

U.S. Department of the Treasury, Internal Revenue Service  
Office of Tax Policy  
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Washington, DC 20044  
Submitted via [www.regulations.gov](http://www.regulations.gov), IRS REG–117631–23

**Re: Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property**

The Indigenous Environmental Network (IEN) is an Indigenous-led 501(c)3 organization working with Tribes and Indigenous communities in the US and globally. Although Indigenous Peoples continue to protect and defend Mother Earth from climate change, the impacts of climate change disproportionately impact American Indians, Alaska Natives, and Tribal and frontline communities impacted by climate and environmental justice.

IEN would like to express deep concern regarding the Section 45V credit for production of clean hydrogen energy. There is no place for hydrogen energy in a robust climate response. Further, public money should not be used to incentivise hydrogen that ultimately benefits and prolongs the fossil fuel industry. Real climate solutions including phasing out fossil fuels at source. Hydrogen is not a solution to climate change. This includes hydrogen from electricity, methane, woody biomass, and natural gas.

Hydrogen energy and the 45V tax credit are concerning, key among these concerns are: fossil fuel dependency, inefficiency, public health and safety concerns, and oversight and transparency.

Fossil Fuel Dependency

Hydrogen can only be as clean as the energy source used to create it. Hydrogen energy is produced from unsustainable sources including methane, coal, natural gas, landfill gas, woody biomass, and nuclear energy. Classifying hydrogen produced using any of these inputs as ‘qualified green hydrogen’ is both misleading and dangerous. Therefore we urge you to reconsider building out the 45V tax credit as it incentivizes more unsustainable sources of energy production. Research clearly demonstrates that producing hydrogen from fossil gas is worse for the climate than just using the fossil gas directly, even when paired with carbon capture technology.<sup>1</sup> The draft rule would further embed this pollution in Indigenous communities, which are already bearing the brunt of climate impacts as well as from fossil extraction and infrastructure.

The incentivization and entrenchment of fossil hydrogen begets a parallel entrenchment and incentivization of methane, natural gas, and coal. This undermines any climate benefits that may arise from hydrogen energy at a fundamental level. The inclusion of any fossil hydrogen in the 45V credit not only rewards some of the biggest polluters but also poses the risk of encouraging additional production of methane, natural gas, and coal.

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<sup>1</sup> Robert Howarth and Mark Z. Jacobson, 2021, “How green is blue hydrogen?”, Energy science and Engineering <https://doi.org/10.1002/ese3.956>

## Inefficiency

Purely, from an energy efficiency perspective, it does not make sense to invest in any type of hydrogen energy. Hydrogen is highly energy intensive to the extent that the process of creating hydrogen takes more energy than the hydrogen itself can provide. This is also the case of so-called 'green hydrogen', during which an estimated 54-82% of energy is lost during the hydrogen production process.<sup>234</sup> Further, the chemical properties of hydrogen are simply not conducive to efficient and safe energy:

- Hydrogen is a highly reactive element and must be isolated to prevent it bonding with other elements. Doing so is expensive, difficult, and very energy inefficient.<sup>5</sup>
- The energy content by volume of hydrogen is very low, making it difficult to store.<sup>6</sup> For example, it takes roughly four times the space to store the same amount of energy as gasoline.<sup>7</sup>

With solar, wind, and even fossil energy it makes more sense to use them directly rather than to create hydrogen energy with them. This is true from a logistical, efficiency, and climate perspective. Labeling *any* type of hydrogen energy as 'qualified green hydrogen' is inaccurate and ultimately, misinformation.

## Public Health and Safety Concerns

Hydrogen poses significant threats to public health and safety. Its flames are both highly flammable and invisible; in the case of a leak it is very hard to spot and can cause lethal accidents particularly if hydrogen should ever be used as a fuel for vehicles. Moreover, the combustion of hydrogen produces nitrogen oxide (NOx) which is a very potent greenhouse gas that must be regulated by the EPA. It pollutes the atmosphere and is a precursor to the formation of fine particles and ground-level ozone, which are both associated with severe adverse health effects, including asthma and respiratory infections.<sup>89</sup>

Indigenous Peoples and frontline communities are already being targeted by new and prospective hydrogen production facilities in a manner similar to past and ongoing fossil fuel projects. Indigenous Peoples have already experienced the adverse health and social impacts of decades of fossil fuel exploitation, including thousands of missing and murdered Indigenous women and girls (MMIWG).

## Oversight and Transparency

The treasury must require hydrogen producers to disclose, and make publicly available, critical information around 45V tax credits. If the architecture of the hydrogen incentive is based on the existing structure of 45Q CCS tax credits, these taxpayer funded credits will obscure crucial data that impact both

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<sup>2</sup> <https://climatefalsesolutions.org/hydrogen/>

<sup>3</sup> Robert Howarth and Mark Z. Jacobson, 2021, "How green is blue hydrogen?", Energy science and Engineering <https://doi.org/10.1002/ese3.956>

<sup>4</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/hydrogen-technology-faces-efficiency-disadvantage-in-power-storage-race-65162028>

<sup>5</sup> <https://www.fluxpower.com/blog/hydrogen-fuel-cell-efficiency-how-does-it-compare-to-lithium-ion>

<sup>6</sup> [https://afdc.energy.gov/fuels/hydrogen\\_benefits.html](https://afdc.energy.gov/fuels/hydrogen_benefits.html)

<sup>7</sup> <https://www.energy.gov/eere/fuelcells/hydrogen-storage>

<sup>8</sup> <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=396&toxid=69>

<sup>9</sup> <https://www.epa.gov/no2-pollution/basic-information-about-no2>

the health of local communities and the effectiveness of national climate change action. Transparent information—including who claims the 45V tax credit, how claims are justified, and the amount of emissions reductions claimed—is essential for communities to understand the threats (including misinformation) that hydrogen production presents to their communities, while closing the loopholes for hydrogen producers to claim the highest tiers of tax credits.

We urge the Treasury to create parameters that force hydrogen producers to transparently present data to the public, as well as to establish accountability oversight to prevent hydrogen producers from using taxpayer money to further dirty energy. As big oil and gas companies including Chevron, BP, and Exxon Mobil continue to push for publicly funded hydrogen development, it is essential that the public is fully informed of the actions of hydrogen production companies. Public comments and forums—wherein the public has the means to draft accurate, informed responses—are vital to holding the business of big energy accountable.

#### Updating the GREET model

The Treasury should not rely on the GREET model for emissions calculations. The Inflation Reduction Act requires the lifecycle emissions of hydrogen to be measured using “GREET or a successor model.” Big oil is advocating for upholding the GREET model, which underestimates methane leakage from oil and gas by at least 50 percent. GREET also seriously undercounts the emissions impacts of relying on grid electricity to produce hydrogen. Whether the Department of Energy updates GREET or develops a successor model, it is vital that the government rely on a model that reflects the true toll of hydrogen production on the climate when/if awarding tax credits and incentives to industry.

#### Free, prior, and informed consent

The development of hydrogen projects without obtaining proper free, prior, and informed consent from impacted communities has already resulted in violations of sovereignty and loss of land for Tribes. For example, the Plug Power “clean” hydrogen plant in western New York was constructed 2,000 feet away from the Tonawanda Seneca Nation reservation despite opposition from the Tribe. The Tonawanda Seneca Nation attempted to engage in consultation regarding the negative impacts on important cultural and natural resources adjacent to the reservation, yet the project continued without regard for the Tribe’s sovereignty.<sup>10</sup>

We urge the Treasury to implement a rule requiring applicants for the 45V hydrogen production credit to show that the applicant obtained consent from impacted communities and Tribal nations that is freely given prior to the start of any projects. Current Tribal consultation standards do not meet the needs of Tribes and communities and do not result in equal footing in the government-to-government relationship with Tribal nations. Requiring applicants to show free, prior, and informed consent obtained from impacted communities would greatly reduce the harms and loss of resources as a result of federally subsidized hydrogen development.

In brief, taxpayer money must not be used to pay for hydrogen energy. It is inefficient, largely depends on fossil fuels, poses grave public health concerns, and is ultimately a tool to prolong the fossil

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<sup>10</sup> <https://insideclimatenews.org/news/22112023/new-york-clean-hydrogen-indigenous-nation-sees-threat/>

fuel industry. We urge you to reject the 45V tax credits and redirect funds to small scale renewable energy--wind and solar--for Indigenous Peoples and low-income populations.

Sincerely,

Tom BK Goldtooth

Executive Director, Indigenous Environmental Network