Project A01

Sustainable Aviation Fuel Development: Law, Policy and the Blender's Tax Credit

Penn State

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Cost Share Partner(s): Penn State

April 2023 Quad Chart

Objectives:

1. Understand law and policy drivers related to SAF in the United States.
2. Engage with stakeholders as needed
3. Begin research carbon capture and sequestration
4. Begin work on soil carbon questions

Project Benefits:

Continue developing understanding of law and policy related to SAF; engage with stakeholders; better understand carbon capture and sequestration and potential opportunities from soil organic carbon

Research Approach:

Research law & policy drivers related to SAF at federal, state, regional levels and beyond; develop white papers, and publications to share with team members and beyond

Work with team members to identify potential stakeholders; facilitate discussions as needed

Work with ASCENT 01 team members to frame research on carbon sequestration and soil organic carbon; conduct literature review and develop research plan

Major Accomplishments (to date):

- Drafted white papers summarizing SAF-related laws/policies at the state, federal levels; researched legal questions raised by team members
- Published "Regulatory/ Policy Analysis of Production, Development and Use of SAF in the U.S." in Frontiers in Energy
- Presented "SEC's Proposed Rule on Climate-Related Disclosures" with various audiences
- Researched and shared a summary about SAF-related provisions in the Inflation Reduction Act
- Participated in MIT workshop on decarbonizing aviation

Future Work / Schedule:

- Research law/policy in support of SAF Grand Challenge
- Begin work on CCS, soil carbon
- Extended contract issued in Dec. 2022

This research was funded by the U.S. Federal Aviation Administration Office of Environment and Energy through ASCENT, the FAA Center of Excellence for Alternative Jet Fuels and the Environment, project 01 through FAA Award Number 13_C-AJFE-PSU (Amend #46) under the supervision of Nathan Brown and Prem Lobo. Any opinions, findings, conclusions or recommendations expressed in this this material are those of the authors and do not necessarily reflect the views of the FAA.

Outline

- Legal/Regulatory Dynamics for SAF
  - Federal
  - State

- Introduction to researchers focused on carbon capture sequestration/soil carbon work

Federal & State Updates

- Federal:
  - Renewable Fuel Standard
  - Inflation Reduction Act
  - Securities and Exchange Commission GHG Rules
  - Proposed Dept. of Labor ESG Rules
- State
  - Washington State
  - California
  - Other

Proposed Rulemaking: Renewable Fuel Standards for 2023-2025

- Provides the applicable volumes and percentage standards for 2023 through 2025.

Table I.A.1-1: Proposed Volume Targets (billion RINs)[a]

	2023	2024	2025
Cellulosic biofuel	0.72	1.42	2.13
Biomass-based diesel[b]	2.82	2.89	2.95
Advanced biofuel	5.82	6.62	7.43
Renewable fuel	20.82	21.87	22.68
Supplemental standard	0.25	n/a	n/a

Proposed Rulemaking: Renewable Fuel Standards for 2023-2025

- Revises the RFS program provisions relating to the generation of eRINs.
  - eRINs represent the quantity of renewable electricity determined to be used by light-duty electric vehicles.

  - Allows vehicle manufacturers ("Original equipment manufacturers") to generate eRINs based on the light-duty vehicles they sell by establishing contracts with parties that produce electricity from qualifying biogas.

Inflation Reduction Act of 2022

- Sustainable Aviation Fuel Credit (effective until Dec. 31, 2024) (26 U.S. Code § 40B)
  - Number of gallons of SAF x $1.25
  - Plus $0.01 per gallon for each % by which the lifecycle GHG reduction exceeds 50% (50 cents maximum).
- Clean Fuel Production Credit (effective after December 31, 2024, until December 31, 2027) (26 U.S. Code § 45Z)
  - $1.75 per gallon of SAF, if prevailing wage and apprenticeship requirements are met.
  - $1 per gallon for fuels not used in aviation if prevailing wage and apprenticeship requirements are met.
  - The threshold for fuels to qualify for clean fuel production credit in 2025-27 is 50 kg CO_2e/mmBTU.
- Section 13201 of IRA extended the $1 Blender Tax Credit for biodiesel and renewable diesel as well as the 50-cent alternative fuel tax credit until 31 December 2024.

SEC Proposed Rule on Climate-Related Disclosures for Investors

- The Securities and Exchange Commission (SEC) has proposed climate disclosure regulations that would require companies to make disclosures about their GHG emissions and risk from climate change in their registration statements and annual reports
- A registrant would be required to disclose any climate-related risks reasonably likely to have a material impact on the registrant's business or consolidated statements.
- The final rule will be out within the next months, and after opposition from Corporations, SEC is considering easing the requirement that certain large public companies report data about Scope 3 emissions.

Content of the Disclosure

I. The oversight and governance of climate-related risks by the registrant's board and management.

II. Any climate-related risks that have had or are likely to have a material impact on its business and consolidated financial statements;

III. How any identified climate-related risks have affected or are likely to affect the registrant's strategy, business model, and outlook;

IV. The registrant's processes for identifying, assessing, and managing climate-related risks and whether any such processes are integrated into the registrant's overall risk management system or processes;

V. The impact of climate-related events and transition activities on the financial statement;

VI. The registrant's GHG emissions for its most recently completed fiscal year;

VII. The registrant's climate-related targets or goals, and transition plan, if any;

Department of Labor ESG Regulation

- Rule (“Prudence and Loyalty in Selecting Plan Investments and Exercising Shareholder Rights”) effective on Jan. 30, 2023
- Retirement plan decision-makers called fiduciaries may—but aren’t required to—consider the effect environmental, social, and corporate governance factors have on investment or when exercising shareholder voting rights
- Challenged by AGs from 25 states, led by attorney generals of Texas and Utah in a federal district court in Texas, arguing
  - the 2022 Rule undermines key protections for retirement plan participants
  - oversteps the DOL’s authority under ERISA and
  - is arbitrary and capricious in violation of Admin. Procedure Act (APA).

Washington

- In 2021, WA adopted the Clean Fuels Standard program.
  - Requires fuel suppliers to reduce the carbon intensity of transportation fuels to 20% below 2017 levels by 2038.
  - Exemption for fuels used for aircraft, vessels, railroad locomotives, military tactical vehicles, and until January 1, 2028, logging, off-road, agriculture, and mining vehicles.
  - These industries can voluntarily opt into the program to generate credits.

- On April 20, 2023, Governor Inslee signed SB 5447, which provides a preferential business and occupation (B&O) tax rate of 0.275 percent for the manufacturing and selling of alternative jet fuels (AJF).
  - The standard B&O tax rate on manufacturing is 0.484%.
  - The preferential tax rate begins after Department of Revenue receives notification from Ecology that there are one or more facilities operating in this state with a cumulative production capacity of at least 20,000,000 gallons of alternative jet fuel per year. The preferential tax rate lasts for ten years.
  - The tax incentives effective on July 1, 2024.

Washington SB 5447 (Continued)

- SB 5447 creates a B&O and public utilities tax credit for some sales and purchases of alternative jet fuel (AJF).
- The amount of the credit would be $1 per gallon of AJF that has at least 50% less CO2e than conventional jet fuel.
  - The credit would increase by 2 cents for each additional 1% reduction beyond 50%, with a cap of $2 per gallon.
- AJF must be used for flights departing WA
- AJF must be sold by "a business that produces alternative jet fuel and is located in a qualifying county; or "a business's designated AJF blender that is located in this state."
  - Qualifying county= a county that has a population less than 650,000.
- Credits may be earned for ten years.
- Tax incentives may not be claimed until the WA Department of Ecology verifies that there are one or more facilities operating in this state with a cumulative production capacity of at least 20 million gallons of AJF each year.

California

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- The CA Low Carbon Fuel Standard (LCFS) program requires a 20% reduction in the carbon intensity of CA's transportation fuels by 2030.
- Currently, conventional fuel used in aircraft, military vehicles, ocean vessels, and locomotives are exempt from LCFS regulation.
- Alternative jet fuel is recognized as an opt-in fuel; therefore, generates credits.
  - "Alternative Jet Fuel" means a drop-in fuel, made from petroleum or non-petroleum sources, which can be blended and used with conventional petroleum jet fuels without the need to modify aircraft engines and existing fuel distribution infrastructure. Cal. Code Regs. tit. 17, § 95481.
- In September 2022, Governor Newsom vetoed a bill that would have required California to produce SAF 20% of its aviation fuel by 2030.

> While my Administration appreciates the intent of this bill, there are existing opportunities for credit generation from sustainable aviation fuel production under the state's Low Carbon Fuel Standard.
>
> For these reasons, I cannot sign this bill.
>
> Sincerely,
>
> Gavin Newsom

Other States

- Hawaii extended its renewable fuels production tax credit (PTC).
  - provides an income tax credit equal to $0.20 per 76,000 BTUs (or ~$0.29/gal) of renewable fuels including renewable jet fuel sold for distribution in Hawaii.
  - The facility must produce at least 2.5 billion BTUs annually to receive the tax credit and could claim the tax credit for up to 10 years, not to exceed $3.5 million per calendar year.

- Illinois passed a SAF tax credit in 2023
  - Applies to airlines operating out of the state that buy fuel
  - Can be combined with IRA credit
  - Caps volume of soybean oil-derived SAF

- Various states are considering enacting LCFS programs, which could allow SAF to generate credits as opt-in fuel.
  - These states include New Mexico, Minnesota, Michigan, Nevada, Nebraska, Vermont, and New York

CCS & Soil Carbon new work underway

Anne Menefee
Assistant Professor of Energy and Mineral Engineering

Work on Carbon Capture & Sequestration

Armen R. Kemanian
Professor of Production Systems and Modeling

Work on soil carbon

Summary

- On the law & policy side
  - Dynamic space at federal and state level
  - Implementation of the IRA credits underway
  - The recent WA State tax incentives could be a game changer in the state re SAF production; example for other states
  - If enacted, SEC disclosure rules might encourage the use of SAF.
    - For example, an airplane manufacturer's Scope 3 emissions might include emissions from flights of airline companies
  - Policy analysis key part of SAF Grand Challenge
- On the CCS & soil carbon
  - New space for the ASCENT project– stay tuned