Diane Butorac
Clean Energy Coordination
Department of Ecology
PO Box 47709
Olympia, WA 985-04-7709

Re: Draft Programmatic Environmental Impact Statement for Green Hydrogen Facilities in Washington State

Dear Diane Butorac:

Thank you for the opportunity to provide comments on the Department of Ecology's draft Programmatic Environmental Impact Statement (PEIS) on Green Hydrogen Energy Facilities. We appreciate Ecology's ongoing work to develop clean energy programs in Washington.

The undersigned represent organizations that work collaboratively on environmental issues in Washington to develop, advocate, and defend policies that ensure environmental progress and justice for our state. We are committed to working for an equitable transition to a clean energy economy, and we submit the following comments to inform the final draft of the PEIS for Green Hydrogen Facilities.

2.4 Development of green hydrogen facilities

2.4.1 Site characterization

The PEIS should include consideration for permit compliance and/or proper decommissioning when a hydrogen facility is built as an expansion to a current facility or in the place of a former, decommissioned facility. As future green electrolytic and renewable hydrogen facilities are likely to be co-located with other types of facilities or constructed at the site of former industrial facilities, it is important that a hydrogen facility is not constructed on a site where an existing facility has any unpermitted prior projects and/or is out of compliance with existing permits, a site that shares infrastructure with an existing facility that has any unpermitted prior projects and/or is out of compliance with existing permits, or a site of a former industrial facility that was improperly decommissioned. This should be added to the list of activities in the site characterization process that would involve minimal or no site disturbance.

3.1 Geographic scope of study

We are concerned that a parcel of the Hanford Site is included in the geographic scope of study. With the fire and explosion risks associated with hydrogen production and storage, the dangers of radioactive waste, and the ongoing leakage and cleanup at the Hanford Site, we ask Ecology to completely remove the Hanford Site from the study.

4.1 Tribal rights, interests, and resources

We appreciate Ecology's work in the draft PEIS to respect Tribal sovereignty, rights, interests, and resources. While the siting and design considerations will be helpful to developers, it is important that impact assessment and determinations of significance or non-significance will be conducted in consultation with Tribes at the project level. This is necessary for respecting the sovereignty of each Tribe and the uniqueness of each potential location.

4.2 Environmental justice

We appreciate Ecology's attention to environmental justice and adverse effects on overburdened communities. At the same time, we urge Ecology to include more robust discussion, recommendations for community benefits, and specific ways that a facility might provide benefits for communities in the final PEIS. Examples could include local hiring and living wage commitments, investments in affordable housing and community green spaces, and childcare and healthcare centers.

4.4 Air quality and greenhouse gases

The PEIS should include more detailed information about the ways hydrogen can function as an indirect greenhouse gas. While the potential global warming effects are noted later in section 5.3.4, hydrogen's significant long-term global warming potential should be discussed more in depth in *Chapter 4: Affected Environment, Potential Impacts, and Mitigation*.

4.4.3.1 Impacts

As noted in 2.5.1.4, bio-gasification facilities could potentially use several different biomass feedstocks, including field and forest residue, wood, and dedicated crops. Each of these feedstocks would have a different level of carbon intensity and lifecycle greenhouse gases. Table 2-3 delineates between forest residue, wood pellets, and switchgrass, but Table 4-7 does not

separate the various biomass feedstocks. We urge Ecology to expand the data on lifecycle emissions for bio-gasification and delineate between forest residue, wood pellets, and switchgrass.

Carbon capture is briefly mentioned in 4.4.3.1, as a likely means of lowering greenhouse gas emissions, but the PEIS does not cover the impacts of carbon capture and storage. Carbon capture and storage has its own unique risks and threats to the environment and public health. If carbon capture technology is a commonly anticipated aspect of hydrogen production, the PEIS should make it clear that carbon capture will require separate studies and permitting.

4.5 Water

We are concerned that the draft PEIS declares only "less than significant impacts" throughout the section on water and water quality. In each case, the finding of less than significant impacts is explicitly dependent on compliance with laws and permits. However, there is already significant over-appropriation of water in Washington, and complying with laws and permits does not guarantee that there will be less than significant impacts to water. This is especially important to note with regard to the Yakima River Basin, which has several plots within the geographic scope of the study. As Washington continues to experience warmer temperatures than ever and droughts become more frequent, water will only become more over-appropriated than it already is. Over the course of a hydrogen facility's decades-long life, less than significant impacts today could be very significant in the future. We urge Ecology to reassess impacts to water in light of expected climate change trends, expand recommended actions beyond compliance with laws and permits, and require projects to specify the water sources that will be used in addition to the quantity of water.

4.15 Public services and utilities

4.15.3.1 Impacts

In considering impacts on emergency response services, significant impacts should be considered in more than just remote areas. Some cities in Washington may also have limited response capabilities to attend to possible disasters at a hydrogen facility without significantly investing in local emergency response services. We urge Ecology to consider impacts on emergency response services to all areas.

Consistent definitions across state and federal agencies

The PEIS should use language that is consistent with terms and definitions used by other state and federal agencies. It is misleading to use the term *green hydrogen* to collectively refer to both green electrolytic hydrogen and renewable hydrogen made from renewable hydrocarbons. In most state, federal, and international documents, the classification of *green* only applies to green electrolytic hydrogen. On an international level, the United Nations defines *green hydrogen* as hydrogen produced through electrolysis, adding that "To be considered green hydrogen, the electricity required for its production should mostly come from renewable power sources, such as solar, wind and geothermal."[1] Federally, Section 45V of the Inflation Reduction Act collectively refers to low-emission hydrogen production as *clean*, rather than *green*. It is especially confusing that the Washington State Department of Commerce report on green electrolytic hydrogen and renewable energy "focuses exclusively on green hydrogen production, which uses renewable electricity to convert water to hydrogen using an electrolyzer."[2]

Because Commerce's study, which was published before the scoping process for the hydrogen PEIS began, has a clear definition of *green hydrogen* that refers only to green electrolytic hydrogen, Ecology should not use a contradicting definition in the PEIS. In order to make such documents accessible and understandable for the public, readers should not be expected to alternate between agency- and jurisdiction-specific definitions that contradict each other. Both green electrolytic hydrogen and renewable hydrogen may be referred to as *clean*, but should not be referred to as *green*. As a specific goal of Clean Energy Environmental Impact Statements is to "provide consistent information,"[3] the PEIS for green electrolytic hydrogen and renewable hydrogen should use a common set of definitions across the many documents and reports that developers and agencies are likely to consult. Consistent, shared language is necessary for transparency and better public understanding in the rapidly changing landscape of emerging fuel technologies.

Thank you for considering these comments.

Sincerely,

Keith Curl-Dove
Fossil Fuel Campaign Manager
Washington Conservation Action

[1] https://www.un.org/africarenewal/magazine/july-2022/green-hydrogen-viable-option-transforming-africas-energy-sector
[2] Washington Department of Commerce, "Green Electrolytic Hydrogen and Renewable Fuels," p.85.
[3] https://apps.ecology.wa.gov/publications/documents/2306013.pdf

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