B. 1409, 69th Leg., Reg. Sess. (Wash. 2025) (accelerating target to 45% reduction by 2038); Eric Christensen et al., *Environmental Developments to Watch in Washington State—2025 Mid-Year Update*, BEVERIDGE & DIAMOND (June 18, 2025), https://www.bdlaw.com/publications/environmental-developments-to-watch-in-washington-state-2025-mid-year-update/ [https://perma.cc/XGV2-N9CW]; JOEY HOEKSTRA ET AL., INT'L EMISSIONS TRADING ASSOC., WASHINGTON CLEAN FUEL STANDARDS (CFS) AT A GLANCE 2 (2025); H.B. 1091, 67th Leg., Reg. Sess. (Wash. 2021); *Washington Clean Fuel Standard (CFS) 101*, *supra* note 75.

[79] *Generating Credits in the Clean Fuel Standard*, WASH. DEP'T OF ECOLOGY, https://ecology.wa.gov/air-climate/reducing-greenhouse-gas-emissions/clean-fuel-standard/generating-credits [https://perma.cc/95J6-S6XY] (last visited Feb. 22, 2026).

report concluded that the combination of Washington's CFS credits and SAF tax credit could make Washington one of the more financially appealing markets to produce and offer SAF in the United States.[80] Such multi-faceted backing is expected to bring SAF to Washington's airports (and, perhaps, even cause gas fuel shuffling, when producers transport SAF to states with most favorable credits). Washington's strategy also highlights how state policies can work together: CFSs provide a demand pull in the form of credit values whereas the tax credit reimburses the producers or the blenders directly.

4. New Mexico (Clean Fuel Standard—"Clean Transportation Fuel Standard"):

New Mexico is a recent arrival on the CFS scene. In March 2024, New Mexico passed House Bill 41,[81] becoming the fourth state to adopt an LCFS/CFS-type policy.[82] The New Mexico Clean Transportation Fuel Standard is technology-neutral and is set to achieve carbon intensity reductions to transportation fuels similar to Oregon and Washington.[83] Under this legislation, producers of low-carbon fuels can produce credits that fuels producers can use for compliance;[84] this implies that companies that use SAF in New Mexico and fuel producers situated in New Mexico can gain financially. The legislation defined "transportation fuel" expansively as "electricity or a liquid, gaseous or blended fuel, including gasoline, diesel, liquefied petroleum gas, natural gas and hydrogen, sold, supplied, used or offered for sale to power vehicles or equipment for the purposes of transportation."[85] This statutory language deliberately encompassed multiple fuel categories but did not expressly include or regulate aviation fuels, and thus did not create compliance obligations or deficit-generation requirements for airlines. The New Mexico Environment Department (NMED), however, signaled its intent to extend the program through rulemaking.[86] A draft of the Clean

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[80] NAVARRETE, PAVLENKO & O'MALLEY, *supra* note 13.

[81] H.B. 41, 2024 Gen. Assemb., Reg Sess. (N.M. 2024).

[82] *New Mexico Becomes Fourth State to Enact Clean Fuel Standards as Governor Signs Legislation—Landmark Legislation Set to Grow Economy*, *Reduce Emissions*, OFF. OF THE GOVERNOR, MICHELLE LUJAN GRISHAM: PRESS RELEASES (Mar. 5, 2024), https://www.governor.state.nm.us/2024/03/05/new-mexico-becomes-fourth-state-to-enact-clean-fuel-standards-as-governor-signs-legislation-landmark-legislation-set-to-grow-economy-reduce-emissions/ [https://perma.cc/PEU8-ZZFK]; *Clean Transportation Fuel Program*, N.M. ENV'T DEP'T (Jan. 22, 2026), https://www.env.nm.gov/climate-change-bureau/clean-fuel-program/ [https://perma.cc/JR9U-ARBM].

[83] *Id.*

[84] *Id.*

[85] H.B. 41, 2024 Gen. Assemb., Reg Sess. (N.M. 2024).

[86] Petition for Regulatory Change to Adopt 20.2.92 N.M.A.C., Clean Transportation Fuel Program 1–2 (N.M. Env't Dep't May 16, 2025), https://scs-public.s3-us-gov-west-1.amazonaws.com/env_production/oid349/did200062/pid_211426/project-documents/2025-05-16%20EIB%2025-23%20Petition%20to%20Adopt%2020.2.92.pdf [https://perma.cc/J52K-FMWX].

Transportation Fuel Program regulations, released in late 2024, proposed a framework that extends voluntary market participation to non-regulated fuels through an opt-in mechanism.[87] Within this structure, opt-in fuel producers, including alternative jet fuel, can register these fuels to produce, trade, bank, or retire credits while remaining exempt from compliance or deficit obligations.[88] This mechanism creates a formal pathway for the use of low-carbon aviation fuels within New Mexico's clean-fuel credit system without imposing compliance or deficit obligations on the aviation sector.

5. Summary of State Clean Fuel Standard Programs

There are some common features of these CFS states. These standards define climate and clean energy eligibility more broadly, allowing a wider range of low-carbon fuels to qualify; these standards also view SAF as one component of an economy-wide approach. This facilitates having SAF opt into the credit programs without establishing aviation fuel obligations, which can bring about federal pre-emption issues in regulating aviation fuel.[89] Such a practice is mostly in conformity with the federal law and international initiatives such as CORSIA.[90] It is also flexible: as SAF supply increases, these programs may eventually shift to SAF inclusion in the aviation fuel mix (for example, through a future rulemaking). One of the drawbacks is that credit prices in LCFS/CFS markets are volatile—their value depends on the dynamics of the ground transportation sector. In these schemes, therefore, the incentive to use SAF is rather indirect and depends on market signals.[91] At the moment, however, a mix of state credit subsidies and federal incentives (RFS credits and the Clean Fuel Production Credit)[92] can often make the difference in incentivizing investments in SAF production or use.

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[87] N.M. ENV'T DEP'T, DISCUSSION DRAFT RULE REGARDING THE CLEAN TRANSPORTATION FUEL PROGRAM 13 (Dec. 19, 2024), https://cloud.env.nm.gov/resources/_translator.php/NDg1MWY2MmRhZTY1YjUwODRkNDJlNTJlM18xNzg1NzA~.pdf [https://perma.cc/DE9X-6RVA].

[88] *Id.* at 11, 47–48.

[89] U.S. GOV'T ACCOUNTABILITY OFF., GAO-23-105300, SUSTAINABLE AVIATION FUEL: AGENCIES SHOULD TRACK PROGRESS TOWARD AMBITIOUS FEDERAL GOALS 22 (2023).

[90] *See* INT'L CIV. AVIATION ORG., CORSIA SUSTAINABILITY CRITERIA FOR CORSIA ELIGIBLE FUELS 3–5 (2025) [hereinafter INT'L CIV. AVIATION ORG., CORSIA], https://www.icao.int/sites/default/files/environmental-protection/CORSIA/Documents/CORSIA%20Eligible%20Fuels/ICAO-document-05-Sustainability-Criteria-June-2025.pdf [https://perma.cc/AH56-Q6RW] (broadly defining principles and criteria for themes like greenhouse gases and emissions reduction permanence, air, and social and economic development).

[91] *See Potential Impacts of LCFS-Style Programs on Fuels Markets*, STILLWATER ASSOCS. (Feb. 15, 2021), https://stillwaterassociates.com/potential-impacts-of-lcfs-style-programs-on-fuels-markets [https://perma.cc/M2NG-Z3J5].

[92] *See, e.g.*, Kristine A. Tidgren, *Unpacking the Section 45Z Clean Fuel Production Credit*, CTR. FOR AGRIC. L. & TAX'N (Aug. 1, 2024), https://www.calt.iastate.edu/post/unpacking-section-45z-clean-fuel-production-credit [https://perma.cc/3MYK-YGPR].

According to California authorities, there are several examples of offtake agreements in which the LCFS credit was a primary factor in enabling flight fueling with SAF at the San Francisco and Los Angeles airports.[93]

It is also worth noting that other states have been considering CFS legislation even if not yet enacted. In the Northeast and the Midwest, Massachusetts, New York, New Jersey, and Illinois have all considered LCFS-type bills that would encompass transportation fuels in general (and, by extension, SAF).[94] In 2023, some states introduced CFS laws, including Massachusetts, New Jersey, New York, Illinois, Minnesota, Michigan, and Hawaii.[95] Though these states have not yet passed these laws, the legislative interest implies that the club of states with CFSs could be growing.

B. Tax Incentives and/or Financial Support for SAF

Another major approach states have taken to boost SAF is through tax incentives and direct financial support. States with this approach (shown in purple/horizontal stripes and green/checkerboard pattern on the map in Figure 1) typically offer tax credits for SAF producers, suppliers, or consumers, providing a per-gallon subsidy for SAF that meets certain criteria. In some cases, states also offer grants, abatement of taxes, or other financial tools to encourage the development of SAF production facilities.

In total, nine states have used tax credits to either directly or indirectly support SAF development as of 2025. These include the credits in Illinois, Minnesota, Arkansas, Colorado, Montana, Nebraska, Nevada, and Washington, and the more general industrial support credit in Hawaii. Though these tax credits typically resemble the federal tax credit in structure, they differ in magnitude and time span. According to an International Council on Clean Transportation (ICCT) 2024 policy scorecard, many state SAF tax credits use text from the federal credits in the Inflation Reduction Act but modify the level of support.[96] Some states require the same fifty percent GHG reduction threshold on SAF as the federal credit, while others, such as Arkansas, lack an explicit GHG threshold, presumably assuming most SAF will pass at least fifty percent reduction.[97] The majority of the credits are time-bound, often expiring by

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93 U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 89, at 22.

94 *States with Pending Clean Fuel Programs*, FUSE, https://www.usefuse.com/about-fuse/pending-regulations/ [https://perma.cc/Q7UL-LU5X] (last visited Feb. 22, 2026).

95 *New Jersey, New Mexico Introduce Low-Carbon Fuel Standards*, DIESELNET (Feb. 20, 2024), https://dieselnet.com/news/*2024*/02rd.php [https://perma.cc/M3ZL-72DN]; NAVARRETTE, PAVLENKO & O'MALLEY, *supra* note 13, at 8.

96 NAVARRETE, PAVLENKO & O'MALLEY, *supra* note 13, at 6.

97 *See, e.g.*, ILL. ADMIN. CODE tit. 86, § 130.333(b)(1)(D) (2026) (defining SAF as a liquid fuel that, among other things, "has been certified in accordance with subsection (e) of Section 40B of the federal Internal Revenue Code of 1986 as having a lifecycle greenhouse gas emissions reduction percentage of at least 50%"); ARK. CODE ANN. § 26-51-2902(5) (2025) (defining sustainable aviation fuel as "kerosene-type jet fuel derived from wood biomass").

2027. Commentators have criticized this timeframe as too short to fully incentivize new SAF pathways.[98] States such as Minnesota and Illinois are using the 2030 timeframe to align with the federal incentive schedules, which phase out the Clean Fuel Production Credit in 2027, on the theory that they can always readjust and extend.[99]

1. Illinois

In 2023, Illinois adopted one of the first SAF tax credits in the Midwest.[100] Illinois offers a sales tax exemption (or repayment) of $1.50 per gallon on SAF sold to or used by an airline in the State that meets the requisite fifty percent reduction in greenhouse gas emissions.[101] The credit, referred to as the SAF Purchase Credit, is accessible from 2023 to 2032 to qualified purchasers of aviation fuel, including airlines and others.[102] The Illinois credit is similar to the federal 45Z tax credit, but it is noteworthy that even if the federal tax credit were to expire, the state credit will remain viable.[103] Further, the Illinois tax credit includes limitations on feedstocks that producers may use to generate SAF that receives the state tax credits. Through June 1, 2028, producers may make eligible SAF from biomass resources, waste streams, renewable energy sources, and/or gaseous carbon oxides; from June 1, 2028, onward, producers may make eligible SAF only from domestic biomass.[104] It appears that Illinois legislators intended to increase the desirability of Chicago-based O'Hare and Midway airports as locations where they would like to use SAF in hopes that it would lead to greater supply. Producers have given the credit positive feedback, with at least one large carrier expressing interest in sending more SAF to Illinois if economies improve.[105] Illinois' action has also put pressure on bordering states to enact similar incentives.

2. Minnesota

In 2023, the Minnesota Legislature passed its own SAF tax credit program, making the state a leader in the Upper Midwest.[106] The

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98 O'MALLEY, PAVLENKO & HYUN KIM, *supra* note 9, at i.

99 26 U.S.C. § 45Z(g).

100 Erin Krueger, *Illinois Lawmakers Approve $1.50 Per Gallon SAF Tax Credit*, ETHANOL PRODUCER MAG. (Jan. 24, 2023), https://ethanolproducer.com/articles/illinois-lawmakers-approve-1-50-per-gallon-saf-tax-credit-19912 [https://perma.cc/4EA9-JXDN].

101 *Id.*

102 ILL. ADMIN. CODE tit. 86, § 130.3 33(a)(1) (2026).

103 *Id.*

104 *Id.* § 130.333(b)(2)(B).

105 *Neste Provides Sustainable Aviation Fuel to United Airlines for Use at Chicago O'Hare International Airport in the U.S.*, NESTE (July 31, 2024), https://www.neste.com/news/neste-provides-sustainable-aviation-fuel-to-united-airlines-for-use-at-chicago-o-hare-international-airport-in-the-u-s [https://perma.cc/Z6UG-XH8P].

106 *ICYMI: Governor Walz Highlights Efforts to Grow Sustainable Aviation Fuels Industry Using Minnesota's Crop-Based Biofuels*, OFF. OF GOVERNOR TIM WALZ & LT.

Minnesota SAF Credit is a $1.50 per gallon pre-set credit, established to incentivize the production or blending of SAF produced in Minnesota with at least a fifty percent reduction in GHGs.[107] The credit applies to the sale of fuel from 2024 to 2030.[108] Minnesota is unique in that either fuel producers or blenders (including possibly airline fuel suppliers) can claim the credit so long as the fuel meets the sustainability threshold.[109] Minnesota supplemented the credit by providing up to $11.6 million to finance it over its lifetime, effectively setting a cap on support and guaranteeing that budget funds would be available.[110] This incentive was included in a broader Minnesota state goal to be a leader on SAF, and it tries to use the agricultural and forestry industries in the State to provide feedstock.[111] The state has already tapped the incentive to attract at least one project—for example, one of the developers of a proposed blending plant cited the state incentive as part of the reason for locating the project in Minnesota.[112] The Minnesota framework shows how a state in the middle of the country can muster interest by directly entertaining the proposal of subsidizing SAF manufacturing and utilization.

3. Arkansas

Arkansas enacted the Sustainable Aviation Fuel Incentive Act[113] in 2025, creating an income tax credit equal to thirty percent of the cost of SAF production and processing equipment purchased for use in Arkansas by a qualified SAF manufacturer.[114] For the State to consider a manufacturer a qualified SAF manufacturer under the Act, the

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GOVERNOR PEGGY FLANAGAN (Aug. 25, 2023), https://mn.gov/governor/newsroom/press-releases/?id=589989 [https://perma.cc/8F5D-J9JM].

107 Julia Silvis & Jeff Davidman, *Sustainable Aviation Fuel: Accelerating the Aviation Industry's Path to Net Zero*, NAT'L ASSOC. CLEAN AIR AGENCIES (Mar. 25, 2025), https://www.4cleanair.org/wp-content/uploads/SAFPresentationNACAASlides-03252025.pdf [https://perma.cc/95LH-E8AC] (discussing the March 25, 2025, National Association of Clean Air Agencies' Mobile Sources and Fuels Committee Meeting that highlighted Minnesota's legislation for leading SAF policies); MINN. STAT. § 41A.30 (2025).

108 MINN. STAT. § 41A.30(5) (2025).

109 *Id.* §§ 41A.30(1)(f), (2)(a).

110 Isak Kvam, *What's Up with Sustainable Aviation Fuel in Minnesota?*, FRESH ENERGY (Aug. 23, 2024), https://fresh-energy.org/whats-up-with-sustainable-aviation-fuel-in-minnesota [https://perma.cc/3DLN-FREC].

111 *Minnesota Pollution Control Agency Revised 2026–27 Governor's Biennial Budget Recommendations*, MINN. POLLUTION CONTROL AGENCY 1, 24 (Mar. 2025), https://mn.gov/mmb-stat/documents/budget/2026-27-biennial-budget-books/governors-revised-march/pollution-control-agency.pdf [https://perma.cc/G5EE-Y8YM] (noting that "Minnesota has a prime opportunity to be a leader in the production of Sustainable Aviation Fuel (SAF)" and with proper policies, Minnesota can support its "agriculture and forestry sectors" through SAF development).

112 *Delta, Minnesota SAF Hub Announce Plans for SAF Blending Facility and Other Unique Milestones*, DELTA NEWS HUB (Sep. 12, 2024), https://news.delta.com/delta-minnesota-saf-hub-announce-plans-saf-blending-facility-and-other-unique-milestones [https://perma.cc/RZF6-D8PX].

113 ARK. CODE ANN. § 26-51-2901 (2025).

114 ARK. CODE ANN. § 26-51-2903(a)(1) (2025).

manufacturer must have invested at least $2 billion in a qualified SAF project as defined by the Act, among other requirements.[115]

4. Colorado

In 2023, Colorado passed a law (HB 23-1272)[116] that includes a tax credit for SAF production.[117] Colorado's program offers credits to SAF producers in the State up to thirty percent of the cost to construct, reconstruct, or erect a SAF production facility.[118] The state can apply this credit to fuels manufactured from 2024 to 2033.[119] Unlike the policies in Illinois and Minnesota that focus on usage/sales, Colorado focuses on production: it offers a company a chance to produce SAF in the State by partially covering the expenses with tax reductions.[120] This also supports Colorado's economic development goal to become a center of renewable fuel innovation, building on the existing ethanol and renewable diesel industry activity. Along with the tax credit, Colorado has also provided grant funding to explore siting of a potential production facility.[121] These combine to make the Colorado package fairly comprehensive. Analysts from the Colorado Office of the State Auditor report that the state SAF incentive covers only a small share of project costs and operates alongside federal clean fuel tax credits.[122] Taken together with other incentives (including federal tax credits), such overlapping incentives may function cumulatively in shaping investment behavior.[123] Analysts have traced Colorado and Illinois (both with 2023 statutes) as sources of inspiration for bills being introduced in other states, including Pennsylvania.

5. Montana

In 2023, Montana enacted SB 510,[124] a law to support renewable diesel and, by extension, SAF.[125] The law gives tax incentives to property and equipment used in the production of alternative fuels.[126] New SAF or

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115 *Id.* § 26-51-2903(a)(1)(A)(ii).

116 H.B. 23-1272, 2023 Gen. Assemb., Reg. Sess. (Colo. 2023).

117 *Id.*

118 COLO. REV. STAT. § 39-22-556(3)(a) (2025).

119 *Id.*

120 *Id.* §§ 39-22-556(2)(e), (3).

121 Josie Taris, *Western Slope Airports to Study Sustainable Aviation Fuel Refinery*, ASPEN DAILY NEWS (Dec. 7, 2024), https://www.aspendailynews.com/news/western-slope-airports-to-study-sustainable-aviation-fuel-refinery/article_35a36fee-b478-11ef-9308-b3c0dfde5c7b.html [https://perma.cc/6RBU-F3B9].

122 Memorandum from the Colorado Office of the State Auditor, Sustainable Aviation Fuel State Incentives Memo (May 2025).

123 *How Multiple SAF Incentives Impact the Green Premium*, 4AIR, https://www.4air.aero/whitepapers/how-multiple-saf-incentives-impact-the-green-premium [https://perma.cc/K7XG-SXJ2] (last visited Feb. 18, 2026); see also NAVARRETE, PAVLENKO & O'MALLEY, *supra* note 13, at 13.

124 S.B. 510, 68th Leg., Reg. Sess. (Mont. 2023).

125 *Id.*

126 *Id.*

other biofuel-producing facilities in Montana can obtain exemptions or reductions on local property taxes, with a potential reduction of up to fifteen years in local property taxes as well as some state taxes during construction.[127] Though Montana's law does not provide a per-gallon incentive, it effectively reduces the cost of capital and operating expenses of SAF manufacturers.[128] This has been leveraged in securing a significant project: Calumet Inc.'s Montana Renewables refinery in Great Falls, which produces renewable diesel and is set to produce SAF.[129] The state and local officials have granted Calumet tax abatements for its investment and expansion at its biodiesel plant.[130] Another option is exemplified by Montana's use of its tax code to minimize overhead on SAF plants. By considering SAF facilities as economic development attractions (as states might do with technology or manufacturing industries), Montana stands to gain with locally based production that could provide SAF to local airports.

6. Nebraska

Nebraska, a major biofuel-producing state, enacted LB 937,[131] establishing a SAF tax credit effective in 2024.[132] Nebraska offers a tax credit of $0.75 per gallon of SAF sold and used in the State, plus an additional $0.01 per gallon for each percentage point by which the fuel's life-cycle greenhouse gas emissions reduction exceeds fifty percent.[133] The credit is capped at $0.5 million per year and ends on January 1, 2035.[134] The policy emerged from the State's Ethanol Board and farm industry advocacy, as they see SAF as a new market for ethanol. While the credit amount is modest, it can stack with federal incentives. Nebraska's inclusion is notable because it reflects a strategy of expanding the existing biofuels economy into aviation fuels.

7. Nevada

Unlike other states with SAF-specific tax policy, Nevada has offered tax incentives through its economic development policy tools. In early

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127 *Id.*

128 *See id.*

129 Erin Krueger, *Calumet: Montana Renewables SAF Expansion Progressing on Schedule*, SAF MAG. (Aug. 13, 2025) [hereinafter Krueger, *Calumet*], https://safmagazine.com/articles/calumet-montana-renewables-saf-expansion-progressing-as-scheduled [https://perma.cc/VH8J-V2VV]; *A Closer Look at Calumet's Tax Benefits*, MONT. FREE PRESS (Oct. 21, 2024), https://montanafreepress.org/2024/10/21/a-closer-look-at-calumets-tax-benefits/ [https://perma.cc/M22T-BZ9C].

130 Krueger, *Calumet*, *supra* note 129.

131 L.B. 937, 2024 Leg., 108th Reg. Sess. (Neb. 2024).

132 *Id.*

133 Brent Barnett, *SAF Tax Credit Bill Signed Into Law in Nebraska*, BROWNFIELD (Apr. 26, 2024), https://www.brownfieldagnews.com/news/saf-tax-credit-bill-signed-into-law-in-nebraska/ [https://perma.cc/2XW8-FLVM].

134 L.B. 937, 2024 Leg., 108th Reg. Sess. (Neb. 2024).

2024, the State of Nevada approved a large tax abatement package for a proposed renewable diesel and SAF production facility.[135] The Nevada Governor's Office of Economic Development provided $11.72 million in tax credits—specifically, sales and use tax abatement and modified business tax abatement—to a renewable diesel plant with an annual capacity of 120 million gallons of renewable diesel and SAF.[136] Although this is not an all-producers program, this is a case-by-case incentive that shows that Nevada is willing to support SAF through industrial incentives. Nevada has also proposed legislation to establish a more generic SAF incentive fund (with producer credits on a per-gallon basis), although as of 2025 that has not been enacted.[137] The State's practice is reflective of an overall trend of spending on custom deals and economic development incentives to incentivize SAF production even without blanket tax credit legislation. Nevada also highlights how even states with no formal SAF policy may provide incentives when a major project and its employment/investment is at hand.

8. Washington

In 2023, Washington State established a tax credit for the purchase of alternative jet fuels that reduce carbon emissions by at least fifty percent for flights departing from Washington.[138] Fuels that meet the minimum fifty percent carbon dioxide equivalent emissions reduction will qualify for a $1.00 tax credit;[139] the value of the tax credit increases by $0.02 for each additional percentage point reduction in carbon dioxide equivalent emissions, up to a maximum value of $2.00 per gallon.[140] However, the statute does not allow anyone to claim the tax credit until there is a cumulative production of at least 20 million gallons of alternative jet fuel in Washington.[141] Until producers reach that production total, the tax credit will remain unavailable to SAF purchasers.

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135 Erin Krueger, *Nevada Approves Tax Abatements for Proposed Renewable Diesel, SAF Project*, BIOMASS MAG. (Feb. 1, 2024), https://biomassmagazine.com/articles/nevada-approves-tax-abatements-for-proposed-renewable-diesel-saf-project [https://perma.cc/F6X3-Q4WU].

136 *Id.*

137 Erin Voegele, *Nevada Bill Aims to Create SAF Incentive Fund*, ETHANOL PRODUCER MAG. (June 3, 2025), https://ethanolproducer.com/articles/nevada-bill-aims-to-create-saf-incentive-fund [https://perma.cc/UJ69-E6GK].

138 WASH. REV. CODE § 82.04.4361 (2024); Perry Cooper, *New Washington Law Incentivizes Local Sustainable Aviation Fuel Production*, PORT OF SEATTLE (May 3, 2023), https://www.portseattle.org/news/new-washington-law-incentivizes-local-sustainable-aviation-fuel-production [https://perma.cc/XX3Q-MMW3].

139 WASH. REV. CODE 82.04.4361(1)(b) (2024).

140 *Id.* § 82.04.4361(1)(c).

141 *Id.* § 82.04.4361(1)(e).

9. Hawaii

Hawaii has approached SAF policy with a broad-based Renewable Fuels Production Tax Credit.[142] Hawaii encourages the production of renewable fuels through a tax incentive worth up to $0.20 per gallon subject to an annual cap; this can include SAF made using renewable sources.[143] Hawaii credits are feedstock- and fuel-neutral (including possible ethanol, biodiesel, SAF, etc.), and are intended to encourage home-grown fuels to lessen dependence on non-local fossil resources. Although Hawaii's Renewable Fuels Production Tax Credit is not SAF specific, the State can use it to facilitate SAF production from feedstocks such as municipal solid waste or agricultural oil projects; this tax mechanism helps create a potential market in Hawaii.[144] Hawaii also has publicly declared a goal to increase aviation biofuel consumption within its renewable energy and climate plan, despite there being no concrete SAF consumption requirements as yet.[145] Though other factors, such as the isolated island geography of Hawaii, would require any SAF employed to possibly be created on-island or imported at high costs, the policy at least offers its own basis on the future possibility.

C. Proposed and Emerging SAF Policies in Other States

Beyond the states that have enacted measures, a significant number of states have laid the groundwork for SAF policies through introduced legislation, executive initiatives, or exploratory studies. These efforts indicate where the next wave of state SAF policies may emerge. This research identified approximately ten states that, while not having passed laws yet, have taken concrete steps such as drafting bills, setting up SAF task forces, or including SAF in strategic plans.

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142 HAW. REV. STAT. § 235-110.32 (2025).

143 *Id.*; s*ee also Renewable Fuels Production Tax Credit*, HAW. STATE ENERGY OFF., https://energy.hawaii.gov/renewable-fuels-production-tax-credit/ [https://perma.cc/343C-92FB] (last visited Feb. 18, 2026) (describing the administration of Hawai'i's renewable fuels production tax credit, including eligibility thresholds, lifecycle-emissions requirements, and Hawaii State Energy Office certification procedures).

144 *See generally* HAW. REV. STAT. § 235-110.32 (2025) (describing the renewable fuels production tax credit mechanism without specifically referencing sustainable aviation fuel).

145 HAW. DEP'T OF TRANSP., HAWAI'I ENERGY SECURITY AND WASTE REDUCTION PLAN FINAL 4 (2025); *see also* Paula Dobbyn, *Hawaii's Clean Energy Transition Faces Steep Hurdles, Study Finds*, ADVANCED BIOFUELS USA (July 31, 2023), https://advancedbiofuelsusa.info/hawaii-s-clean-energy-transition-faces-steep-hurdles-study-finds [https://perma.cc/4DNB-MC6S] (reporting that Hawai'i's decarbonization efforts include attention to aviation fuels, while noting both the continued developmental status of sustainable fuels and the absence of finalized statewide implementation measures).

1. Pennsylvania

Pennsylvania has not yet established a SAF incentive program, although it came close during the 2023-2024 session. House Bill 2402 (2024) would have provided SAF tax credits to manufacture and use SAF, grants to build infrastructure, air transport emission reduction targets, and SAF research and development funds.[146] Though HB 2402 did not pass during the 2023-2024 legislative session, it had a significant level of bipartisan support with a blend of rural, urban, republican, and democratic co-sponsors.[147] Meanwhile, in 2025, Governor Josh Shapiro unveiled an energy plan that would make SAF projects eligible to receive state economic development tax credits (up to $15 million per project).[148] This proposed "Lightning Plan" would essentially generate a SAF production credit by expanding an existing manufacturing tax credit program. Should the Governor's proposal be implemented by way of a budget or independent legislation, Pennsylvania may soon have a notable SAF incentive, putting it in a similar class as states like Illinois and Colorado. Also, the major airports within Pennsylvania (particularly Pittsburgh) are actively undertaking their own SAF processes, with the Pittsburgh International Airport leading a consortium to create an on-site SAF production facility utilizing natural gas and waste feedstocks.[149] All these actions make Pennsylvania a state on the brink of a SAF policy, subject to formal adoption of the proposed incentives.

2. New York

New York is considered one of the most vibrant aviation markets in the nation, and has been actively focusing on climate action. The State passed climate commitments through its Climate Leadership and Community Protection Act (CLCPA)[150] in 2019.[151] The Act directs New York State to achieve seventy percent renewable energy by 2030 and net-zero emissions statewide by 2050.[152] The legislature has made attempts

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146 H.B. 2402, Gen. Assemb., Reg. Sess. (Pa. 2024).

147 *Id.*; *House Bill 2402: 2023-2024 Regular Session*, PA. GEN. ASSEMB., https://www.palegis.us/legislation/bills/2023/hb2402 [https://perma.cc/5KRB-2REQ] (last visited Feb. 18, 2026) (listing bill sponsors).

148 *Governor Shapiro's "Lightning Plan" Moves Forward in General Assembly as Two Key Components Pass House of Representatives*, COMMONWEALTH OF PA. (May 15, 2025), https://www.pa.gov/governor/newsroom/2025-press-releases/gov-shapiro-s—lightning-plan—moves-forward-two-key-components- [https://perma.cc/LS2M-AX9F].

149 Samyak Pandey & Sofia Cabrera, *Pittsburgh Airport to Host First On-Site SAF Plant in US with Avina*, S&P GLOBAL (May 30, 2025), https://www.spglobal.com/energy/en/news-research/latest-news/agriculture/053025-pittsburgh-airport-to-host-first-on-site-saf-plant-in-us-with-avina?kw=%257Bkeyword%257D [https://perma.cc/6LG4-ZPHU].

150 Climate Leadership & Community Protection Act, ch. 106, 2019 N.Y. Laws 1774.

151 *Id.*

152 *Climate Change Statutes, Regulations, and Policies*, N.Y. STATE DEP'T. OF ENV'T CONSERVATION, https://dec.ny.gov/environmental-protection/climate-change/statutes-regulations-policies [https://perma.cc/LFR4-8F4E] (last visited Jan. 31, 2026).

to promote SAF on several occasions. In 2025, a legislative committee introduced a New York Senate bill to establish a New York SAF incentive fund which would offer a state production credit of between $1.25 and $1.50 per gallon.[153] These bills did not pass out of committee; however, in its 2025 New York State Energy Plan, the administration of Governor Kathy Hochul identified SAF as a technology that could benefit from "[f]ocused attention . . . by the State."[154] New York is in the process of examining an LCFS (also known as a CFS) that may encompass aviation fuels and be designed in a manner that would allow it to coordinate with other Northeastern states' attempts to reduce greenhouse gas emissions.[155] New York has two large airports (JFK, LaGuardia), so it may eventually adopt either an LCFS (perhaps in a Northeast consortium) or a more specific SAF incentive to assure access to cleaner fuels at its airports. While New York has yet to pass legislation, it appears to be a key state to watch.

3. New Jersey

New Jersey is another state to watch. In recent years, New Jersey has introduced bills creating a CFS. New Jersey nearly introduced an LCFS bill in 2022 that explicitly provided jet fuel inclusion into the program's scope.[156] While it did not pass, the introduction of the bill again in 2024 and 2026 indicated continued interest.[157] In an additional effort, the New Jersey Department of Environmental Protection has made statements recognizing SAF as a trend or as part of an aviation emissions strategy. For example, the New Jersey Energy Master Plan explicitly mentions support for low-carbon consumption fuels in aviation.[158] If New Jersey were to become the first East Coast state to create its CFS, this would also add pressure on neighboring states.

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153 S.B. 1229, 2025-26 Reg. Sess. (N.Y. 2025).

154 DOREEN M. HARRIS ET AL., 2025 NEW YORK STATE ENERGY PLAN, N.Y. STATE ENERGY PLANNING BOARD 54 (2025).

155 Erin Voegele, *Legislation Aims to Create Clean Fuel Standard in New York*, ADVANCED BIOFUELS USA (Apr. 30, 2025), https://advancedbiofuelsusa.info/legislation-aims-to-create-clean-fuel-standard-in-new-york [https://perma.cc/V7CG-NNB4]; ANDREW CHEN ET AL., RMI, REFUELING AVIATION IN THE UNITED STATES: EVOLUTION OF US SUSTAINABLE AVIATION FUEL POLICY 16 (2024).

156 *Understanding NJ's Clean Fuel Standard: A New Era of Sustainable Transportation*, N.J. CLEAN CITIES COAL. (May 10, 2024), https://njcleancities.starchapter.com/blog/Understanding_New_Jersey_s_Clean_Fuel_Standard [https://perma.cc/68MA-FWVC]; *U.S.: New Jersey Introduces State Clean Fuel Standard Legislation*, SGS: INSPIRE (Feb. 14, 2024), https://inspire.sgs.com/content/101104033/u-s-new-jersey-introduces-state-clean-fuel-standard-legislation [https://perma.cc/XFR3-ZDGT].

157 S.B. 2425, 221st Leg., 1st Ann. Sess. (N.J. 2024) (defining "alternative fuel" to include SAF); S.B. 2318, 222d Leg., 1st Ann. Sess. (N.J. 2026).

158 HELAINE BARR ET AL., N.J. DEP'T OF ENV'T PROT., RUTGERS CLIMATE CHANGE RES. CTR., NEW JERSEY'S PRIORITY CLIMATE ACTION PLAN 12 (2024).

4. Massachusetts

Similar to Pennsylvania, New York, and New Jersey, Massachusetts has considered but not enacted a SAF-specific law yet. The state has been active in other regards. In 2022, state leaders and the Massport Authority, which runs Logan Airport, published a Massachusetts SAF vision plan and formed a working group to identify ways the State could become a SAF hub.[159] Massachusetts enacted broader clean energy legislation in 2024: the Mass Leads Act[160] authorized $2.86 billion in economic development bonds, including $200 million for the Clean Energy Investment Fund to facilitate research, development, commercialization, and deployment of climate technologies.[161] In November 2024, Governor Healey signed an Act promoting a clean energy grid, advancing equity, and protecting ratepayers, which authorizes state agencies to advance clean energy initiatives, including reforming siting and permitting for clean energy facilities.[162] In the State's 2050 Decarbonization Roadmap, climate officials identified aviation as one of the medium and heavy-duty transportation subsectors requiring decarbonization strategies, noting that commercial aviation faces particular challenges and that zero-carbon aviation fuels would need to be rapidly scaled up and become cost-effective to address residual emissions.[163] Therefore, Massachusetts is poised to translate these climate commitments into concrete SAF incentives as it works toward its goal of net-zero emissions by 2050.

5. Indiana, North Dakota, and Others

An array of traditionally fossil-fuel-producing or agricultural states has also introduced bills related to SAF. In 2024, Indiana proposed House Bill 1315 that would provide any retailer who sells SAF with an income tax credit—essentially a minor, per-gallon incentive for the supply of

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159 *Massport and State Leaders Launch Vision for Regional SAF Hub*, MASSPORT (June 5, 2025), https://www.massport.com/media/newsroom/massport-and-state-leaders-launch-vision-regional-saf-hub [https://perma.cc/9PPN-WUSG].

160 An Act Relative to Strengthening Massachusetts' Economic Leadership, 2024 Mass. Acts, ch. 238 (2024).

161 *Senate Passes $2.86 Billion Boost to Life Sciences, Climate Tech, A.I., and Small Businesses*, SENATE PRESS ROOM (July 11, 2024), https://malegislature.gov/PressRoom/Detail?pressReleaseId=113 [https://perma.cc/6BTB-AZ2N].

162 An Act Promoting a Clean Energy Grid, Advancing Equity and Protecting Ratepayers, 2024 Mass. Acts, ch. 239 (2024); Press Release, Governor Maura Healey & Lt. Governor Kim Driscoll, Governor Healey Signs Climate Law to Advance Clean Energy Transition, Create Jobs and Lower Costs (Nov. 21, 2024), https://www.mass.gov/news/governor-healey-signs-climate-law-to-advance-clean-energy-transition-create-jobs-and-lower-costs [https://perma.cc/7F8M-GHPF].

163 MASS. EXEC. OFF. OF ENERGY & ENV'T AFFS., MASSACHUSETTS 2050 DECARBONIZATION ROADMAP 39, 43 (2020), https://www.mass.gov/doc/ma-decarbonization-roadmap-lower-resolution/download [https://perma.cc/9QTB-DWTB].

aviation fuels.[164] Indiana also examined the possibility of diverting some of the revenues collected as an aviation fuels tax into a state aviation fund that would help fund SAF infrastructure.[165] North Dakota proposed a bill to establish a grant program to support advanced biofuel research, including SAF, which demonstrated state interest in an alternative to oil.[166] In Michigan, a proposed 2023 bill would have established a low-carbon fuel standard, including SAF; this bill did not pass.[167] Kentucky likewise entertained a bill that would provide credit for SAF, both under SB 323 (2022) and SB 313 (2024).[168] These bills are aligned with Kentucky's ongoing interest in SAF as a potential development opportunity.[169] Although none of these bills have yet become law, they highlight the bipartisan and cross-regional interest in supporting SAF production and use: farm states have a new market to sell their crops, Texas and other oil states have an opportunity to repurpose or advance their refineries, and transportation hub states have a new economic development and environmental opportunity.

Overall, momentum is building to support SAF in a range of states. In many cases, a proposal that failed during one session returns in the next with more support, especially as more states begin to succeed with their programs. By late 2024, we saw a kind of bandwagon effect: for example, Minnesota's successful credit spurred talk of similar legislation in Wisconsin and Missouri; Illinois's credit attracted Ohio's attention; New Mexico's CFS put pressure on neighbors like Arizona and Texas to not fall behind. While this Article does not cover every state proposal, it is clear from research that the map of SAF policies could expand significantly in the next few years. Policymakers are increasingly aware

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164 *See Biofuels Tax Incentive Bill Introduced in Indiana General Assembly*, IND. CORN & SOY (Jan. 12, 2024), https://incornandsoy.org/biofuels-tax-incentive-bill-introduced-in-indiana-general-assembly/ [https://perma.cc/793J-JL44]; *see generally* H.B. 1315, § 1, 123rd Gen. Assemb., 2d Reg. Sess. (Ind. 2024) (text of the proposed Indiana legislation on biofuels tax credits).

165 *See* Dan Namowitz, *Indiana Bill Would Ensure Sustainable Aviation Funding*, AOPA (Feb. 9, 2015), https://www.aopa.org/news-and-media/all-news/2015/february/09/indiana-bill-would-ensure-sustainable-aviation-funding [https://perma.cc/NQ4H-BQN6].

166 *See* Erin Voegele, *North Dakota Creates Program to Help Ethanol Producers Lower Their CI Scores*, ETHANOL PRODUCER MAG. (May 1, 2025), https://ethanolproducer.com/articles/north-dakota-creates-program-to-help-ethanol-producers-lower-their-ci-scores [https://perma.cc/35MS-BP2S].

167 *Michigan Considered an LCF Program (2024)*, STILLWATER PUBL'NS (Jan. 15, 2026), https://stillwaterpublications.com/michigan-considers-an-lcf-program-2024/ [https://perma.cc/UH73-LG7Y]; Hernz Laguerre & Jenny Sherman, *MichMash: The Environmental Dilemma of Michigan's 'Low Carbon Fuel Standard' Bill*, WDET 101.9 FM (Nov. 22, 2024), https://wdet.org/2024/11/22/the-environmental-dilemma-of-michigans-low-carbon-fuel-standard-bill/ [https://perma.cc/E47Z-UCXL]; S.B. 275, 2023-24 Leg. (Mich. 2023).

168 S.B. 323, Gen. Assemb. (Ky. 2022); S.B. 313, Gen. Assemb. (Ky. 2024).

169 Dave Melanson, *CAER, State Energy and Environment Cabinet Complete Sustainable Aviation Fuel Study*, UNIV. OF KY. RSCH. (Oct. 10, 2025), https://research.uky.edu/news/caer-state-energy-and-environment-cabinet-complete-sustainable-aviation-fuel-study [https://perma.cc/NGG7-4Q99].

that if they want to attract the burgeoning SAF industry and its environmental and economic benefits, they may need to act sooner rather than later.

D. Non-Active States: Gaps and Considerations

About thirty-one states have not yet taken any direct action on SAF policy. This includes many states in the Southeast, Great Plains, and parts of the Midwest. Notable among the "no action" group are large aviation hubs like Georgia (home to the world's busiest airport in Atlanta), Texas (a center of both aviation and energy refining), Florida (with multiple major airports), and others such as Ohio, Virginia, and North Carolina. These are states where, despite significant aviation activity, there are no state-level incentives or mandates for SAF as of this writing. Several reasons why a state might not have acted on SAF include the following:

Different Policy Priorities or Philosophies: Low fuel prices are a priority in some states, and some policymakers may have reservations about mechanisms that can be construed as adding costs to air travel or airline administrative burdens. As an example, states whose economies are largely dependent on fossil fuels (oil production or processing) may see SAF mandates or low-carbon standards as a risk to industries.[170] Political ideology may also contribute, as policymakers who do not view climate change as a serious threat may be less willing to deploy regulatory or market approaches to climate targets; this is probably one reason why most conservative-leaning states (many of which have large oil industries) have not undertaken SAF policies.

Lack of In-State Industry or Feedstock: States may not be rewarded economically unless they have either SAF manufacturers or access to large amounts of feedstock.[171] To give an example, a state with few agriculture activities and no refineries may be less inclined to provide biofuel incentives. That state may instead depend on consuming some SAF that becomes available through federal incentives and without state spending. A number of the no-action states lack visible producers with an interest in an incentive (as was the case with corn growers in Iowa or Illinois, or the refinery in Washington).

Reliance on Federal Action: Some states may feel that federal policy (through the Clean Fuel Production Credit, the proposed

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170 *See* INT'L AIR TRANSP. ASS'N, GLOBAL OUTLOOK FOR AIR TRANSPORT: A WORLD WITH LOWER OIL PRICES? 4 (2024).

171 *See generally* Jason Ik Cheng Lau et al., *Emerging Technologies, Policies and Challenges Toward Implementing Sustainable Aviation Fuel (SAF)*, BIOMASS & BIOENERGY, June 4, 2024, at 1, 4 ("The SAF supply can be encouraged by . . . policy approaches, such as through research and development, investment, and financial incentives. They can also create demand for SAF through mandates, subsidies and commitments while facilitating the SAF marketplace through standards. [ICAO] outlined policy categories that aim to enhance the capacity and supply of SAF feedstock and fuel production.").

Sustainable Skies Act,[172] or proposed EPA jet fuel emission regulations) will address SAF adequately, rendering state action superfluous.[173] States that foresee airlines beginning to adopt SAF because of corporate commitments to environmental, social and governance, or federal policy may not feel a need to develop a state program.

V. CHALLENGES AND OPPORTUNITIES IN STATE SAF POLICIES

As state governments across the United States adopt diverse SAF incentives, these states face a range of structural and operational challenges that shape the overall effectiveness of these incentives. The rapid expansion of state-level activity has accelerated early market formation, yet inconsistencies in program design, timing, and scope have created uneven outcomes across jurisdictions. As states experiment with tax credits, CFS, and grant programs to advance SAF production and use, questions persist about their long-term sustainability, coordination with federal policy, and ability to ensure coherence within a fragmented policy landscape. The following section explores how these varied approaches influence the trajectory of SAF deployment, revealing both the promise of decentralized innovation and the continuing need for policy alignment across the federal system.

Challenge 1—Policy Efficacy and Shuffling: A potential issue that analysts note is that most of the existing state policies do not effectively contribute to total SAF production but instead redirect the few existing supplies to jurisdictions with the most attractive incentives.[174] For example, California's LCFS and Washington's credits make SAF more valuable in those two states, which means suppliers may transport fuel there at the expense of other states. This will help those states achieve their goals but may not result in any accelerated reduction in global emissions if the total amount of SAF produced remains the same. Moreover, state policies may also redirect feedstocks: producers may direct a limited supply of used cooking oil to renewable diesel production in one state and toward SAF in another, pursuing credits without necessarily dropping the total carbon load and leading to what is known as "the leakage effect."[175]

Potential Policy Response: Policymakers are acknowledging this and have begun developing guardrails, like aligning credit programs or collectively rewarding a ramp up in feedstock supply and SAF capacity to address leakage concerns. The ICCT 2024 scorecard advised states to employ longer-term, harmonized policies to prevent the risk of once again

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172 Sustainable Skies Act, H.R. 3440, 117th Cong. (2021).

173 *See* Erin Krueger, *Sustainable Skies Act Aims to Enact Blenders Credit for SAF*, BIOMASS MAG. (May 19, 2021), https://biomassmagazine.com/articles/sustainable-skies-act-aims-to-enact-blenders-credit-for-saf-18016 [https://perma.cc/3VWT-KE74].

174 Wang, Jia Ting & Zhao, *supra* note 20, at 5.

175 William A. Scott, *Cost, Innovation, and Emissions Leakage from Overlapping Climate Policy*, ENERGY ECONS., Sep. 30, 2024, at 1, 4–5, 10.

racing to bid up the price of the same gallon of SAF.[176] This could include establishing regional trading systems for credit or a consensus on common sustainability standards as a guaranty of environmental integrity.[177]

Challenge 2—Short Policy Horizons: Many state incentives are set to expire by 2027 or 2030, which is understandable given budget cycles and the expectation of a maturing industry. However, from a project developer's perspective, a new SAF plant can take three to five years to permit and build, so a credit that ends in five years might not justify the investment. Some state programs may be too short-term to induce capital-intensive SAF projects.[178] For example, a refinery evaluating a SAF production retrofit in 2025 would consider the map in 2030 and see that many state credits expire, causing hesitation. It is also unclear whether states will renew these incentives. Unless SAF achieves parity with standard Jet A fuel by the late 2020s, states will have to make decisions about whether they can continue those subsidies.

Potential Policy Response: States can counteract this hesitation by expanding programs or turning tax credit incentives into grants and/or loans that cover upfront costs. States may also pre-emptively extend successful programs to provide longer time horizons, providing stability and sending a signal to investors that states will incentivize the market in the longer term.[179]

Challenge 3—Sustainability and Definitions: Not every state policy has the same provisions spelling out what SAF means and what protections are offered to the environment. Though some states would consider the ICAO CORSIA standards (greater than ten percent GHG reduction in the lifecycle and no high-carbon land sources) a minimum, most would say the target should be stronger.[180] The majority of state legislation to date either implicitly or explicitly specifies at least a fifty percent reduction in GHG emissions or other metric, such as CORSIA sustainability criteria, and, where applicable, aligns with guidance

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176 NAVARRETE, PAVLENKO & O'MALLEY, *supra* note 13, at 21–22.

177 *Id.*; Matteo Prussi, *The Sustainability Dimension for Sustainable Aviation Fuels (SAF): Comparing Regional and International Approaches*, SUSTAINABILITY, Sep. 19, 2025, at 15–16; Parag Kadam & Puneet Dwivedi, *Inflight Sustainability: Harmonizing Certification Standards for Sustainable Aviation Fuel Adoption*, BIOENERGY RSCH., Dec. 12, 2025, at 1, 6.

178 *See* Scott, *supra* note 175, at 9, 17; NAVARRETE, PAVLENKO & O'MALLEY, *supra* note 13, at 10; OSCAR ROSALES CALDERON ET AL., SUSTAINABLE AVIATION FUEL (SAF) STATE-OF-INDUSTRY REPORT: STATE OF SAF PRODUCTION PROCESS, NAT'L RENEWABLE ENERGY LAB'Y 25 (2024).

179 *See* Adam Klauber, *SAF Policy Around the World: A Sampler*, WORLD ENERGY, https://worldenergy.net/resource/saf-policy-around-the-world/ [https://perma.cc/8HQV-ALA4] (last visited Mar. 10, 2026).

180 INT'L CIV. AVIATION ORG., CORSIA, *supra* note 90, at 2–3, 7; Ausilio Bauen et al., *CORSIA Lower Carbon Aviation Fuels: An Assessment of the Greenhouse Gas Emission Reduction Potential*, APPLIED SCIS., Nov. 21, 2022, at 1, 1–3.

produced by the federal government (such as the GREET model)[181] that is used to conduct sustainability calculations.[182] Illinois, Minnesota, and Nebraska all insist on life cycle analysis and certification of a fuel to receive credits.[183] While standards are important, enforcement will play a major role.

Potential Policy Response: States can develop capacity to audit the chain of SAF supply—a role new to many state environmental agencies. States could work together or outsource this verification, perhaps through EPA or through systems such as California's LCFS.

Challenge 4—Federal-State Interaction: State policies do not exist in a vacuum—they interact with federal measures in complex ways. The Inflation Reduction Act (IRA) established a new Clean Fuel Production Credit (45Z) that, starting in 2025, gives producers a credit based on carbon reduction, including for SAF.[184] Some state tax codes, however, may require reducing the state credit if a producer receives a federal credit to avoid double-counting benefits. While none currently do so from this research, it is something to consider. Further, if the federal government were to implement a robust SAF mandate or credit program covering the whole country, states might scale back their incentives to save money. Right now, the federal stance with incentives but no mandate leaves plenty of room for states to augment.

Potential Policy Response: There is an opportunity here for federal guidance: the FAA, DOE, or EPA could help coordinate state efforts by sharing best practices, providing technical assistance, or even partially funding state programs through something like a grant to state energy offices.[185] One concept the federal system is implementing is federal cost-sharing for SAF projects through grant programs like Fueling Aviation's Sustainable Transition (FAST), which requires state and local governments to contribute twenty-five percent (or ten percent for small

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[181] *See, e.g.*, ILL. ADMIN. CODE tit. 86, § 130.333(b)(1)(D) (2023) (defining SAF as a liquid fuel that, among other things, "has been certified in accordance with subsection (e) of Section 40B of the federal Internal Revenue Code of 1986 as having a lifecycle greenhouse gas emissions reduction percentage of at least 50%"). GREET (Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies) is a life cycle analysis model developed by Argonne National Laboratory for the U.S. Department of Energy. *GREET*, U.S. DEP'T OF ENERGY, https://www.energy.gov/cmei/greet [https://perma.cc/HQ73-3N2S] (last visited Feb. 20, 2026). GREET is used to quantify full life cycle energy use and greenhouse gas emissions of fuels and energy technologies. *Id.* In this context, life cycle refers to emissions and energy use from feedstock production and collection, through fuel conversion and distribution, and ultimately to end use. MICHAEL WANG, CENTER FOR TRANSP. RSCH. ARGONNE NAT'L LAB'Y, THE GREENHOUSE GASES, REGULATED EMISSIONS, AND ENERGY USE IN TRANSPORTATION (GREET) MODEL 1, 7 (1999).

[182] *See GREET*, *supra* note 181.

[183] *See supra* Part B.1, 2, 6.

[184] NICHOLAS E. BUFFIE, CONG. RSCH. SERV., IF12502, THE SECTION 45Z CLEAN FUEL PRODUCTION CREDIT (2025).

[185] *See* U.S. ENV'T PROT. AGENCY, EPA-190R24002, FISCAL YEAR 2025: JUSTIFICATION OF APPROPRIATION ESTIMATES (2024) (mentioning programs on which EPA is already coordinating with other agencies, including state agencies).

airports) of project costs and the federal government covering the remainder; this encourages states to invest alongside federal support.[186]

Challenge 5—Implementation and Monitoring: States that are going to implement SAF programs may also encounter practical challenges. They must develop a system to certify SAF volumes and qualities, to issue credits or grants, and to encourage compliance, especially in the event there are mandates or usage targets. States may also encounter the challenge of avoiding fraud by users—for example, if someone claimed a tax credit for a fuel that was not really SAF or the credit was claimed in two states.

Potential Policy Response: States can learn from past and existing programs. For example, California manages its LCFS with a credit registry and verification system that other states could emulate.[187] Likewise, several states could make third-party production audits for producers mandatory under their tax credit schemes. While the challenge of doing so is not trivial, states could also use digital tools and interstate data sharing. Another possibility for verifying credits would be using the federal EPA Moderated Transaction System—an online platform used to track RFS Renewable Identification Number (RIN) credits after serious fraud issues arose in the early days of the RFS program—to record renewable fuel batches.[188] Integration of the Moderated Transaction System with state systems would help producers avoid the extra burden of monitoring.

Challenge 6—Equity and Environmental Justice: An often-overlooked aspect of the SAF system is how SAF policies impact communities. When a state grants benefits, such as tax credits, to a refinery to manufacture SAF, the surrounding community near the refinery might see more industrial activity or alterations in emission patterns. SAF production may have emissions profiles different from those of petroleum refining, which may produce both benefits and harms at the local level.[189] In the meantime, the advantages of emission-free jet exhaust, including slightly decreased particulate matter, mostly benefit flight routes and areas close to airports. States that have effective environmental justice policies, such as Washington and Oregon, have

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[186] *Sustainable Aviation Fuel (SAF) Grants*, U.S. DEP'T OF ENERGY, https://afdc.energy.gov/laws/13376 [https://perma.cc/W5JN-JQQ2] (last visited Jan. 28, 2026).

[187] *LCFS Registration and Reporting*, CAL. AIR RES. BD., https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/lcfs-registration-and-reporting [https://perma.cc/6KED-4K9E] (last visited Feb. 25, 2026).

[188] *Renewable Identification Numbers (RINs) under the Renewable Fuel Standard Program*, U.S. ENV'T PROT. AGENCY (Dec. 31, 2025), https://www.epa.gov/renewable-fuel-standard/renewable-identification-numbers-rins-under-renewable-fuel-standard-program [https://perma.cc/YG72-VZQC]; *"Buyer Beware" is EPA's Response to Fraud in the Renewable Identification Number (RIN) Market*, SEYFARTH (Oct. 12, 2012), https://www.seyfarth.com/news-insights/buyer-beware-is-epa-s-response-to-fraud-in-the-renewable-identification-number-rin-market.html [https://perma.cc/5PXX-HD4Q].

[189] *See generally* INT'L TRANSP. F., SUSTAINABLE AVIATION FUELS: POLICY STATUS REPORT (2023) (discussing the benefits and challenges of SAF).

added a form of monitoring and input to make sure that clean fuel programs are reaching affected communities. For example, Oregon redirects some credit revenue toward projects that additionally serve those communities.[190]

Potential Policy Response: States that implement SAF programs may want to include provisions that provide for equitable economic development. Programs such as setting aside a certain percentage of cash flow for workforce development within marginalized communities, or giving priority to SAF projects that develop jobs in economically distressed locations, could reduce a program's environmental justice impacts. States have an opportunity to influence SAF policy in a manner that advances the principles of just transition, where communities historically burdened by pollution (often around major airports or refineries) will no longer have that burden and may even see improvements. Successfully navigating these challenges also requires comprehensive state strategies that coordinate incentives. For example, states can support SAF development indirectly by building the feedstock infrastructure and supply chains necessary for production. To illustrate the value of state strategies that coordinate incentives, the section below discusses Pennsylvania's approach to renewable natural gas.

VI. CASE STUDY: PENNSYLVANIA

Pennsylvania's incentives for renewable natural gas production provide a good illustration of how related policies can facilitate SAF supply chains, including through the promotion of anaerobic digestion and renewable natural gas (RNG). RNG is commonly produced by breaking down waste products, like animal manure and/or food waste, using the process of anaerobic digestion.[191] By controlling the breakdown of these biogenic materials and minimizing the release of fugitive emissions, the anaerobic digestion processing can decrease methane emissions in agriculture and generate tradable eco-credits that benefit the economics of those value chains.[192]

Following Pennsylvania's lead, states can effectively incentivize SAF production, even in the absence of an aviation-specific statute, if they pay specific attention to feedstock systems. For example, states may use grants and financing mechanisms for anaerobic digesters and pipeline interconnections to develop feedstock and infrastructure that producers

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190 STATE OF OREGON RECOVERY PLAN: STATE AND LOCAL FISCAL RECOVERY FUNDS: 2023 REPORT 4–5, 8 (2023), https://www.oregon.gov/das/Financial/Acctng/Documents/SLFRF-Recovery-Plan-Performance-Report-2023.pdf [https://perma.cc/B6GV-FG5L].

191 *See Renewable Natural Gas from Agricultural-Based AD/Biogas Systems*, U.S. ENV'T PROT. AGENCY (Mar. 5, 2025), https://www.epa.gov/agstar/renewable-natural-gas-agricultural-based-adbiogas-systems [https://perma.cc/ZGV9-XDME].

192 *See* Cody D. Jenkins, Jiashen Tian & Ryan J. Milcarek, *A Case Study of Renewable Natural Gas Techno-Economics and Emissions at a Wastewater Treatment Plant*, ENV'TS, Mar. 31, 2025, at 1, 5, 9.

can use in SAF production.[193] This section focuses on Pennsylvania policies that enable RNG production using anaerobic digestion (AD) systems in agriculture, followed by a recommendation on what states can do to promote SAF production.[194]

The use of AD systems in the United States has gained ground because of increasing demand for better manure management, renewable fuels, and carbon credit trading opportunities.[195] AD systems are enclosed, airtight vessels that provide an oxygen-free area where bacteria break down organic wastes such as manure, food waste, or vegetation to produce biogas.[196] Producers can transform biogas into electricity and heat or can purify it into RNG and sell it as a source of renewable energy.[197] Dairy farms are the dominant form of AD systems, with the states of California, Wisconsin, and Pennsylvania leading in the adoption process.[198] Pennsylvania has a population of around 465,000 dairy cows, or about five percent of the U.S. dairy cow population.[199]

Pennsylvania has a variety of incentives and funding opportunities to encourage AD adoption, including the following mechanisms:

Alternate Energy Portfolio Standards (AEPS) Act: Through AEPS, farmers who engage in electricity markets obtain alternative energy credits (AECs) by producing electricity using AD.[200] In 2023 and 2024, AEPS required Pennsylvania to produce eight percent of electricity sales using Tier I sources.[201] Tier I sources include solar photovoltaic, solar thermal, wind, low-impact hydropower, geothermal, biomass,

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193 *See* Ekrem Korkut et al., *The Regulatory Landscape of Livestock Anaerobic Digesters and Renewable Natural Gas (RNG)*, 15 J. ANIMAL & ENV'T L. 1, 24–38 (2023).

194 *See generally* Matthew Svetz, *Policy Landscape of Anaerobic Digestion*, PENN. ST. EXTENSION (Mar. 19, 2024), https://extension.psu.edu/policy-landscape-of-anaerobic-digestion [https://perma.cc/B7KL-ELB6] (providing an example of a credit for RNG producing anaerobic digesters in Pennsylvania that allows producers to receive an energy credit per 1,000 kilowatt hours of electricity generated).

195 *Biogas Market Snapshot*, AM. BIOGAS COUNCIL (Apr. 2025), https://americanbiogascouncil.org/biogas-market-snapshot/ [https://perma.cc/32SA-49H6]; *AgSTAR Data and Trends*, U.S. ENV'T PROT. AGENCY (Nov. 13, 2025), https://www.epa.gov/agstar/agstar-data-and-trends [https://perma.cc/F3PQ-4FTZ].

196 Jenkins, Tian & Milcarek, *supra* note 192, at 1–2, 14.

197 *Id.* at 1–2.

198 Nigel Key & Laura Dodson, *Number of On-Farm Anaerobic Digesters Systems Used to Decompose Organic Waste Has Increased Over Time*, U.S. DEP'T OF AGRIC. (Mar. 15, 2023), https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=106096 [https://perma.cc/LKB2-NPRM].

199 *Dairy*, COMMONWEALTH OF PA. (2026), https://www.pa.gov/agencies/farmshow/pa-farm-show/participate-virtually/agexplorer/dairy [https://perma.cc/ZMT9-M8XB]; Rob Cook, *Ranking of States with the Most Milk Cows*, NAT'L BEEFWIRE, https://www.nationalbeefwire.com/ranking-of-states-with-the-most-milk-cows?printer_friendly=true [https://perma.cc/JS3C-6ZGM] (last visited Feb. 19, 2026).

200 Korkut et al., *supra* note 193, at 37.

201 PA. PUB. UTIL. COMM'N & PA. DEP'T OF ENV'T. PROT., ALTERNATIVE ENERGY PORTFOLIO STANDARDS ACT OF 2004: COMPLIANCE REPORTING FOR YEAR 2023–24, at 5 (2024); PA. PUB. UTIL. COMM'N & PA. DEP'T OF ENV'T. PROT., ALTERNATIVE ENERGY PORTFOLIO STANDARDS ACT OF 2004: COMPLIANCE REPORTING FOR YEAR 2022–23, at 5 (2023).

biologically derived methane gas (including from anaerobic digestion), coal-mine methane, and fuel cell resources.[202]

Pollution Prevention Assistance Account Loan Program: This loan program assists projects that preserve raw materials, decrease waste at the source, or enhance environmental practices for eligible small businesses including manufacturing, food processing, agricultural, and commercial operations.[203] While these programs primarily target electricity generation and waste management, they also strengthen the upstream infrastructure needed for SAF production. RNG derived from AD can be reformed into synthesis gas (syngas) or hydrogen, both of which are essential intermediates in producing SAF through a method known as the Fischer-Tropsch (FT) process.[204] The U.S. Department of Energy recognizes biogas-derived RNG as a qualifying feedstock for thermochemical SAF production, capable of achieving lifecycle greenhouse gas reductions compared with conventional jet fuel.[205] Pennsylvania's Priority Climate Action Plan reinforces this trajectory by promoting the expansion of low-carbon fuels as part of the State's strategy to decarbonize hard-to-electrify sectors such as heavy-duty transport and industrial energy systems.[206] Although the plan does not explicitly reference aviation, its emphasis on scaling RNG production, integrating carbon-neutral fuels into the State's energy network, and encouraging investment in low-carbon infrastructure directly supports the same upstream systems required for SAF development.[207] State policies like the AEPS Act and the Pollution Prevention Assistance Account Loan Program facilitate the development of RNG by effectively reducing its cost of production. Through these ongoing efforts, Pennsylvania is cultivating the technical capacity, renewable feedstock base, and policy conditions necessary to engage in future SAF production and deployment within regional and national clean-fuel markets.

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202 PA. PUB. UTIL. COMM'N, ALTERNATIVE ENERGY AND ECONOMIC DEVELOPMENT IN PENNSYLVANIA 1 (2024); *About AEPS*, PA. PUB. UTIL. COMM'N, https://pennaeps.com/aboutaeps/ [https://perma.cc/C7G5-GEP2] (last visited Feb. 19, 2026).

203 *Pollution Prevention Assistance Account (PPAA) Loan Program*, COMMONWEALTH OF PA., https://www.pa.gov/agencies/dep/programs-and-services/grants-loans-rebates/small-business-ombudsmans-office/ppaa-loan-program [https://perma.cc/W39S-APZF] (last visited Feb. 19, 2026).

204 David Minguez, Thomas S. Christensen, & Sandra Winter-Madsen, *Unlocking Renewable Natural Gas as a Viable Feedstock for SAF Production*, ADVANCED BIOFUELS USA (Dec. 16, 2024), https://advancedbiofuelsusa.info/unlocking-renewable-natural-gas-as-a-viable-feedstock-for-saf-production [https://perma.cc/J23S-59YW]; *Biogas and RNG: Catalysts for Sustainable Aviation Fuel in Canada*, IVYS, https://ivysads.com/perspective/biogas-and-rng-catalysts-for-sustainable-aviation-fuel-in-canada/ [https://perma.cc/RTL5-Z7KN] (last visited Feb. 19, 2026).

205 CAMPBELL HOWE ET AL., U.S. DEP'T OF ENERGY, PATHWAYS TO COMMERCIAL LIFTOFF: SUSTAINABLE AVIATION FUEL 26–27, 31 (2024).

206 PA. DEP'T OF ENV'T PROT., PENNSYLVANIA'S PRIORITY CLIMATE ACTION PLAN 33–34 (2024).

207 *Id.*

VII. RECOMMENDATIONS

Based on this review of state policies, there are several key strategies that states can use to accelerate SAF deployment:

Harmonizing definitions and MRV by adopting statutory language anchored to ASTM jet fuel specifications, lifecycle thresholds, and clear book-and-claim rules[208] is crucial for scalability in SAF markets.[209] ASTM International—a global standards organization—develops consensus-based specifications like D1655 for conventional jet fuel and D7566 for SAF blending components, ensuring safety, performance, and compatibility with existing aircraft and infrastructure.[210] By embedding these ASTM standards into state and federal statutes, policymakers can create uniform definitions for eligible SAF, avoiding the fragmentation that currently hinders certification and adoption. In addition, transparent monitoring, reporting, and verification systems, combined with clear book-and-claim accounting, enable accurate tracking of SAF's environmental benefits, even when the physical fuel is used elsewhere.[211]

Aligning incentives with refundable or transferable state credits that explicitly stack with federal incentives and clean fuel standards, and extending those incentives to ensure long-term certainty to de-risk investments.[212] Given the time it takes to plan and build new SAF facilities, commenters have recommended that tax credits be extended to ten years from the time a facility is placed in service.[213] This approach would enable producers to layer state-level support atop federal tools, such as the IRA's 45Z Clean Fuel Production Credit.

Building regional hubs through interstate compacts to coordinate feedstock aggregation, logistics, and airport deployment corridors supported by near-term offtake commitments. Regional collaboration allows states to share feedstock resources, blending facilities, and transport infrastructure, and thereby reducing costs and ensuring a steady supply of SAF. RMI identifies the Great Lakes region as an example of where states can connect agricultural residues, refineries, and

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208 *Book and Claim Explained: Sustainable Aviation Fuels Accounting and CORSIA*, UNITING AVIATION, INT'L CIV. AVIATION ORG. (Jan. 4, 2026), https://unitingaviation.com/news/environment/book-and-claim-explained-sustainable-aviation-fuels-accounting-and-corsia/ [https://perma.cc/TUL6-X7Z2]. Book and claim is a chain-of-custody model that separates the environmental benefits of SAF from the physical fuel itself. *Id*. This allows a company to purchase SAF used at one airport and claim the emissions reductions for flights at a different airport. *Id*. The system uses verified registries to prevent double-counting and ensure that each unit of SAF's environmental benefit is claimed only once. *Id*.

209 *See* Mark A. Rumizen, *Qualification of Alternative Jet Fuels*, FRONTIERS ENERGY RSCH., Nov. 2, 2021, at 1, 5–8.

210 INT'L AIR TRANSP. ASSOC., SAF HANDBOOK 7 (2024).

211 Christine Kranich & Sarah J. Haas, *Book-and-Claim System for Sustainable Aviation Fuels*, 89 J. AIR L. & COM. 111, 146, 158 (2024).

212 Sikandar Abdul Qadir et al., *Incentives and Strategies for Financing the Renewable Energy Transition: A Review*, 7 ENERGY REPS. 3590, 3598, 3600, 3602 (2021).

213 TROUSDALE & HOLLER, *supra* note 15.

airport networks through coordinated planning to form a strong SAF hub.[214] Likewise, the United States SAF Grand Challenge Roadmap explains that regional partnerships are essential for linking feedstock suppliers, producers, and airports through shared infrastructure and early offtake agreements that give investors confidence and strengthen market stability.[215]

Targeting infrastructure grants to expand storage, blending, and testing facilities at both major and smaller airports to promote equity and resilience. Expanding SAF infrastructure allows smaller airports to participate in decarbonization efforts and strengthens the reliability of the aviation fuel network. The FAA's FAST program provides funding for blending, storage, and transport projects, and offers higher federal cost shares to small and non-hub airports.[216] This investment framework facilitates broader SAF integration into national supply chains and establishes the infrastructural foundation necessary for sustained market growth and long-term emissions reduction.[217]

Advancing next-generation pathways such as alcohol-to-jet, Fischer-Tropsch from waste, and power-to-liquids to diversify supply and improve lifecycle performance over time.[218] Pathways such as Fischer-Tropsch synthesis, alcohol-to-jet, and power-to-liquids can achieve substantial greenhouse gas reductions compared with conventional jet fuels when powered by renewable electricity or supported by low-carbon feedstocks.[219] These advanced conversion methods can also achieve significant lifecycle emission reductions while lowering production costs and uncertainty in future SAF development.[220] Supporting these technologies through policy incentives, investment, and industry collaboration will expand SAF options and strengthen long-term energy security.

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214 Lachlan Carey, Aaron Brickman & Corey Stewart, *Sustainable Aviation Fuel Targeted Opportunity Region—Great Lakes Region*, RMI (Sep. 26, 2023), https://rmi.org/sustainable-aviation-fuel-targeted-opportunity-region-great-lakes-region [https://perma.cc/9A8Y-BPT9].

215 FLIGHT PLAN FOR SUSTAINABLE AVIATION, *supra* note 30, at 39–41.

216 FED. AVIATION ADMIN., FUELING AVIATION'S SUSTAINABLE TRANSITION GRANT PROGRAM: NOTICE OF FUNDING OPPORTUNITY 2–3, 8–9 (2023).

217 *See generally* KRISTI MORIARTY & ALLISON KVIEN, U.S. AIRPORT INFRASTRUCTURE AND SUSTAINABLE AVIATION FUEL 8 (2021) ("The purpose of airline fuel consortiums, common at U.S. airports, is to pool resources and ensure quality and timely delivery of jet fuel to all airlines through shared infrastructure.").

218 Michiel J.A. Tijmensen et al., *Exploration of the Possibilities for Production of Fischer-Tropsch Liquids and Power via Biomass Gasification*, 23 BIOMASS & BIOENERGY 129, 129 (2002).

219 Sierk de Jong, Kay Antonissen & Martin Junginger, *Life-Cycle Analysis of Greenhouse Gas Emissions from Renewable Jet Fuel Production*, BIOTECHNOLOGY FOR BIOFUELS, Mar. 14, 2017, at 1, 9; Vincent Eyberg et al., *Techno-Economic Assessment and Comparison of Fischer-Tropsch and Methanol-to-Jet Processes to Produce Sustainable Aviation Fuel Via Power-to-Liquid*, ENERGY CONVERSION & MGMT., June 25, 2024, at 1, 1–2.

220 Fan Yang & Yuan Yao, *supra* note 14, at 8–9.

In the near term, flights can be reliably supplied with SAF, particularly bio-based blends, though feedstock limitations persist. In the longer term, electrification and hydrogen-powered aircraft are expected to play a growing role if supported by strong policy frameworks, tax exemptions, and sustained regulatory certainty. Discussion of these alternatives is beyond the scope of this paper.

VIII. CONCLUSION

The rise of state-level policies for SAF in the United States is a promising development in the effort to decarbonize air travel. This comprehensive review of all fifty states' actions demonstrates that, although still in early stages, a growing cohort of states are actively shaping the SAF market through innovative laws and incentives. Pioneers like California, Oregon, and Washington have integrated SAF into CFS, effectively creating regional markets for low-carbon jet fuel.[221] States like Illinois, Minnesota, Colorado, and others have enacted targeted tax credits and subsidies to jump-start SAF production and use within their borders.[222] Meanwhile, many additional states—from Pennsylvania to New Jersey to Kentucky—have laid policy groundwork that could soon expand the map of SAF support even further.

At the same time, more than half of the country's states remain on the sidelines, underscoring the need for continued advocacy and education about SAF's benefits. These inactive states represent both a challenge and an opportunity: though bringing them into the fold could significantly boost national SAF deployment, doing so will require making a compelling case that SAF policies align with economic and environmental interests locally. As the analysis showed, states often move when they perceive a win-win scenario (emissions reductions plus economic development). The success stories emerging from early adopters will be crucial in influencing others. For example, if Illinois' and Minnesota's programs lead to new businesses and jobs, neighboring states are more likely to adopt similar measures. Given the uncertainty at the federal level, experimentation by states and through regional networks offers a pathway forward for better SAF production and integration.

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[221] SUSAN VAN DYK & JACK SADDLER, PROGRESS IN COMMERCIALIZATION OF BIOJET/ SUSTAINABLE AVIATION FUELS (SAF): TECHNOLOGIES AND POLICIES 66, 69, 71 (2024).

[222] Memorandum from the Colorado Office of the State Auditor, *supra* note 122.