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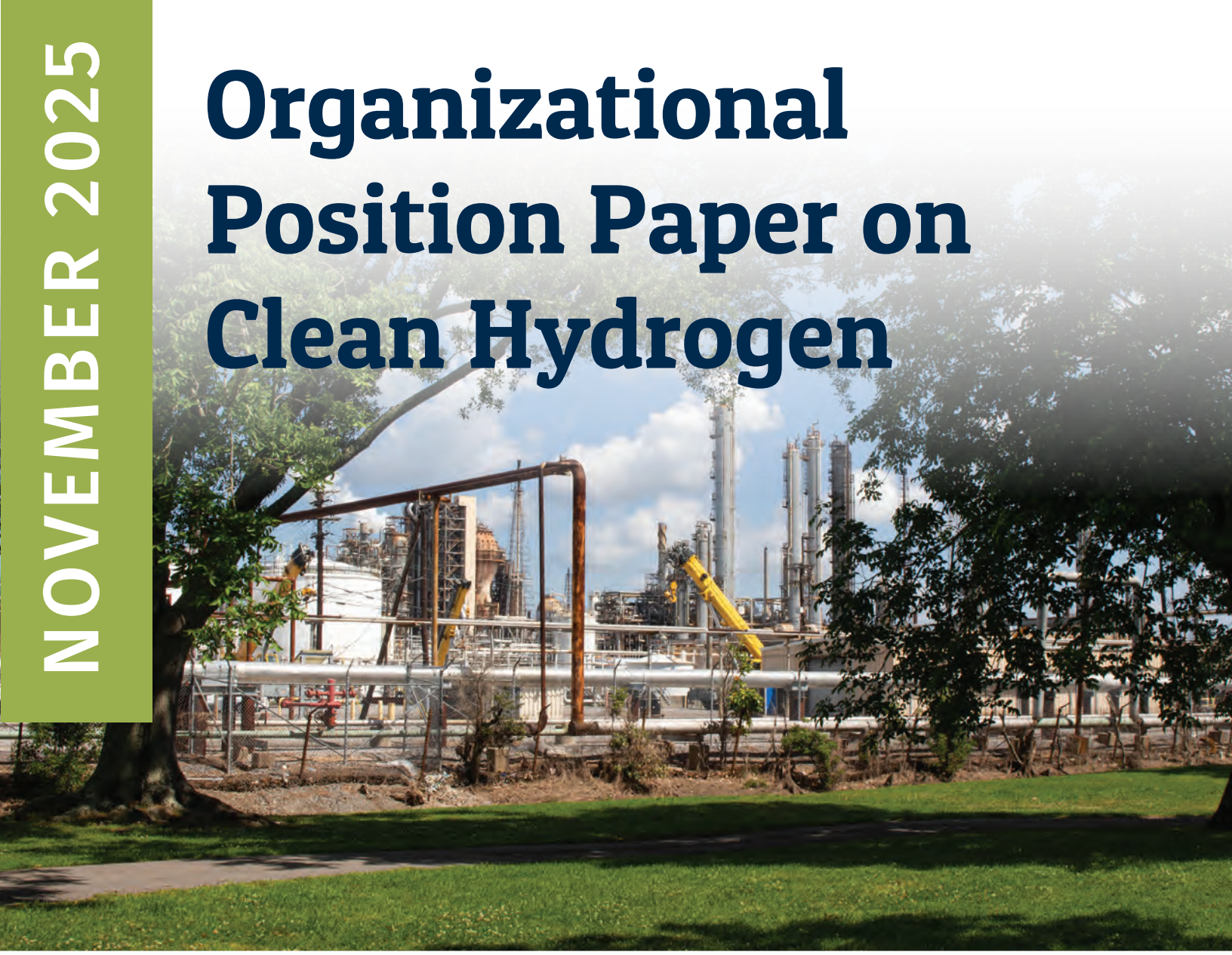
Organizational Position Paper on Clean Hydrogen



Louisiana Industry/NWF

Introduction

The National Wildlife Federation supports the responsible production and use of zero-emission hydrogen, defined below, as part of a comprehensive national strategy to reduce **industrial and heavy transportation** sector emissions of greenhouse gases (GHGs), especially in hard-to-abate sectors. In 2024, we focused our efforts on analysis and partner education, including supporting our affiliate network in their engagement in hydrogen-related dialogue, project evaluation, and advocacy. In 2025, despite the rollback of federal investment in the sector and a challenging tax environment, we still seek to vocally support the highest and best uses of clean hydrogen, such as in the production of sustainable aviation fuels, transformation of the industrial sector, and evolution of heavy transportation and logistics operations, and comprehensive lifecycle GHG emissions accounting, among other opportunities. Our policy and scientific analysis and advocacy will continue to uplift the needs and potential risks for vulnerable communities and wildlife of expanded hydrogen production and use of any kind.

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More Specifically:

- **The Federation recommends that any hydrogen use be prioritized for industrial and heavy transportation sectors** where it is very difficult to electrify operations, and where net greenhouse gas reductions would occur. Such industries may include cement, steel, chemicals, and transport such as long-haul shipping, maritime and aviation.

- **The Federation generally supports and prefers the industrial use of zero-emission hydrogen, especially hydrogen fuels created through electrolysis with zero-emission feed stocks,** including on- or offshore wind, solar, geothermal, and nuclear energy.

    - We recognize that this energy-intensive industry will draw from the same limited pool of clean power resources as other users such as electrified buildings and transportation, other industrial applications, data centers, and households in need of cheap, reliable, renewable electricity. Therefore, **zero-emission hydrogen projects should ideally include buildout of additional (responsibly sited and wildlife-friendly) zero-emission energy** that contributes to an overall transition to a carbon-free grid. Government policies and investments should enable responsible zero-emission hydrogen production and use as quickly as possible, without compromising rigorous environmental review and meaningful community engagement.

    - NWF also refers to zero-emission hydrogen as "clean hydrogen," which for us not only indicates **very low- or zero-carbon lifecycle attributes, but also little to no localized environmental or public harm from other pollutants** that could be emitted during production or use. We note that other stakeholders sometimes cite additional types of hydrogen as "clean." We will work with partners to encourage greater decision-maker use of lifecycle GHGs and other environmental metrics in better defining the term "clean hydrogen."

- **Combustion of hydrogen in existing power plants is not a best use of hydrogen derived from electrolysis,** because it is possible to replace combustion plants with zero-emission sources of electricity. There is an inherent inefficiency and significant energy loss from using electricity to create hydrogen through electrolysis and then using that hydrogen to create electricity by co-firing in a combined-cycle natural gas plant. We note that while using renewable and other zero-emission power sources for electricity generation is NWF's primary energy transition preference, hydrogen co-firing is likely to be promoted as a transitionary method especially in newly built power generation facilities, as allowed by the EPA's 2024 rule aimed at curbing power sector GHGs. If such facilities are to qualify, it is imperative that the lifecycle analysis of proposed uses of hydrogen in the power generation sector demonstrate a reduction in overall emissions.

- **Siting of clean hydrogen production and transmission facilities must:**

    - **Include robust, meaningful community engagement and input while employing environmental justice principles.** We will advocate that government policies adopt free, prior, and informed consent (FPIC) practices on Tribal lands.

    - **Seek to avoid, minimize, or mitigate damage to land, water, and wildlife resources.**

- Existing steam methane reformation hydrogen production facilities should be **retrofitted with carbon capture and other pollution controls.** In some industries, there are few options to cut GHGs, and there may already be capability to replace raw fossil fuel inputs with hydrogen generated by fossil fuels (i.e., "gray" hydrogen), thereby lowering overall industrial emissions. In such cases, we urge that existing gray hydrogen production incorporate carbon capture (becoming "blue" hydrogen), to further improve the emissions profile of these industries.

- While our preference is **that *new* hydrogen production should not be fossil-fuel derived, it is critical that any new generation from steam methane reformation incorporate carbon capture and other pollution control technologies and should use existing natural gas infrastructure without inducing new or expanded fossil fuel infrastructure.** This out of concern for: 1) upstream leaks of methane gas, such

as from natural gas pipelines, 2) increasing demand for natural gas extraction and related harms to the environment and public health, and 3) and the potential to "lock in" new fossil-fuel infrastructure that should instead become obsolete or be repurposed as the nation transitions to cleaner forms of energy. At the same time, we recognize the urgent need to decarbonize the industrial sector, and that zero-emission resources are not always readily available; some states have laws effectively blocking the deployment of renewable energy, and some communities do not welcome it or the accompanying transmission lines.

- **Methods for monitoring and leakage prevention must be developed and enforced quickly.** As the smallest molecule, hydrogen escapes easily from production, transport, and end use equipment and facilities. Itself a greenhouse gas, excessive hydrogen leakage undermines its climate benefit and presents safety hazards. Therefore, production facilities should be located as close to end-use as possible and hydrogen distribution infrastructure should consist of new re-sleeved pipelines to reduce the potential for leakage to the maximum extent possible.