Comment on Scoping for Sustainable Aviation Fuel Programmatic Environmental Impact Statement (PEIS), Nov 3, 2025

Planetary Boundaries

Washington state law recognizes climate change as a global problem which requires us to do our part to rapidly cut fossil fuel emissions. The following questions refer to Washington state's failure to recognize other planetary boundaries:

- Will the PEIS recognize that global warming is only ONE of the planetary boundaries necessary to maintain a safe space for civilization, and that we must stay within ALL planetary boundaries. (Please see an introductory explanation here: LINK 1: Johan Rockström on navigating planetary boundaries video introduction. LINK 2: Links to studies here, including a new study looking forward which is published in the journal Nature.) Will the impacts on planetary boundaries (earth systems functions which are necessary to a stable and healthy environment for human civilization) be quantified and considered in the PEIS?
- Will the PEIS interpret and implement the intent of SEPA law to "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations"?
- Will the PEIS evaluate alternatives for alignment with planetary boundaries?

Problematic Assumptions (by biofuels, I mean any fuel which requires biomass as a feedstock.)

Will the PEIS use current science to re-evaluate faulty assumptions in existing Washington state law, and commonly used by state agencies and state universities, that are contrary to physical reality? Some (but not all) examples of false assumptions, which have been disproven in peer-reviewed scientific papers:

- Corn ethanol and other agricultural biofuels have lower climate emissions than fossil fuels
- Using forest biomass for energy is lower climate emissions than fossil fuel
- Timber plantations sequester more carbon than proforestation
- Aviation fuels made from captured carbon that release the carbon to the atmosphere when burned are lower climate emissions than fossil fuels

Can It Scale Up? (by biofuels, I mean any fuel which requires biomass as a feedstock.)

- Will the PEIS calculate the land use, environmental, and climate impacts of each proposed aviation fuel type on a global scale? A proposed fuel type or industry is not a climate solution if is bad for the climate and the environment when scaled up globally (global aviation fuel from agriculture or timber plantations would be bad for the climate and the environment, due to very large land use). Just as we have a climate emissions budget on the state level, we must have a plan at the state level to do our part to stay within each of the other planetary boundaries.
- There is not enough agricultural land to increase biofuel production. We are already using too much agricultural land for biofuel. We need that land to grow food, and to provide new habitat to encourage biodiversity. How will the PEIS consider global limitations of agricultural land available for biofuels, food supply security, and biodiversity?
- Will the PEIS determine whether there are sufficient resources for a proposed alternative fuel? For instance, green hydrogen is expensive. Is fuel the best use of green hydrogen, or should we use it to make fertilizer? What is the global plan to ensure we have sufficient fertilizer?

Environmental Costs of Agricultural and Timber Plantation Biofuels (by biofuels, I mean any fuel which requires biomass as a feedstock.)

- Will the PEIS consider the lost carbon opportunity cost of agricultural and timber plantation land use when calculating the lifecycle climate emissions of biofuels?
- Will the PEIS consider the lost biodiversity opportunity of agricultural land used for biofuels (could have rewilded) when determining impacts to the biodiversity planetary boundary?
- Will the PEIS consider the lost biodiversity opportunity of timber plantation land used for biofuels (foregone proforestation) when determining impacts to the biodiversity planetary boundary?
- Will the PEIS consider the food security impacts of using land for biofuels?
- Will the PEIS consider air, water and soil pollution, and eutrophication caused by large scale agricultural biofuels? Will the PEIS calculate the climate impact of nitrogen fertilization?
- Will the PEIS consider water quality, flooding, low summer streamflows, habitat loss, impacts of herbicides, and other environmental impacts of biofuels from timber plantations?

<u>Carbon Capture, Supply Chains, Byproducts, Bioplastics</u>

- Will the PEIS consider the climate emissions of extending the life of refineries and other fossil fuel infrastructure?
- Carbon capture at stationary sources of emissions uses large amounts of energy, and cannot approach zero climate emissions, even at very high cost. Will the PEIS compare lower cost and lower energy alternatives to BECCS and fossil fuels carbon capture?
- Will the PEIS calculate the land use and biodiversity impacts of BECCS as described above in “Environmental costs of agricultural and timber plantation biofuels.”
- The impacts of any fuel choice may have far-reaching consequences to the environment through other industrial activity in supply chains and byproducts, and this is true of choices that envision biofuel or alternative fuel carbon capture. Will the PEIS identify all environmental impacts and safety impacts of supply chains and byproducts?
- Will the PEIS consider land use climate emissions, water use, food competition, toxicity, biodiversity and other environmental impacts of bioplastics? Will the PEIS evaluate the environmental benefits of cutting the use of plastics as an alternative to bioplastics?
- Carbon capture, hydrogen hubs, and other new heavy industry come with massive new infrastructure, pollution, and safety risks. The safety risks may be new or unfamiliar. How will the PEIS ensure that all environmental, health and safety impacts to communities are identified well in advance and communities are protected?

<u>Economic Assumptions, Alternatives Other Than Aviation Fuels</u>

- Current economics favors short-term economic activity over long-term economic stability, and tends to disregard health risks and looming environmental emergencies such as climate change and other planetary boundaries. How will the PEIS ensure that the welfare of people, a livable environment, and the long term stability of the economy are prioritized over short term economic considerations?
- No one wants to hear this, but we can’t stay within our climate emissions limits if we keep flying like we are now.
    - Will the PEIS create a pathway for aviation to stay within our climate emissions limits? If not, what mechanism will create that pathway, and what will ensure we stay within our climate emissions limits?
    - Will the PEIS consider economic, energy and emissions comparisons between aviation and alternative modes of travel? One possible alternative is a well-coordinated system of passenger rail, public transit, and better city planning that works together to get people to their destinations quickly.
    - Will the PEIS consider economic, energy and emissions comparisons between high-speed rail and aviation?
    - Will the PEIS consider behavioral change as a solution?