Washington Alternative Jet Fuels Work Group (Jonathan Male)

Public Comment on Programmatic Environmental Impact Statement (PEIS) for Sustainable Aviation Fuels (SAF) Production Pathways, Blending, and Distribution Infrastructure in Washington State – Scoping Document by the Washington State Department of Ecology

Date: November 5, 2025

To: Washington State Department of Ecology

From: Washington Alternative Jet Fuels Work Group

Subject: Formal Comment on PEIS Scoping Document for Sustainable Aviation Fuels

Dear Department of Ecology,

We appreciate the opportunity to provide comments on the scoping document for the Programmatic Environmental Impact Statement (PEIS) concerning Sustainable Aviation Fuels (SAF). The following recommendations are submitted with the intent to support a focused, actionable, and environmentally responsible framework for SAF development in Washington State.

Executive Summary – Key Recommendations

We respectfully request that the PEIS prioritize a focused set of five sustainable aviation fuel (SAF) technology pathways for detailed analysis, listed in order of relevance:

(1) Hydroprocessed Esters and Fatty Acids (HEFA) – Synthetic paraffinic kerosene,
(2) Alcohol-to-Jet (AtJ) – Synthetic paraffinic kerosene,
(3) Fats, oils, and greases co-processing at existing refineries,
(4) Hydroprocessed biomass co-processing, and
(5) Fischer–Tropsch (FT) -Synthetic paraffinic kerosene.

All other ASTM D7566 and ASTM D1655-approved pathways should be placed on a watchlist to be monitored without full build-out modeling at this time. To ensure the PEIS remains actionable and supports future tiering to project-level State Environmental Policy Act (SEPA) reviews, we recommend constraining near-term (2025–2032) alternatives to these five pathways, along with associated blending, storage, and distribution infrastructure. Each pathway should assess the viability of Washington-based feedstocks or, where appropriate, examine out-of-state feedstocks with improved economics and logistics. Quantitative analysis should include marine, rail, truck, and pipeline movements with appropriate environmental screening.

Recommended PEIS Alternatives and Timeframes

Alternative A (2025–2032): Focused build-out scenarios limited to the five prioritized

pathways and associated infrastructure, using SEA as the primary case and GEG as an alternate.

Alternative B (2033–2040, optional sensitivity): Scale-up of the same five pathways. Other ASTM-approved pathways may be considered if strong commercialization signals emerge.

Pathways to Evaluate
Limit detailed PEIS analysis to the five prioritized pathways. Acknowledge other ASTM-approved or candidate pathways in an appendix/watchlist without full siting, logistics, or emissions modeling during this cycle.

Feedstocks and Logistics
Feedstocks should be selected based on economic and logistical viability whether in Washington state or not over the next 5–10 years.

- **HEFA (lipids):** Limited in-state waste availability may increase reliance on imported used cooking oil (UCO) and tallow. Assess marine, rail, and truck terminal capacity, spill risks, and habitat impacts.
- **AtJ (ethanol/isobutanol):** Include a programmatic module assessing transportation infrastructure, air/water/emissions footprints, hydrogen needs, and waste/byproduct handling.
- **Co-processing:** Reflect refinery unit constraints, hydrogen and utility demands, catalyst lifecycle, and logistics for fats, oils, greases, and hydroprocessed biomass.
- **FT (agricultural and forestry residues, renewable natural gas, biogas, carbon oxides, and municipal solid waste (MSW) converted to synthesis gas):** Emphasize siting in transportation-served industrial zones to minimize truck vehicle miles travelled (VMT). Evaluate gasifier scaling, syngas cleanup, water use, and pollutant controls.

Logistics Systems
Model marine (existing vs. new docks), pipeline (e.g., Olympic Pipeline interface), rail (existing and potential spurs), transloading facilities, and truck flows. Quantify incremental VMT, noise, and criteria pollutants along corridors with environmental screening.

Blending, Storage, and Distribution Infrastructure – Standalone Alternative
Fueling infrastructure downstream of production is critical. Compare three blending options: upstream terminal blending, refinery-site blending, and airport-adjacent blending. Use SEA as a detailed case to assess fuel quality control, operational complexity, and jet-system compatibility. Include GEG as an alternate.

Co-processing in Washington Refineries
All five Washington refineries have marine access. Four in northern Washington have crude oil pipeline access; the Tacoma refinery relies on marine and rail. All are connected to the Olympic Pipeline for refined product distribution.

Analyze requirements for co-processed jet fuel production, including hydrogen and utility needs, catalyst and waste stream management, co-product handling, and infrastructure needs. Clarify treatment under the Clean Fuel Standard.

Geographic Scope and Methods
Focus siting on industrial locations statewide: refinery complexes, existing terminals, pipeline-accessible facilities, rail-served zones, transloading facilities, and ports. Exclude state parks; include federal lands per applicable regulations. Tribal lands should be included only at a Tribe's request, with early and meaningful consultation.

Apply cumulative impact scenarios (refineries + terminals + corridors + airport demand) with environmental screening. Include a programmatic mitigation menu for tiering.

Programmatic Mitigation Menu
Avoid or minimize siting in sensitive habitats and cultural areas to the greatest extent practicable. If unavoidable, engage in early Tribal consultation and establish cultural resource protection plans.

Implement operational controls such as Leak Detection and Repair (LDAR), volatile organic compounds (VOCs), hazardous air pollutants (HAPs) controls, spill prevention, and stormwater/wastewater treatment. Use buffers/enclosures near residential areas; route truck/rail to avoid overburdened neighborhoods; apply quiet-zone practices where feasible.

Consider timing and best practices for feedstock harvesting and transport to reduce Endangered Species Act (ESA) impacts. Support community air monitoring and, where appropriate, community benefit agreements tied to measurable outcomes such as job training and infrastructure improvements. Create one acre of wetland for every one acre of any class of wetlands disturbed.

Please find some suggestions on section 2 of the PEIS on SAF Scoping Document:

1. **Clarification of SAF vs. ATJ (Page 7)**
   Original: "Sustainable Aviation Fuel (SAF) (also called Alternative jet fuel)"
   Suggested: Clarify that while SAF is a type of alternative jet fuel (ATJ), the term ATJ encompasses a broader category, including options that may not meet sustainability criteria. This distinction is important for accurate classification and policy alignment.

2. **Renewable Fuel Standard (RFS) Inaccuracy (Page 15)**
   Original: "… that requires a certain volume of renewable fuel be used to replace or reduce the quantity of fossil fuel in jet fuel and other fuels."
   Suggested: This statement is inaccurate. SAF can generate Renewable Identification Numbers (RINs) under the RFS, but jet fuel is not subject to a renewable volume obligation, and there are no obligated parties for jet fuel.
   Reference: EPA clarification on renewable jet fuel https://www.epa.gov/fuels-registration-reporting-and-compliance-help/while-there-no-renewable-fuel-obligation-under#:~:text=renewable%20jet%20fuel.-,Is%20that%20right?,1%20to%2080.1426%20or%2080.1416

3. **Ambiguity in "Carbon Intensity Pathway" (Page 17)**
   Original: The legislation also required that one or more carbon intensity pathways for SAF be included in the state's Clean Fuel Standard (CFS)."
   Suggested: The term "carbon intensity pathway" is unclear. Consider replacing with "technology and feedstock pathway" or "conversion pathway with defined lower carbon intensity," to better reflect regulatory and lifecycle analysis terminology.

4. **CFS Language Accuracy (Page 17)**
   Original: "The CFS will provide an increasing range of low-carbon and renewable alternatives…"
   Suggested: Revise to: "The CFS will support an increasing range of low-carbon and renewable alternatives…" to reflect the program's enabling role rather than direct provision.

5. **Clarification of B&O Tax Credit (Page 17)**
   Suggested: Clarify that the B&O tax credit applies only to B&O taxes owed and is nonrefundable. It is not a direct payment to producers or wholesalers. Additionally, note that eligibility requires a minimum state-level production of 20 million gallons per year.
   Reference: Senate Bill Report on SB 5447 https://lawfilesext.leg.wa.gov/biennium/2023-24/Htm/Bill%20Reports/Senate/5447%20SBR%20WM%20OC%2023.htm#:~:text=The%20credit%20is%20calculated%20only,not%20apply%20to%20this%20act.

6. **Federal Clean Fuel Production Credit (Page 18)**
   Original: Only SAF produced from feedstocks coming from U.S., Canada, or Mexico are eligible for the federal Clean Fuel Production Credit. This will be considered in determining the scope of the PEIS."
   Suggested: The statement may overstate the impact of this credit. Its value varies

significantly by technology and feedstock, and it is unlikely to be a primary driver compared to RFS or state LCFS programs. In Washington, low LCFS values may result in SAF being diverted to markets like Oregon, California, British Columbia, or overseas.

7. **Terminology Consistency (Page 19)**
   Suggested: Use "conversion technology" consistently to refer to the technical process and define "pathway" as a combination of feedstock and conversion technology. This will improve clarity and alignment with ASTM and regulatory language.

8. **Correction in Table 1 – Feedstocks (Page 19)**
   Suggested: In the row for Hydroprocessed fermented sugars to synthetic isoparaffins, revise feedstocks to: "Sugars from plants." Remove "pretreated waste fat, oil, and grease," which is incorrect for this pathway.

9. **Correction in Table 1 – Fischer-Tropsch Co-Processing (Page 20)**
   Suggested: Revise feedstock to "renewable hydrocarbons (e.g., FT liquids)" and chemical process to: "Blending renewable feedstocks with fossil fuels in existing refinery units to produce a drop-in fuel." The current description confuses pyrolysis with co-processing.

10. **Inclusion of Co-Processing Pathways (Page 20)**
    Suggested: Add all co-processing pathways to the "focus on" list. These are approved under ASTM D1655 for co-processing of alternate crudes (e.g., lipids, FT fluids, hydroprocessed biomass) with petroleum crude, leveraging existing refinery infrastructure.

11. **Conversion Technology Descriptions (Pages 21–22)**
    a. **HEFA Feedstocks**: Revise "Waste fats, oils, and greases" to "Fats, oils, and greases, which may be waste-derived or virgin."
    b. **Fischer-Tropsch Process**: Revise to "Prior to the Fischer-Tropsch process, feedstock is gasified to create syngas."
    c. **PtL Section**: Clarify that "Carbon dioxide is typically obtained from point sources, which may be biogenic or non-biogenic." The current phrasing is ambiguous.

12. **Blending Infrastructure References (Pages 22–23)**
    Suggested: Cite existing SAF blending infrastructure studies to support analysis, including:

- SEA Aviation Biofuel Infrastructure Report
  https://www.portseattle.org/sites/default/files/2018-03/Aviation_Biofuel_Infrastructure_Report_Condensed.pdf

- SFO SAF Feasibility Study
  https://www.flysfo.com/sites/default/files/SFO_Sustainable_Aviation_Fuel_Feasibility_Study_Report.pdf

- NY/NJ SAF Infrastructure Study (NREL)
  https://docs.nrel.gov/docs/fy22osti/80716.pdf

13. **Distribution Section Clarification (Page 23)**
    Suggested: Revise to clarify that SAF blending does not necessarily increase total jet fuel demand. Instead, total jet fuel demand is projected to rise between 2030 and 2050, requiring expanded receiving, holding, and distribution infrastructure. The current language may mislead readers into thinking SAF blending increases fuel volume.

Thank you for considering these recommendations. We look forward to continued engagement and collaboration to ensure that SAF development in Washington is both environmentally responsible and economically viable.

Sincerely,

The Washington Alternative Jet Fuels Work Group