From: World Resources Institute
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Re: Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production (Notice 2022-58) https://www.irs.gov/pub/irs-drop/n-22-58.pdf

Background

The Treasury Department and the Internal Revenue Service have a crucial role to play in advancing the tax provisions needed to support the investments necessary for significantly decarbonizing the industrial sector. We are supportive of the inclusion of the 45V and 45Z credits under the Inflation Reduction Act of 2022 and appreciate this opportunity to provide comment. In response to the Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production, the World Resources Institute (WRI) has prepared the following document.

About WRI

WRI is a global nonprofit organization that works with leaders in government, business and civil society to research, design, and carry out practical solutions that simultaneously improve people's lives and ensure nature can thrive. We focus on seven challenges: Food, Forests, Water, Ocean, Cities, Energy and Climate. With over 1,700 staff in 12 international offices, WRI focuses on comprehensive, science-based approaches to put the planet on a more sustainable pathway. Within the U.S. Climate team, the Carbon Removal and Industrial Innovation team has worked extensively on implementing the industrial decarbonization and other provisions contained within the Inflation Reduction Act.

WRI is also a convening partner in the Industrial Innovation Initiative (I^3), an ambitious coalition which aims to advance solutions key to decarbonizing the industrial sector through policy development and implementation, technology demonstration and adoption, and demand-side market development. Along with WRI's co-convening partner, the Great Plains Institute, I^3 consists of key industry, environmental, labor, and other stakeholders to advance cross-cutting strategies, policies, and programs for achieving industrial decarbonization by midcentury. **In our role as a convening I^3 partner, WRI has also submitted a response to the 45V and 45Z RFI on behalf of I^3 and with input from its participants. We encourage IRS to refer to the I^3 submission for additional response materials, which we have excluded from this WRI-only response to avoid duplication.**

01. Credit for Production of Clean Hydrogen

1e. How should qualified clean hydrogen production processes be required to verify the delivery of energy inputs that would be required to meet the estimated lifecycle greenhouse gas emissions rate as determined using the GREET model or other tools if used to supplement GREET?

- **(i) How might clean hydrogen production facilities verify the production of qualified clean hydrogen using other specific energy sources?**
- **(ii) What granularity of time matching (that is, annual, hourly, or other) of energy inputs used in the qualified clean hydrogen production process should be required?**

Hourly time matching would provide an accurate representation of the emission intensity of grid-connected electrolytic hydrogen. Higher granularity reduces variability effects of renewable generation on a given volume of product. If hydrogen were to be produced at night when mostly fossil energy was used to generate electricity, then the GHG intensity of the electricity and hydrogen would be much higher than during the day when a higher fraction of renewable energy were used.

Unfortunately, hourly emissions data are not available today in all regions, but the Energy Information Administration has been tasked with improving the availability of electricity grid emissions data. Where these data are available presently and in the future, they should be prioritized and required. In that light, we would suggest that IRS provide opportunities to review the calculation methodology that is developed for electricity emissions.

.04 Recordkeeping and Reporting

4f. Should indirect book accounting factors that reduce a taxpayer's effective greenhouse gas emissions (also known as a book and claim system), including, but not limited to, renewable energy credits, power purchase agreements, renewable thermal credits, or biogas credits be considered when calculating the § 45V credit?

A major concern for electrolytic hydrogen production are plant operators claiming zero-emission production while using fossil-based grid power by purchasing renewable energy credits (RECS). Specifically, unbundled RECS where renewable energy use is not directly linked to the hydrogen plant operator should not be considered when calculating the emission intensity of grid electricity. The ideal method of calculating GHG emissions is based on an hourly average emissions factor of the electricity supplied to the facility when the hydrogen is produced, where data are available. The federal government should seek to support the development of hourly emissions data for the electricity generation mix in all regions to support more accurate calculations for these tax credits.