Clean Air Task Force (Rachel Starr)

Please see the uploaded file for comments from Clean Air Task Force (CATF), as well as links to additional relevant resources on the last page. CATF is happy to serve as a resource and would welcome further discussion on how to support scaling SAF in Washington. Thank you for your consideration of our comments.

Clean Air Task Force comments on the Washington Scoping for Sustainable Aviation Fuel Programmatic Environmental Impact Statement
November 5, 2025

Clean Air Task Force (CATF) is pleased to submit comments on the Scoping Document for Programmatic Environmental Impact Statement on Sustainable Aviation Fuel Production Pathways, Including Blending and Distribution Infrastructure in Washington State (Scoping Document). CATF is a global advocacy organization working to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies.

CATF supports the full decarbonization of the transportation system, which is the largest source of greenhouse gas emissions in the U.S., and commends Washington State's leadership and policy commitments towards that goal. We believe that electrification with scaled up emission-free power generation can and should reduce a large share of transport emissions, yet up to half of the sector's energy demand from heavy transport (aviation, marine and some portions of trucking) will continue to rely on liquid fuels. This is especially true for jet fuel powered aviation.

Regarding the Department of Ecology's (Ecology) upcoming PEIS analysis for scaling the use of sustainable aviation fuel (SAF), the substance of our comments will pertain to air quality, greenhouse gases, land use, and cumulative impacts.

In sum, CATF recommends that Ecology assess the scaling of SAF use in Washington in the context of decarbonizing the transportation sector and fuels within the State's existing clean fuel standard (CFS). As the state's carbon intensity requirements strengthen over time and SAF use increases, it will be important to ensure the competition for low-carbon fuels and feedstocks between transportation modes does not erode the integrity of the clean fuel program in achieving the state's climate goals.

We believe this outcome will require:

- Comprehensive analysis of SAF and other low-carbon fuels and supply chains;
- Safeguards to ensure that support is not misdirected to fuels made from non-sustainable biomass resources;
- Conservative carbon intensity accounting that does not allow reduced/avoided emissions to be credited as "negative" emissions;
- SAF pathways that are truly low carbon and collectively scalable; and
- The use of SAF to reduce ground level health and non-CO_2 climate impacts from conventional jet fuel.

Geographic scope of analysis

CATF recommends that Ecology analyze the full SAF supply chain, including secondary market impacts, of SAF pathways in the PEIS. As detailed below, the use of certain domestic or imported feedstocks poses significant climate and land use risks.[1] These risks include both direct and indirect land use changes as well as carbon accounting practices that can undermine the effectiveness of the State's CFS and ability to meet its climate goals.

At the same time, there is an opportunity to utilize biomass resources within the state that have a low risk of causing detrimental land-use change. A recent Lawrence Livermore report, *Roads to Removal (R2R)*, indicates forest and crop residues in Washington State could be used for CDR alongside SAF production (up to 180 million gallons) if cellulosic biomass supply chains and bioconversion (gasification) facilities were built. Additional biomass resources (estimated in the R2R analysis)[2] could triple this potential, and others not included (e.g., winter crops) show additional potential.[3]

Reaching this potential will require building out low-impact biomass supply chains and bioconversion facilities for biomass carbon removal and storage (BiCRS) facilities that produce SAF alongside carbon dioxide removal (CDR). This includes developing supply chains to collect agricultural and forest waste and residue biomass resources, beneficial-purpose-grown biofuel crops, cellulosic bioconversion facilities, and carbon storage.

Specifically, we recommend:

- Accounting for country or region-specific emissions and ecosystem impacts from producing and transporting biomass feedstocks used to produce SAF. This should include both direct and indirect impacts, including secondary market impacts incurred from diverting feedstocks from existing markets to SAF production.
- For scaling imports or in-state production of SAF made with zero-or-low-carbon electricity, assessing the additionality of the electricity supply and/or secondary market impacts of diverting the clean electricity from other uses.
- Assessing the local air pollution and non-CO_2 climate impacts, such as heat trapping contrails, from conventional jet fuel sold and used in Washington, could provide important data for maximizing the local health and full climate benefits from increasing SAF use by targeting SAF supplies to high-impact airports and flights.

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[1] Using Vegetable Oils for Biofuel Accelerates Tropical Deforestation and Increases Carbon Emissions, Department of Agricultural and Resource Economics, U.C. Davis, October 2025

[2] Additional biomass resources include construction and demolition waste, municipal solid waste wood, residential and non-residential food waste, other municipal solid waste, paperboard, livestock manure, and perennial grasses on marginal and other lands like existing conservation reserve program land.

[3] *Roads to Removal* did not include biomass supply estimates for winter crops (including winter oilseed crops) that could be grown on existing seasonally fallow land in Washington State for biofuels.

Safeguard against high land use change risks of certain biomass feedstocks

Currently, as noted in the Scoping Document, the only SAF being produced at commercial scale is from hydrotreating vegetable oils (HVO), including "waste" oils (used cooking oil, yellow grease and tallow) and crop-seed oils (soy, canola, etc.). As both California and Washington recognize in their respective CFS, fuels made from crop-seed oils, such as soy and canola, have a higher carbon intensity score than waste oils.

As Washington's CFS carbon intensity requirements strengthen over time and measures are taken to scale SAF, it is likely—in the absence of a safeguard provision—that the increased demand for bio-oil based fuels will be met with crop-seed oils, rather than waste oils or other sustainably-sourced feedstocks. Indeed, as cited in the Scoping Document, nearly all available supplies of waste oils in the Pacific Northwest are already contracted for other uses. The same is true for most of the U.S.

This poses significant climate and land use risks. In fact, crop seed oil-based fuels are already adversely impacting food markets and forests. According to the US Department of Agriculture and market analysts, crop-oil based diesel has impacted the soy oil market so significantly that the U.S. imports more soy oil than it exports.[4] Soy oil demand for biofuels has grown to an astounding 48% of soy oil use in the U.S. As vegetable oils are a global commodity, diverting even more vegetable oil from existing markets to fuel production will likely increase vegetable oil prices and lead to the expansion of palm oil production to backfill the demand for vegetable oils in food and other markets. The expansion in palm oil production will result in higher indirect land use impacts and higher net GHG emissions.

As Washington considers scaling SAF use through its CFS and other measures, CATF recommends:

- Properly accounting for all direct and significant indirect emissions, including those from indirect land-use changes (ILUC) by incorporating the most recent Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) into the lifecycle carbon accounting requirements. Importantly, this should be applied to all fuel categories.
- Limiting the eligibility of SAF and other fuels made from high ILUC-risk feedstocks, in particular soy and canola oil, to their current market share, as California did for bio-based diesel fuel. However, because the process of hydrotreating vegetable oils can make diesel, SAF, or gasoline, it is important to set the eligibility limit for all fuel categories. Crop-seed oil fuels that exceed the limit should be given the carbon intensity value of each fuel's fossil equivalent.
- Commit to identifying low ILUC-feedstocks and support building out these low-impact biomass supply chains and bioconversion facilities in Washington, while

[4] US shifts to net soybean oil importer on biofuel boom: Foreign Agricultural Service | S&P Global

limiting the share of the high-ILUC-risk feedstocks. This will require specifying key eligibility and verification criteria, especially for forest-derived biomass resources.

Disallow crediting avoided emissions as "negative" emissions

Incorporating reduced/avoided emissions as "negative" emissions rates into the lifecycle analysis (LCA) for SAF used in Washington can result in over-crediting of actual climate benefits. We encourage Ecology to proceed with caution. Only systems that result in actual, net negative lifecycle greenhouse gas emissions resulting from durable/permanent carbon storage should be defined as CDR. In the context of a CFS, however, the minimum emissions should remain at 0 g CO_2e/MJ from systems such as renewable natural gas (RNG) and RNG-derived fuels, to be conservative and avoid the potential negative impacts discussed below.

CATF is especially concerned about the distortionary impact that crediting reduced/avoided emissions as "negative" emissions can have on a CFS and its associated credit markets. Excessive accumulation of credits tied to reduced/avoided emissions credited as "negative" emissions can discourage development and deployment of other innovative low-carbon energy carriers and CDR technologies.

Assigning "negative" emissions to fuels from systems such as RNG or hydrogen derived from RNG that could lead to undesirable market distortions. This includes the possibility that digester operations that begin to capture and process methane emissions in response to the CFS could sell that methane for significantly less than existing biogas and biomethane production operations. The availability of highly valuable "negative" credits could also create incentives to use digesters to increase methane production for the sake of methane production (rather than as a method for managing waste).

California's main motivation for maintaining this offset mechanism was to incentivize dairy farmers to install digesters to reduce methane pollution, but these emissions reductions should not be conflated with "negative" emissions in fuel standards.

Therefore, CATF recommends that Ecology:

- Ensure that 0 g CO_2e/MJ is the minimum carbon intensity value for SAF from systems such as RNG or hydrogen derived from RNG () in the context of a CFS to be conservative. Outside of a CFS, systems that include permanent carbon storage (e.g., digesters with carbon capture and storage) could result in CDR depending on the system's lifecycle emissions.
- Limit book-and-claim credits from RNG to SAF production to increase the incentives to produce more SAF than renewable diesel, which is preferably advantaged over SAF in the federal renewable fuel standard and tax credits such as 45Z.

Priorities for SAF pathways

The HEFA pathway is the only process for making SAF that is currently operating at commercial scale, but vegetable oil-based processes face significant scalability challenges, as detailed above. It is therefore important that Ecology allow multiple SAF pathways in the state's CFS to support a rapid, robust, and environmentally beneficial scale-up of SAF. To maintain the integrity of the CFS it will be important to adopt criteria that ensure low lifecycle carbon emissions.

CATF recommends the following for the pathway categories identified in the Scoping Document:

Hydroprocessed esters and fatty acids (HEFA):

- Lifecycle carbon accounting that includes the most protective available ILUC methodology; and
- Limited eligibility for high-ILUC-risk feedstocks, especially globally traded crop-seed oils such as soybean and canola.

Alcohol to jet (AtJ):

- Strong measurement, reporting and verification (MRV) standards for carbon captured from ethanol or other intermediaries for production of SAF; and
- For upstream, on-farm practices (e.g. climate smart agriculture) to count towards reduced carbon intensity scores, the practices must verifiably reduce greenhouse gas emissions.
    - In general, practices that function to reduce reactive nitrogen losses can result in immediate and irreversible emissions reductions, unlike practices that function to reduce soil organic carbon losses or increase soil organic carbon, which require quantifying long-term soil dynamic processes to verify effects and have potentially easily reversible effects. Net-negative emissions should only be attributed to systems that result in the permanent storage of carbon atoms, after taking into consideration lifecycle emissions (e.g., if the biogenic carbon dioxide stream from bioconversion of crop residues is captured and injected into permanent geologic storage).

Fischer-Tropsch (FT):

- For biomass gasification FT, forest-derived residues should be subject to sustainability criteria, tracking, and verification; and
- For RNG FT, the minimum carbon intensity should be zero in a CFS to be conservative. RNG systems that include permanent carbon storage (e.g., digesters with carbon capture and storage) could result in CDR depending on the system's lifecycle emissions.

Power to liquid (PtL):

- Clean hydrogen feedstocks should abide by the requirements used at the federal level to comply with the 45V hydrogen production tax credit, including the 4 kg CO_2e/kg H2 emissions threshold and the three pillars – incrementality, hourly matching, and deliverability; and
- Account for differences in carbon intensity of CO_2 captured from industrial facilities (i.e. point source capture) versus other types of CDR like direct air capture. Carbon intensity credit for captured carbon from industrial facilities must be properly allocated among the co-products at that facility to prevent double-counting.

CATF appreciates this opportunity to review and provide input on the Scoping Document for scaling the production and use of low-carbon alternative aviation fuel in Washington. As detailed above, CATF recommends that Ecology assess the scaling of SAF use in Washington in the context of decarbonizing the transportation sector and fuels within the State's existing CFS. As the state's carbon SAF use increases, it will be important to ensure the competition for low-carbon fuels and feedstocks between transportation modes does not erode the integrity of the clean fuel program in achieving the state's climate goals.

CATF welcomes further discussion with Ecology and would like to be considered a resource for future deliberations relating to SAF and fuels. Thank you for this opportunity and consideration of our recommendations.

Please see the below for additional relevant resources:

H.R. 1 Expands 45Z Clean Fuel Production Credit for Conventional Biofuels While Cutting Sustainable Aviation Fuel Tax Credit – Clean Air Task Force

Aviation could consume almost all available biofuel for decarbonization – maritime shipping needs to broaden its own strategy – Clean Air Task Force

Making sense of our options to decarbonize aviation – Clean Air Task Force

Decarbonizing Aviation: Challenges and Opportunities for Emerging Fuels – Clean Air Task Force

Beyond carbon dioxide: Aviation needs a multi-pronged strategy to address contrails and reduce climate impacts – Clean Air Task Force