

Sustainable aviation fuel policy in the United States

- The US regulatory landscape is much more favourable towards bio-based SAFs, particularly those using a crop feedstock, as compared to other geographies like the UK and EU.
- The Biden administration has deployed a number of measures to support the growth of the domestic SAF market, particularly using tax credits and subsidies as key mechanisms.
- SAF plants in the US have been able to overcome financial hurdles more quickly than European counterparts, and investment is starting to be funnelled towards e-fuel producers as disruptors in the SAF market.

The United States (US) government has enacted several initiatives in support of the growth of their domestic sustainable aviation fuel (SAF) market as a key instrument to addressing the climate impacts of aviation. Due to the geography of the US, it is home to one of the most extensive aviation networks in the world, with its citizens far exceeding any other country or region in terms of flights per capita¹. In 2021, aviation represented 11 per cent of US transportation-related emissions², with the sector expected to see 'rapid year-over-year growth'³.

As the global aviation industry increasingly recognises the importance of reducing greenhouse gas (GHG) emissions, collaboration and harmonisation of SAF policies across countries is becoming more common through mechanisms like [CORSA](#). However, the US regulatory landscape does have some distinct approaches to tackling aviation's climate impact. While policymakers have taken an approach to support SAFs that combines funding, legislation, incentives, and research and development initiatives, the US has chosen to heavily prioritise subsidy and tax credit mechanisms.

Furthermore, when compared to the SAF policy landscapes of other developed countries, the US SAF policy landscape is much more accommodating to biomass-based fuels - particularly crop-based SAF derived from corn or sugarcane - which are not permitted under environmental legislation in the EU⁴ or the UK⁵. [ICCT](#) found that the 'US has approximately 21.7 billion gallons of theoretical SAF production potential from available biomass, but only 12.2 billion gallons of that is from sustainably available biomass'⁶. As such, SAF has become a highly politicised topic in terms of the environmental and socio-economic opportunities and risks it presents⁷.

¹ [Airline passengers worldwide by country | Statista](#)

² [FACT SHEET: Biden Administration Advances the Future of Sustainable Fuels in American Aviation | The White House](#)

³ [Issue Brief | The Growth in Greenhouse Gas Emissions from Commercial Aviation \(2019, updated 2022\) | White Papers | EESI](#)

⁴ [RefuelEU aviation initiative: Council adopts new law to decarbonise the aviation sector](#)

⁵ [Pathway to net zero aviation: developing the UK sustainable aviation fuel mandate - GOV.UK.](#)

⁶ [Meeting The SAF Grand Challenge: Current and Future Measures To Increase US Sustainable Aviation Fuel Production Capacity](#)

⁷ [Exclusive: Biden administration's initial SAF subsidy model to raise climate hurdle for ethanol | Reuters](#)



SAF Grand Challenge

The Biden Administration launched the SAF Grand Challenge in 2021 which aims to scale domestic production, establishing a production target of 3 billion gallons by 2030 and 35 billion gallons by 2050⁸ (compared to around 15.8 million today⁹). The Grand Challenge is a collaborative programme between the Department of Energy (DOE), Department of Transportation (DOT), the Department of Agriculture (USDA), and other federal agencies, allowing for a harmonised approach to strategy and resource allocation, alongside acknowledging the need to engage the wider supply chain for SAF and diverse industry stakeholders with a role to play. Some examples of initiatives and funding linked to the Grand Challenge include:

- [Department of Energy](#) grants: Some 13 SAF projects have received support, with the DOE awarding over \$100 million in funding¹⁰ and \$64.7 million given for projects producing cost-effective, low-carbon biofuels for heavy-duty transportation¹¹.
 - [Bioenergy Technologies Office \(BETO\)](#): The DOE has provided \$16.7 million for biofuel and biochemical projects via BETO 'that will significantly reduce GHG emission' in support of the SAF Grand Challenge¹². BETO provides funding and support for SAF research, development, and demonstration projects.
- [Fueling Aviation's Sustainable Transition \(FAST\) programme](#): The FAA has made \$245 million available to support the development of SAF production, transportation, blending and storage¹³.

Inflation Reduction Act

The Inflation Reduction Act (IRA) has a significant impact on the SAF market in the US by offering comprehensive support to encourage the production and adoption of these fuels. In addition to providing tax incentives, research funding, infrastructure investment, and market stability measures, the IRA offers key financial support through the SAF-blenders tax credit. Airlines blending SAFs with jet fuel can receive a monetary credit based on the lifecycle GHG reduction achieved. The base credit of \$1.25 per gallon is provided when SAFs achieve a reduction of at least 50 per cent in GHG emissions compared to conventional jet fuel. However, the IRA goes further by offering additional credit based on the extent of the GHG reduction. For every percentage point reduction above the 50 per cent baseline, an additional \$0.01 per gallon credit is granted, up to a maximum of \$1.75 per gallon. This tiered structure motivates the development and use of SAFs with greater environmental benefits.

⁸ [Sustainable Aviation Fuel Grand Challenge | Department of Energy](#)

⁹ [Sustainable Aviation Fuel | Department of Energy](#)

¹⁰ [US Department of Energy awards \\$108m to 13 SAF projects](#)

¹¹ [DOE Announces Nearly \\$65 Million for Biofuels Research to Reduce Airplane and Ship Emissions | Department of Energy](#)

¹² [The U.S. Department of Energy Announces \\$16.7 Million in Project Selections to Advance Production of Affordable Biofuels and Biochemicals](#)

¹³ [\\$300 Million in Grants for SAF Production and Sustainable Aviation Technology Available from FAA | Foley Hoag LLP](#)



Since the introduction of the IRA, which has been widely compared and contrasted to the EU Green Deal¹⁴, European policymakers have been responding to the implications of the legislation within their own markets¹⁵. The approach to a regulatory framework to support SAF has differed between the two regions, but neither approach is yet viewed as 'complete' in terms of assuring market certainty¹⁶. New guidance was launched in May 2024 by the Biden administration that further bolsters tax-credits for crop-derived ethanol for use in jet fuel¹⁷.

Renewable Fuel Standard

While primarily focused on transportation fuels like ethanol and biodiesel, the Renewable Fuel Standard (RFS) also includes provisions for advanced biofuels, which qualify as SAFs. This policy sets annual targets for the blending of renewable fuels, creating market incentives for SAF production, and has supported investment into biofuel production infrastructure. SAF must achieve at least a 50 per cent improvement in GHG emissions performance on a life cycle basis as compared with conventional jet fuel as per the RFS.

In 2023, the Environmental Protection Agency (EPA) revised the RFS and established new biofuel volume requirements by increasing targets for renewable natural gas - produced from organic waste sources such as landfills, farms, and food-waste - requiring a 25 per cent volume target increase for 2023 and a 33 per cent target for 2025 as compared to previous targets¹⁸.

State-level

Independent US states are also pursuing their own SAF activities, including California's [Low-Carbon Fuel Standard](#), Oregon's [Clean Fuels programme](#) and Washington's [Clean Fuels Standard](#), all of which have aviation fuels as 'opt-in' fuels whereby SAF can generate credits; however, conventional jet fuel use is not penalised¹⁹.

There are a handful of SAF projects scaling up across the US²⁰ and some investments are starting to flow into e-fuel first-of-a-kind (FOAK) projects at the state-level. Project Roadrunner in Texas, which will convert waste carbon dioxide and renewable power into SAF and other low-carbon fuels through financial support from Breakthrough Energy Catalyst, Citi and American Airlines²¹.

Other financial mechanisms

The US government has several other funding, tax credit and subsidy schemes it has deployed that can benefit the SAF market, as outlined in Table 1.

¹⁴ [EU Green Deal vs. US Inflation Reduction Act - KPMG Switzerland](#)

¹⁵ [EU's response to the US Inflation Reduction Act \(IRA\)](#)

¹⁶ [Briefing: Status and progress of UK, EU and US SAF policy | Ishka](#)

¹⁷ [A US push to use ethanol as aviation fuel raises major climate concerns | MIT](#)

¹⁸ [New Renewable Fuel Standard volume targets facilitate renewable natural gas production - U.S. Energy Information Administration \(EIA\)](#)

¹⁹ [How States Can Use Low-Carbon Fuel Standards to Incentivize Clean Hydrogen-Derived Fuels](#)

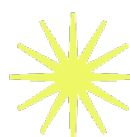
²⁰ [Existing and Planned SAF Projects](#)

²¹ [Project Roadrunner — Infinium](#)



Table 1: A summary of key financial schemes that the SAF market can access

Department	Scheme	Purpose
Department of Agriculture (USDA)	Biomass Crop Assistance programme (BCAP)	Offers financial assistance to farmers and biofuel producers for growing and harvesting biomass crops that can be used to produce SAFs.
	Rural Energy for America programme (REAP)	Provides grants and loan guarantees to rural businesses and agricultural producers for renewable energy projects, including SAF production facilities.
	BioPreferred programme	Aims to increase the use of bio-based products, including fuels, across federal agencies. It provides opportunities for SAF producers to gain visibility and access federal procurement opportunities.
Internal Revenue Service (IRS)	Biofuel Producer Tax Credit	This tax credit provides financial incentives for biofuel producers, including SAF producers, based on the volume of biofuels they produce.
	Alternative Fuel and Alternative Fuel Mixture Excise Tax Credit	Offers a tax credit for the use of SAFs in aviation, encouraging airlines to adopt these fuels.
	Inflation Reduction Act - SAF Blender's Tax Credit	SAF Blender's Tax Credit offers a credit of up to \$1.25 per gallon for SAF blends that meet specific GHG reduction criteria.
	Inflation Reduction Act - Clean Fuel Production Credit	From 2025-27, a Clean Fuel Production Credit will replace the SAF Blender's Tax Credit, providing incentives of up to \$1.75 per gallon for SAFs with lower lifecycle emissions, incentivising e-fuels.
Department of Defense (DOD) & NASA	Federal procurement	The US government has shown interest in using SAFs for its own fleet of aircraft. Federal agencies have been exploring opportunities to incorporate SAFs into their operations, setting an example for the broader aviation industry.
Department of Transport (DOT) & Federal Aviation Administration (FAA)	Commercial Aviation Alternative Fuels Initiative	CAAFI works to promote the development and deployment of SAFs. It facilitates collaborations between government, industry, and academia to accelerate the commercialisation of SAFs.
	Research and development programmes	The FAA also supports SAF testing and analysis Aviation Sustainability Center (ASCENT) research projects and through the Continuous Lower Energy, Emissions, and Noise (CLEEN) programme.



Further analysis of US policy

- [InfluenceMap](#) have produced an extensive briefing outlining the US SAF policy landscape and how industry has been responding to and engaging with policy development. Read their briefing [here](#).
- The [International Council on Clean Transportation](#) (ICCT) have produced a white paper outlining the current and future policy measures needed to be able to meet the aspirations of the SAF Grand Challenge, expertly outlined [here](#).
 - ICCT have also conducted an extensive analysis of the current and projected future costs of e-kerosene in the US and Europe, noting the role policy can play in scaling these fuels that are more sustainable and scalable than their bio-SAF counterparts. Read more [here](#).
- The [Rocky Mountains Institute](#) (RMI) have conducted research and analysis into the evolution of US SAF Policy and regional opportunities in their extensive report you can read [here](#).
 - RMI have also summarised the role of state-level action, focusing on hydrogen-derived fuels in hard to abate sectors like aviation in their analysis [here](#).
- The [World Resources Institute](#) (WRI) have outlined how recent lobbying campaigns and industry action in the US pose risks to less sustainable aviation fuels accessing tax credits. Read that analysis [here](#).

Our aviation programme focuses on Europe as a key region where action on addressing the climate impact of aviation is needed through scaling high integrity synthetic SAF, challenging dominant industry narratives and accelerating zero emission flight. The US is an influential global player in the SAF space, and its regulatory framework is actively shaping investment and action in Europe and beyond which this briefing aims to summarise. To hear more about our aviation work, [get in touch](#).

