



**Energy Institute WP 357**

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# Effects of the Proposed New California SAF Tax Credit

By Mengying Wu, Kristen McCormack, William A. Scott,  
Aaron Smith, Jingran Zhang, and James H. Stock\*

February 23, 2026

In [Wu et al. \(2025\)](#), we developed a detailed partial equilibrium model of road and air transportation fuel markets to compare policy options to incentivize the deployment of sustainable aviation fuel (SAF). We used the model to examine policy options for meeting a 3 billion gallon annual SAF target by 2030, which would result in SAF comprising about 12% of U.S. jet fuel consumption in that year. This goal, whether formally adopted or not, represents a useful near-term benchmark along a meaningful path toward decarbonizing aviation and appears to be feasible from a technological perspective.

In this note, we add California’s proposed SAF tax credit to the model and evaluate the effects on fuel prices, volumes and emissions. See [Wu et al. \(2025\)](#) for details on the model.

## 1 Proposed New California SAF Tax Credit

The Governor’s 2026-27 budget [proposes a new tax credit for SAF](#).

- **Eligibility and Fuel Requirements:** The alternative jet fuel must be supplied by the taxpayer claiming the credit and sold for use in California. All fuel must be consumed within the state. The SAF tax credit can only be claimed as a credit against diesel excise tax obligations.
- **Carbon Intensity Standards:** The fuel must achieve at least a 50% carbon intensity (CI) reduction relative to conventional jet fuel. The conventional jet fuel baseline CI is 89.43 grams CO<sub>2</sub>e per megajoule (as specified in Section 95488.5(e) of Title 17 of the California Code of Regulations). The CI of alternative jet fuel is determined by the California Air Resources Board (CARB), including pathways verified by CARB.
- **Credit Structure:** The tax credit is structured as follows:
  - Base credit: \$1.00 per gallon
  - Additional credit: \$0.02 per gallon for each percentage point of CI reduction beyond 50%
  - Maximum credit \$2.00 per gallon

Example: A SAF with 80% CI reduction would receive  $\$1.00 + (30 \text{ percentage points} \times \$0.02) = \$1.60$  per gallon.

The tax credit per gallon of SAF is calculated as:

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$$\text{TaxCredit}_{\text{CA}} = \begin{cases} \min(1 + 0.02 \times (CI_{\text{reduction}} - 50), 2) \times \mathbf{1}\{CI_{\text{reduction}} \geq 50\} & \text{if } Q_{\text{SAF}}^{\text{CA}} \leq 50\%Q_{\text{Jet}}^{\text{CA}} \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

To summarize the following quantitative results, we project three outcomes:<sup>1</sup>

1. The tax credit will incentivize substantial amounts of SAF.
2. That increase in SAF comes at a cost: diesel excise tax receipts decrease by at least 20% and as much as 75% within a few years, and the prices of gasoline and diesel increase by 10-15 cents.
3. Because the SAF largely would come from diverting biofuels from surface transport to aviation, the net reductions in carbon emissions would be small and expensive.

## 2 Quantitative Results

We simulate two scenarios, reflecting different potential costs of producing ATJ. The lower-cost scenario uses estimated production costs provided by industry analysts, and it implies that ATJ with CCS is competitive with HEFA for SAF production. However, given that ATJ technology has yet to prove itself viable at scale, we also present a higher-cost scenario in which the marginal cost of ATJ production is 25% higher. The lower-cost (optimistic) scenario uses the same parameter settings as [Wu et al. \(2025\)](#). We view the higher-cost scenario as a conservative (pessimistic) projection for 2030. We assume all SAF sold for use in California is able to claim a credit.

### 2.1 Volume of SAF Deployment

When we include the new California SAF tax credit, we see an increase in SAF deployment in California (Table 1). The current policy scenario is the relevant case for assessing the effects of the proposed CA SAF tax credit. The other scenarios include additional federal policies with the goal of reaching 3 billion gallons of SAF nationwide. See [Wu et al. \(2025\)](#) for details.

- Under current policy without the CA SAF tax credit, no SAF is consumed in California. With the introduction of the CA SAF tax credit, deployment in California reaches approximately 0.93 billion gallons under the optimistic ATJ assumption and 0.29 billion gallons under the pessimistic ATJ assumption.
- In all policy scenarios that mandate 3 billion gallons of SAF, except the carbon tax case, SAF deployment reaches the 50% technical blending limit.

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<sup>1</sup>For further discussion of our results, see the Energy Institute blog entitled “[High Costs and Few Benefits from California’s Proposed Sustainable Aviation Fuel Tax Credit](#),” published on February 23, 2026.

Table 1: SAF Production in California and Rest of US (Billion Gallons)

Policy Scenario	ATJ Optimistic		ATJ Pessimistic		No CA SAF Tax Credit	
	SAF <sub>CA</sub>	SAF <sub>ROUS</sub>	SAF <sub>CA</sub>	SAF <sub>ROUS</sub>	SAF <sub>CA</sub>	SAF <sub>ROUS</sub>
Current Policy	0.93	0.04	0.29	0.04	—	0.07
Current Policy + No LCFS	—	0.58	—	0.04	—	0.58
SAF Credit / Q Mandate	2.12	0.88	2.09	0.91	2.02	0.98
Nested D2	2.12	0.88	2.09	0.91	2.02	0.98
D2 with Aviation Obligation	2.10	0.90	2.09	0.91	2.02	0.98
Nested D2 + Stricter RFS	2.12	0.88	2.12	0.88	2.02	0.98
Carbon Tax + SAF Credit		3		3		3
Aviation Intensity Standard	2.09	0.91	2.07	0.93	2.02	0.98

We disaggregate biofuel use by feedstock and by region (Table 2 and Table 3).

- ATJ SAF production in California rises with the introduction of the CA SAF tax credit.
- Under the current policy scenario, HEFA SAF becomes more economically attractive in California, leading to substitution from renewable diesel to HEFA SAF using animal fat and waste oils.
- Fats and waste oils in California have a CI score of 33.60, qualifying for a state SAF tax credit of \$1.25 per gallon. ATJ corn with CCS in California has a CI score of 31.96, qualifying for a state SAF tax credit of \$1.29 per gallon. Thus available tax credits are

Table 2: Biofuel Volumes by Feedstock under Current Policy (Billion Gallons)

	ATJ Optimistic		ATJ Pessimistic		No CA SAF Tax Credit	
	CA	ROUS	CA	ROUS	CA	ROUS
RD-soyoil	1.70	—	1.84	—	1.89	—
RD-animalfat	0.17	—	0.48	—	0.67	—
BD-animalfat	0.31	—	0.31	—	0.31	—
SAF (HEFA)-soyoil	—	0.04	—	0.04	—	—
SAF (HEFA)-animalfat	0.37	—	0.20	—	—	—
SAF (ATJ)	0.57	—	0.09	—	—	0.07

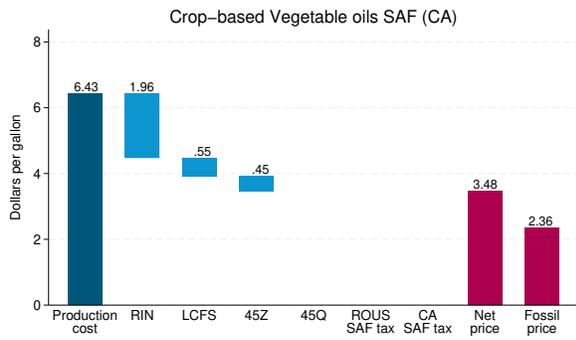
Table 3: SAF Production by Policy Scenario and Region (Billion Gallons)

Policy	Optimistic ATJ				Pessimistic ATJ				No CA SAF Tax Credit			
	RD	BD	SAF (HEFA)	SAF (ATJ)	RD	BD	SAF (HEFA)	SAF (ATJ)	RD	BD	SAF (HEFA)	SAF (ATJ)
Current Policy	1.87	0.31	0.41	0.57	2.32	0.31	0.24	0.09	2.56	0.31	—	0.07
SAF Credit	0.63	0.30	1.39	1.61	0.69	0.30	1.51	1.49	0.66	0.30	1.46	1.54
Nested D2	0.63	0.30	1.39	1.61	0.68	0.30	1.50	1.50	0.66	0.30	1.45	1.55
D2 with Aviation Obligation	0.63	0.30	1.39	1.61	0.68	0.30	1.51	1.49	0.66	0.30	1.45	1.55
Nested D2 + Stricter RFS	0.90	2.05	0.31	2.69	0.90	2.01	0.73	2.27	0.93	2.01	0.34	2.66
Carbon Tax + SAF Credit	0.59	—	1.30	1.70	0.65	—	1.44	1.56	0.59	—	1.30	1.70
Aviation Intensity Standard	0.63	0.30	1.38	1.62	0.69	0.30	1.52	1.48	0.63	0.30	1.39	1.61

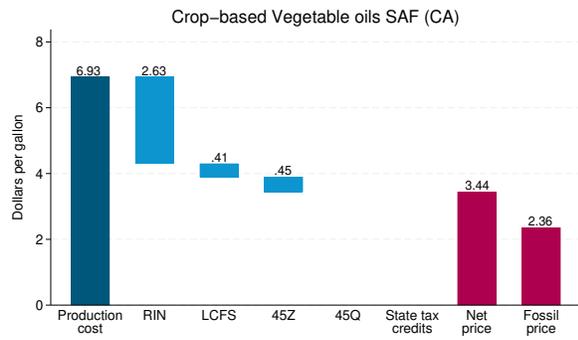
## 2.2 Cost and subsidy structure for each SAF pathway

Figure 1 compares SAF costs and incentive stacks under the California SAF tax credit (optimistic ATJ case) and under the no-tax baseline.

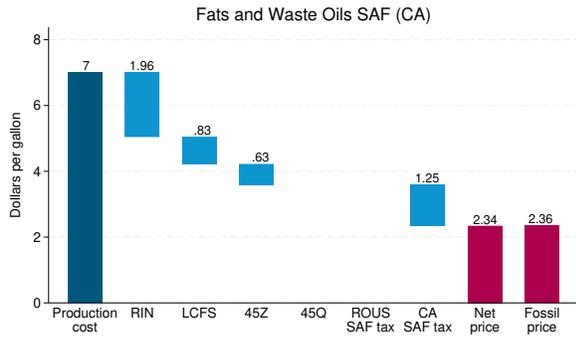
- Crop-based vegetable oils in California have a CI score of 47.37, which does not meet the threshold for the state SAF tax credit (Figure 1(a)), resulting in no SAF deployment.
- Fats and waste oils in California have a CI score of 33.60, qualifying for a state SAF tax credit of \$1.25 per gallon (Figure 1(c)), and leading to approximately 0.37 billion gallons of SAF deployment.
- ATJ corn in California has a CI score of 31.96, qualifying for a state SAF tax credit of \$1.29 per gallon (Figure 1(e)), and resulting in about 0.57 billion gallons of SAF deployment.



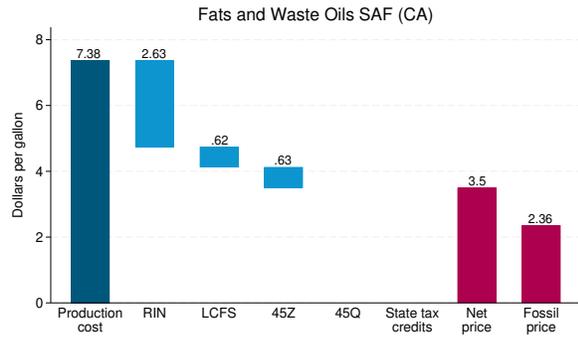
(a) CA SAF Tax Credit - HEFA crop oils



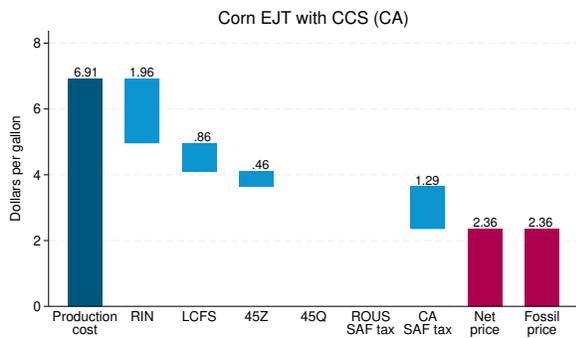
(b) No CA SAF Tax Credit - HEFA crop oils



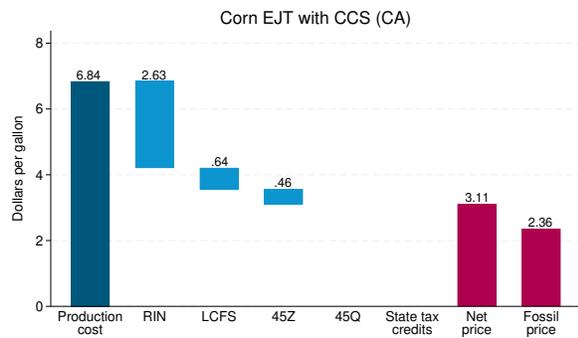
(c) CA SAF Tax Credit - HEFA fats and waste oils



(d) No CA SAF Tax Credit - HEFA fats and waste oils



(e) CA SAF Tax Credit - ATJ corn



(f) No CA SAF Tax Credit - ATJ corn

Figure 1: Comparison of 2030 Fuel Costs and Incentives in California

### 2.3 Allowance prices

We compare allowance prices with and without the implementation of the California SAF tax credit in Table 4.

**(a) With CA SAF Tax Credit - ATJ optimistic**

Scenario	RFS Values			LCFS Allow. (\$/ton)	ROUS SAF Tax (\$/gal)	Addt'l SAF Credit (\$/gal)	Carbon Tax (\$/ton)	Av. Std. Credit (\$/ton)
	D2 RIN (\$/RIN)	D4 RIN (\$/RIN)	D6 RIN (\$/RIN)					
Current Policy	—	1.22	1.22	161.83	1.75	—	—	—
SAF Credit	—	0.51	0.51	250	1.38	0.99	—	—
Nested D2	1.13	0.49	0.49	250	1.38	—	—	—
D2 w/ Aviation Obl.	1.08	0.50	0.50	250	1.38	—	—	—
Nested D2 + Stricter RFS	2.05	1.97	1.97	68.32	1.38	—	—	—
Carbon Tax + SAF	—	—	—	—	—	4.40	15.00	—
Aviation Intensity Std	—	0.52	0.52	250	1.38	—	—	179.42
Animal Fat HEFA	CA SAF Tax Credit: 1.248 \$/gal							
Corn ATJ	CA SAF Tax Credit: 1.285 \$/gal							
Sugarcane ATJ	CA SAF Tax Credit: 1.57 \$/gal							

**(b) With CA SAF Tax Credit - ATJ pessimistic**

Scenario	RFS Values			LCFS Allow. (\$/ton)	ROUS SAF Tax (\$/gal)	Addt'l SAF Credit (\$/gal)	Carbon Tax (\$/ton)	Av. Std. Credit (\$/ton)
	D2 RIN (\$/RIN)	D4 RIN (\$/RIN)	D6 RIN (\$/RIN)					
Current Policy	—	1.49	1.39	155.12	1.75	—	—	—
SAF Credit	—	0.47	0.47	250	1.38	1.39	—	—
Nested D2	1.33	0.44	0.44	250	1.38	—	—	—
D2 w/ Aviation Obl.	1.28	0.46	0.46	250	1.38	—	—	—
Nested D2 + Stricter RFS	2.44	2.30	2.06	68.21	1.38	—	—	—
Carbon Tax + SAF	—	—	—	—	—	4.94	15.00	—
Aviation Intensity Std	—	0.46	0.46	250	1.38	—	—	295.76

**(c) Without CA SAF Tax Credit**

Scenario	RFS Values			LCFS Allow. (\$/ton)	ROUS SAF Tax (\$/gal)	Addt'l SAF Credit (\$/gal)	Carbon Tax (\$/ton)	Av. Std. Credit (\$/ton)
	D2 RIN (\$/RIN)	D4 RIN (\$/RIN)	D6 RIN (\$/RIN)					
Current Policy	—	1.64	1.34	120.92	1.50	—	—	—
SAF Credit	—	0.47	0.47	250	1.38	2.10	—	—
Nested D2	1.77	0.43	0.43	250	1.38	—	—	—
D2 w/ Aviation Obl.	1.72	0.44	0.44	250	1.38	—	—	—
Nested D2 + Stricter RFS	2.59	1.96	1.96	74.58	1.38	—	—	—
Carbon Tax + SAF	—	—	—	—	—	4.40	15.00	—
Av. Intensity Std	—	0.51	0.51	250	1.38	—	—	283.84

Table 4: Policy Incentive Values: CA SAF Tax Credit vs. No CA SAF Tax Credit

- Under the current policy, LCFS prices are higher than in the No CA SAF Tax Credit scenario. With the CA SAF tax credit, SAF in California becomes substantially more profitable, leading to substitution away from RD toward SAF. The resulting decline in RD and increase in fossil diesel use generate additional LCFS deficits, driving up LCFS credit prices.
- With the 3-billion-gallon mandate, D2 RIN prices, SAF credit prices, and aviation intensity standard prices are lower than in the No CA SAF Tax Credit scenario due to the additional SAF incentive, while D4 and D6 RIN prices are higher.

## 2.4 Climate effects

While jet-fuel emissions in California fall by roughly 4% in the pessimistic ATJ case and 14% in the optimistic ATJ case, increased fossil diesel consumption—driven by substitution between HEFA renewable diesel and SAF—raises diesel-sector emissions by about 6–16%. Consequently, the introduction of the CA SAF tax credit yields only a modest net decline in total California emissions, on the order of 1–2% (Table 5(b)).

<b>(a) Total CO<sub>2</sub> Emissions in the U.S.</b>			
	Optimistic ATJ	Pessimistic ATJ	Current policy
Emissions_D_CA	541.21	537.32	535.45
Emissions_G_CA	1424.18	1425.03	1425.66
Emissions_J_CA	273.53	278.09	279.86
Emissions_total	2238.92	2240.43	2240.97
<b>(b) Total CO<sub>2</sub> Emissions in California</b>			
	Optimistic ATJ	Pessimistic ATJ	Current policy
Emissions_D_CA	38.95	35.41	33.53
Emissions_G_CA	119.03	119.58	121.39
Emissions_J_CA	41.02	45.58	47.67
Emissions_total	199.01	200.57	202.59
<b>(c) Total CO<sub>2</sub> Emissions in Rest of U.S.</b>			
	Optimistic ATJ	Pessimistic ATJ	Current policy
Emissions_D_CA	502.25	501.91	501.92
Emissions_G_CA	1305.14	1305.45	1304.27
Emissions_J_CA	232.51	232.51	232.19
Emissions_total	2039.91	2039.87	2038.38

Table 5: Total CO<sub>2</sub> Emissions under Optimistic ATJ, Pessimistic ATJ, and Current policy.

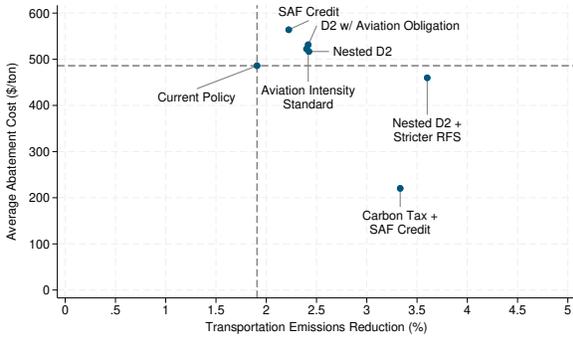
Under the optimistic case, total U.S. CO<sub>2</sub> emissions decline by 2.05 million metric tons. Of this, emissions in California fall by 3.58 million metric tons, while emissions in the rest of the U.S. rise by 1.53 million metric tons, indicating emissions leakage. Under the pessimistic case, total U.S. emissions fall by 0.53 million metric tons, with a 2.02 million metric ton reduction in California and a 1.49 million metric ton increase in the rest of the U.S., again indicating emissions leakage.

## 2.5 Cost-effectiveness

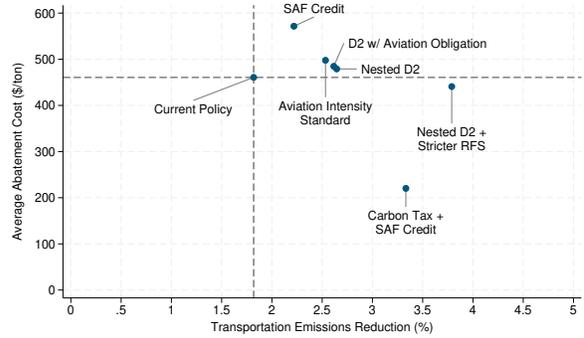
We report emissions reductions and average abatement costs for each policy scenario, both with the California SAF tax credit (optimistic ATJ case) and without the tax credit, in Table 6 and Figure 2.

Table 6: Emissions Reduction and Average Abatement Cost by Policy Scenario

Policy Scenario	CA SAF Tax Credit		No CA SAF Tax Credit	
	Emission Red (%)	AAC (\$/ton)	Emission Red (%)	AAC (\$/ton)
Current Policy	1.91%	\$486.02	1.82%	\$460.75
SAF Credit	2.22%	\$563.90	2.22%	\$571.63
Nested D2	2.42%	\$516.81	2.64%	\$479.07
D2 with Aviation Obligation	2.40%	\$522.34	2.62%	\$484.75
Nested D2 + Stricter RFS	3.60%	\$459.84	3.79%	\$440.91
D2 + Stricter RFS	3.56%	\$475.79	3.68%	\$456.87
Carbon Tax + SAF Credit	3.33%	\$220.25	3.33%	\$220.25
Aviation Intensity Standard	2.42%	\$531.53	2.53%	\$497.76



(a) With CA SAF Tax Credit



(b) Without CA SAF Tax Credit

Figure 2: Emissions reduction and average abatement costs across policy scenarios

*Notes:* This figure shows, for each policy scenario, the percent decrease in transportation emissions (relative to no policy) and the average abatement cost of these transportation emissions reductions, in dollars per ton.

We also compute the average abatement cost (AAC) associated with the additional U.S. emissions reduction induced by the California SAF tax, as reported in Table 7.

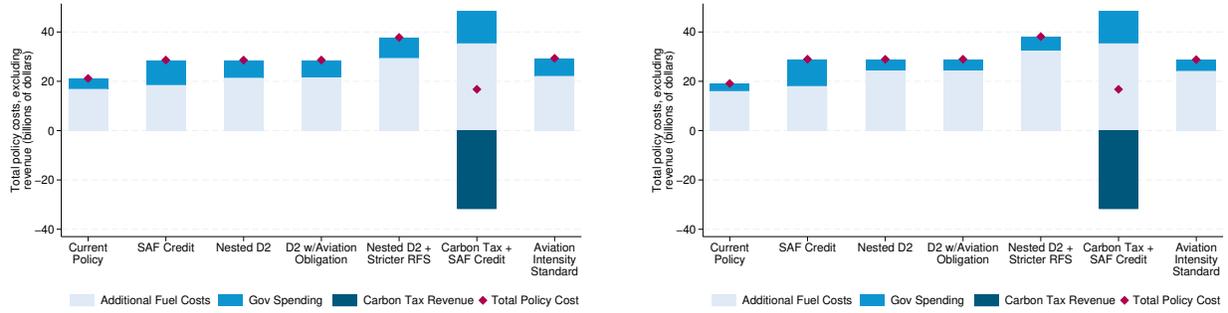
	Optimistic ATJ	Pessimistic ATJ
Incremental Emission (million MT)	2.05	0.53
AAC for incremental emission reduction (\$/tCO <sub>2</sub> )	997.47	2767.99

Table 7: Incremental emission reductions and AAC under the California SAF tax.

*Notes:* Incremental emission reduction is defined as the additional emissions reduction achieved under the California SAF tax relative to the current policy baseline. The average abatement cost is calculated for this additional reduction.

## 2.6 Total Policy Costs and distribution of costs

As shown in Figure 3, total government expenditures increase with the implementation of the CA SAF tax credit; we report results only for the optimistic ATJ case. The detailed allocation of incentives across 45Z, 45Q, the California state tax credit, the Rest of U.S. (ROUS) state tax credits, and the SAF credit is provided in Table 8.



(a) With CA SAF Tax Credit

(b) Without CA SAF Tax Credit

Figure 3: Policy Cost Breakdown Across Policy Scenarios

*Notes:* This figure shows the breakdown of policy costs by source (additional fuel costs, government spending, and tax revenue) across all policy scenarios with and without the California SAF tax credit.

Table 8: Total tax expenditures by source: CA SAF Tax Credit vs. No CA SAF Tax Credit

<b>(a) With CA SAF Tax Credit - ATJ optimistic</b>					
Scenario	45Z	45Q	ROUS State Tax	CA State Tax Credit	SAF Credit
Current Policy	3.09	—	0.07	1.18	—
Current Policy + No LCFS	3.21	—	0.87	—	—
SAF Credit	3.32	—	1.21	2.70	2.96
Nested D2	3.31	—	1.21	2.70	—
D2 w/ Aviation Obl.	3.31	—	1.24	2.68	—
Nested D2 + Stricter RFS	4.48	—	1.21	2.74	—
Carbon Tax + SAF	—	—	—	—	13.19
Av. Intensity Std	3.30	—	1.26	2.68	—
<b>(b) With CA SAF Tax Credit - ATJ pessimistic</b>					
Scenario	45Z	45Q	ROUS State Tax	CA State Tax Credit	SAF Credit
Current Policy	3.05	—	0.07	0.37	—
Current Policy + No LCFS	3.23	—	0.07	—	—
SAF Credit	3.35	—	1.25	2.68	4.16
Nested D2	3.34	—	1.25	2.68	—
D2 w/ Aviation Obl.	3.34	—	1.25	2.68	—
Nested D2 + Stricter RFS	4.53	—	1.21	2.74	—
Carbon Tax + SAF Credit	—	—	—	—	14.81
Aviation Intensity Std	3.34	—	1.29	2.65	—
<b>(c) Without CA SAF Tax Credit</b>					
Scenario	45Z	45Q	ROUS State Tax	SAF Credit	
Current Policy	3.04	—	0.11	—	
Current Policy + No LCFS	3.21	—	0.87	—	
SAF Credit	3.30	—	1.35	6.31	
Nested D2	3.29	—	1.35	—	
D2 w/ Aviation Obl.	3.30	—	1.35	—	
Nested D2 + Stricter RFS	4.47	—	1.35	—	
Carbon Tax + SAF	—	—	—	13.19	
Av. Intensity Std	3.28	—	1.35	—	

We also show the distribution of policy costs by stakeholder group in Figure 4.

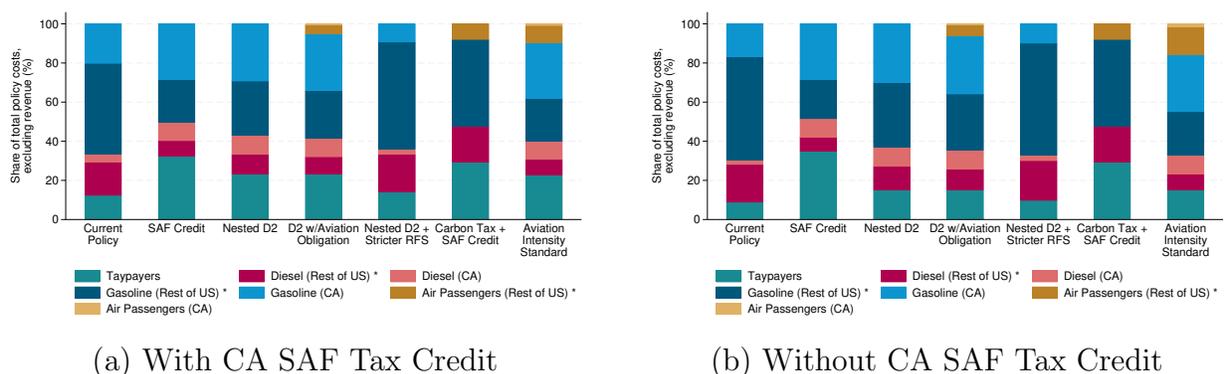


Figure 4: Actual policy cost distribution shares across policy scenarios (excluding tax revenue)

*Notes:* This figure shows how actual policy costs (excluding carbon tax revenue) are distributed across policy scenarios. Actual policy cost is defined as the sum of total obligations under the LCFS, RFS, carbon tax, and aviation intensity standard, plus government tax expenditures. The cost is distributed between taxpayers (who fund tax credits), and consumers of diesel, gasoline, and air travel (who experience price changes).

## 2.7 Fuel Price Impacts

Table 9: Blended fuels and LCFS obligations under current policy

Scenario	Optimistic ATJ	Pessimistic ATJ	No CA SAF Tax Credit
Blended diesel (CA)	3.14	3.14	3.02
Blended gasoline (CA)	2.68	2.65	2.54
Blended aviation (CA)	2.36	2.36	2.36
LCFS obligation for fossil diesel	-0.57	-0.55	-0.43
LCFS obligation for fossil gasoline	-0.61	-0.58	-0.45

- With the introduction of the California SAF tax credit, blended diesel prices rise by roughly 11–12 cents and blended gasoline prices by about 11–14 cents (Table 9). This reflects higher LCFS obligations and a lower biofuel share due to substitution effects. In the rest of the U.S., blended fuel prices decline.
- Under the 3-billion-gallon mandate, these price changes are much less pronounced (Figure 5).

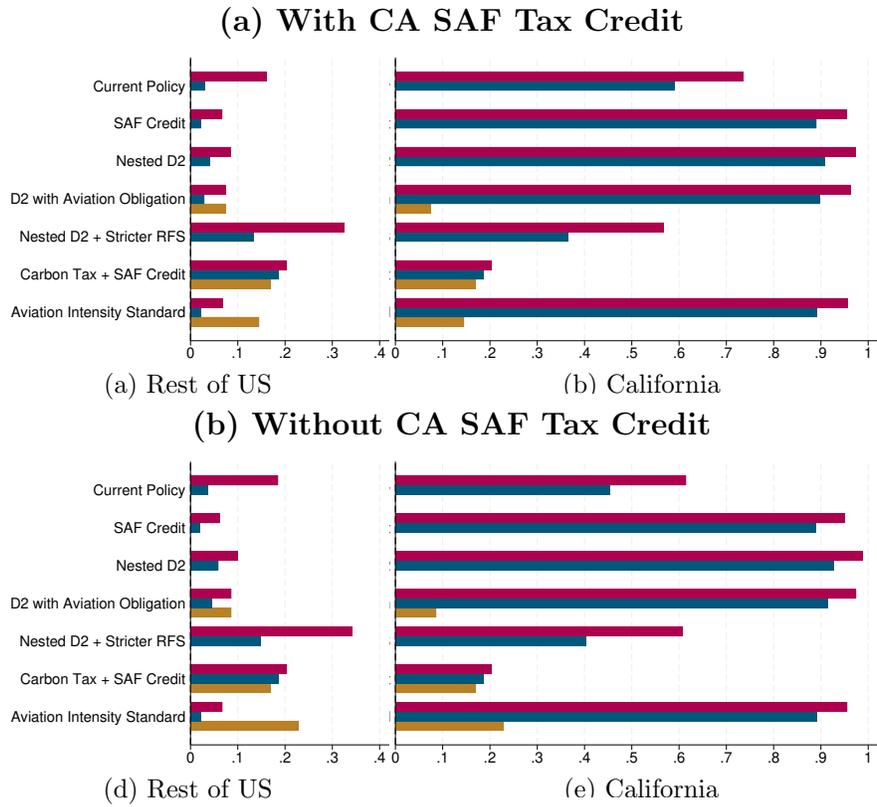


Figure 5: Blended Fuel Cost Impacts: CA SAF Tax Credit Comparison

## 2.8 Feedstock Demand Comparison

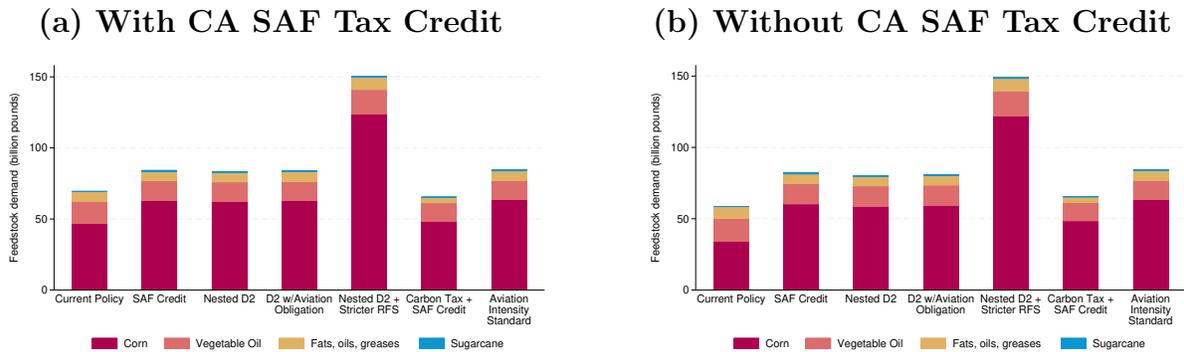


Figure 6: Changes in Feedstock Demand by Scenario: CA SAF Tax Credit Comparison

- Under the current policy scenario, corn demand increases by about 13 billion pounds, while demand for vegetable oil and fats/oils/greases declines by roughly 1 billion pounds.
- Under the three-billion-gallon mandate, shifts in feedstock demand are much smaller.

### 3 Potential Cap and Invest Interactions

As discussed in [Wu et al. \(2025\)](#), it is possible that interactions between SAF policy with California’s LCFS and the cap-and-invest (CAT) program may stimulate additional emissions in non-transportation sectors in California.

For this to occur, more SAF consumption in California induced by the new tax credit policy would be used to meet compliance with the state’s LCFS and displace some bio-based diesel (BBD) fuel that would otherwise be used for compliance with the LCFS. In order to meet transportation demand, more fossil diesel would be consumed to replace the displaced BBD. The additional diesel consumption also requires allowances under California’s CAT program to cover emissions. In contrast, most emissions from the displaced bio-based diesel are not covered under the CAT. By increasing demand for CAT allowances, additional SAF consumption in California could therefore reduce emissions in other capped sectors outside of transportation.

Below, we present a simplified calculation to explore the potential magnitude of this effect.

Table 10 presents the change in California road transportation fuel consumption relative to Current Policy (in billion gallons) from the CA SAF tax credit, considering both optimistic and conservative assumptions about ATJ production costs.

Table 10: Change in aggregate quantity (billion gal) from CA SAF Tax Credit

Fuel	Pessimistic ATJ	Optimistic ATJ
Biodiesel	0.00	0.00
Renewable Diesel	-0.26	-0.70
Diesel	0.24	0.67
Ethanol	-0.01	-0.03
Gasoline	-0.15	-0.17
SAF	0.29	0.93
Fossil Jet	-0.29	-0.93

While the LCFS accounts for the lifecycle emissions of fuels, the CAT only requires compliance obligations from a limited scope of emissions from biofuels, specifically non-CO2 end-use combustion emissions (e.g. CH4 and NOx) and non-biogenic production emissions from covered facilities emitting more than 25,000 metric tons annually. Table 11 presents the lifecycle carbon intensity of transportation fuels based on CA-GREET, in comparison with their approximate emissions allowance obligation under the CAT program [Scott \(2024\)](#).

Table 11: Emissions intensity of fuel (kg CO<sub>2</sub>e per gallon)

Fuel	Total Emissions	Capped Emissions
Fossil diesel	13.51	13.51
Renewable Diesel (dge)	6.72	0.94
Biodiesel (dge)	6.39	0.94
Ethanol (gge)	8.30	1.11
Fossil gasoline	11.89	11.89

To calculate the change in allowance demand under California’s CAT program, we multiply the change in fuel volumes in Table 12 by the emissions intensity of fuels under the CAT program in Table 11. To illustrate the potential cost implications of this displacement effect, we assume abatement in other sectors occurs for an average cost of \$30 per ton. Assuming all additional demand for CAT allowances from transportation results in an equivalent decrease in emissions from other sectors (the cap is binding), we present estimates of the emissions and cost impacts in Table 12.

Table 12: Change in emissions and AAC from CAT interaction effect

	Pessimistic ATJ	Optimistic ATJ
Change in Emissions (MT)	-1.24	-6.28
Change in Average Abatement Cost (\$/ton)	-13.21	-59.77
Change in Total US Transport Emissions (%)	-0.06%	-0.28%
Change in AAC	-2.77%	-13.89%

These estimates depend importantly on two simplifying assumptions. First, we assume that the emissions cap represents a binding constraint on emissions. The displacement of emissions from other sectors due to increased fossil diesel consumption would only occur if total emissions are constrained to force reductions elsewhere. In practice, additional policies and technology development will determine whether future cap levels are binding and the existing large bank of allowance credits in the program may dampen this displacement effect.

Second, this calculation does not account for any potential demand response in transportation if CAT allowance prices increase. If the emission cap is binding, the higher demand for CAT allowances from transportation would increase the allowance price and correspondingly increase the price of fossil transport fuels, eliciting some reduction in consumption. For simplicity, we assume that supply of allowances is relatively elastic and any price transmission response would be negligible.

## References

Wu, Mengying and McCormack, Kristen and Scott, William A. and Smith, Aaron and Zhang, Jingran and Stock, James H. (2024). *Policy Options to Achieve US Sustainable Aviation Fuel Targets*. NBER Working Paper, 34326.

Scott, William A. (2024) *Cost, innovation, and emissions leakage from overlapping climate policy* Energy Economics 139:107949.