Comments by Hydrogen Forward on the Internal Revenue Service Notice of Proposed Rulemaking for the Section 45V Credit for Production of Clean Hydrogen

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Introduction:

Hydrogen Forward[1] appreciates the opportunity to submit these comments on the Internal Revenue Service (IRS) Notice of Proposed Rulemaking (NOPR) for the Section 45V Credit for Production of Clean Hydrogen.

First and foremost, clean hydrogen has been identified as an essential climate solution by federal and state policymakers, as well as a broad range of industries across the economy to achieve U.S. and global net zero goals. Ensuring this tax credit is flexible and workable for clean hydrogen producers is critical to the scaling of the industry, boost U.S. global competitiveness, and serve as a means to revitalize the nation's industrial base through domestic manufacturing.

Congress created the Section 45V Clean Hydrogen Production Tax Credit to incentivize the rapid deployment of clean hydrogen throughout the U.S. and structured it in a way that all hydrogen production pathways can qualify if carbon intensity achieves a threshold of 4 kilograms of carbon dioxide (CO_2) per kg of hydrogen or less. The lower the emissions, the higher the credit value for which a producer is eligible. While setting a clear and robust decarbonization target, the congressional framework is technologically and geographically agnostic to all producers of such clean hydrogen throughout the country. Ultimately, Congress intended the United States to lead in the global competition to deploy clean hydrogen, which will create millions of American jobs, provide new economic opportunities for communities, reduce greenhouse gas emissions, improve air quality, and be a key contributor to economy-wide net-zero goals.

However, the proposed regulations, as written, are inconsistent with Congressional intent and will result in market uncertainty for potential clean hydrogen producers at a time when certainty is essential for the United States to lead global clean hydrogen deployment. The proposed regulations are overly restrictive for specific production pathways and de facto exclude other commercially viable clean production pathways. For hydrogen producers using electrolysis powered by renewables (commonly referred to as "green" hydrogen), IRS included incrementality, deliverability, and temporal matching requirements that are more restrictive than global competitors. For producers using natural gas, IRS makes no distinction for natural gas suppliers reducing emissions through certified or differentiated gas.

[1] Hydrogen Forward is a coalition of companies and organizations across the hydrogen value chain that are working to ensure hydrogen is a key contributing solution in the energy transition. The coalition works in concert with allies across industries and sectors to educate decisionmakers and stakeholders on the value hydrogen delivers today and the important role that it should play in our future. https://www.hydrogenfwd.org/

IRS treats the natural gas industry as a monolith and provides no incentive for either natural gas suppliers or hydrogen producers to source lower emission natural gas. The IRS also fails to provide sufficient guidance for hydrogen producers seeking to leverage nuclear or hydropower assets, as well as pyrolysis.

This represents a level of regulatory negligence that reflects the positions of agenda-driven groups openly calling for limited hydrogen deployment and ignores the recommendations of the industry stakeholders that are today investing in and responsible for safe and efficient clean hydrogen deployment. Hydrogen Forward therefore urges the IRS to create a level playing field for all clean hydrogen production pathways, as Congress intended, and take seriously the critical importance of building up the industry today. We join the chorus of industry, labor unions, think tanks, and academia calling for workable and flexible regulations that create a level playing field for all methods of clean hydrogen production. We respectfully submit the comments below.

Impacts of the IRS Proposed Regulations Across Production Pathways

Electrolytic Pathways

The IRS included three new requirements that have no basis within the Inflation Reduction Act (IRA): incrementality, temporal matching, deliverability (referred to as the "three pillars"). Each of these requirements are barriers to electrolytic hydrogen producers that will result in higher costs, delays, and effectively locking out existing producers of clean power (renewables, nuclear, and hydropower).

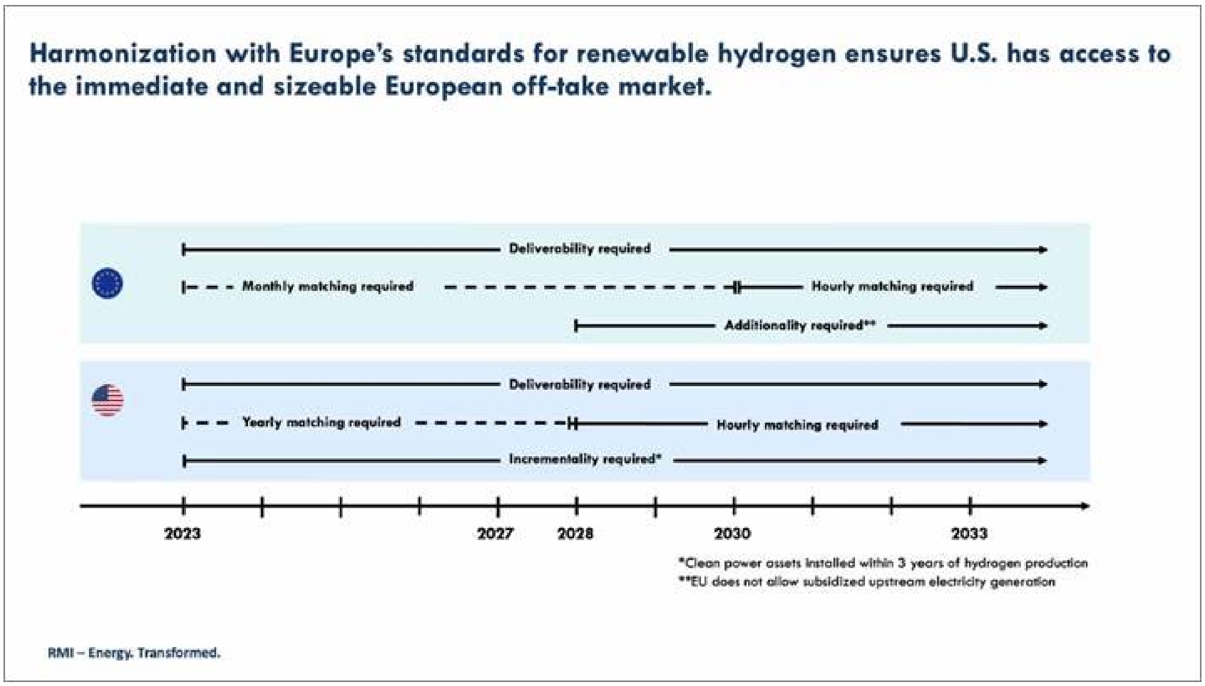
Including incrementality and deliverability requirements will create an uneven playing field across regions. Renewable generation, by nature, is dependent on geographic location and weather patterns. Hydrogen producers located in a region with low renewable production yields will have higher costs compared to a region with higher renewable production yields. For regions with higher levels of nuclear (Midwest) and hydropower (Pacific Northwest), the incrementality requirement makes it infeasible to leverage existing zero-carbon generation (more than 3 years in operation) within the region. The 36-month incrementality requirement would also make hydrogen producers indirect parties to the permitting process of power generation projects with which they have no control or involvement.

IRS's temporal matching requirements are also highly problematic. In particular, the proposed requirement for taxpayers to base the carbon intensity of production on an average annual basis rather than permitting taxpayers to calculate the carbon intensity for the periods during the credit is being claimed ignores the operational, safety, and efficiency requirements for many manufacturing facilities. In addition, the inclusion of a transition to hourly temporal matching in 2028 is also ill-advised. There is no commercially viable hourly matching tool available today. Once a solution is invented, it will need to be tested and certified before producers can leverage it commercially.

The three requirements will have several short- and long-term impacts on growing U.S. clean hydrogen capacity, as well as for other federal programs – specifically the Regional Clean Hydrogen Hub Program (H2Hubs).

Companies are reviewing the regulations before making billion-dollar investment decisions – some of which are party to a single or multiple H2Hub selectees. Electrolyzer manufacturers, including Accelera by Cummins, Plug Power, Nel, and John Cockerill, have all announced gigafactories across the U.S., which could support hundreds of jobs in places like Texas, Minnesota, and Michigan. The 45V regulations will have a direct impact on the number of electrolyzers needed, potentially putting some of those facilities and jobs at risk if demand is reduced due to burdensome regulations. In fact, several manufacturers will change plans by reducing the level of investments and equipment production volume in light of the proposed regulations onerous requirements. This harms industry's ability to develop a robust domestic clean hydrogen production supply chain, representing a strategic blunder for U.S. global competitiveness.

While Congress intended to give the U.S. a competitive edge globally, an RMI analysis shows the proposed regulations are, in fact, more restrictive than the European regulations. The E.U. additionality (incrementality) requirement takes effect in 2028 (immediate effect in the U.S.), hourly matching in 2030 (2028 in the U.S.). Only the deliverability time frame is consistent across U.S.-E.U. regulations, which have different electricity market structures. Even if the intention is to "harmonize" U.S. regulations with E.U. standards, IRS has overstepped with more restrictive requirements, which would result in the U.S. being less competitive.



Negligence Around Non-Electrolytic Production Pathways

While the IRS was overly prescriptive and restrictive for the electrolytic pathways, the proposed regulations create significant uncertainty around other pathways. For example, clean hydrogen production leveraging certified or differentiated gas receives no distinction from natural gas with a higher emissions profile. IRS simply decided to treat all natural gas with the same emissions assumption under the 45VH2-GREET. This omission represents a missed opportunity to incentivize environmental performance for natural gas suppliers and clean hydrogen producers. Natural gas producers that have taken steps, independent of government regulations, to reduce emissions from their operational footprint receive no advantage over competitors that have not taken these actions within the IRS proposed regulations. As a result, IRS is disincentivizing voluntary emissions reduction actions by the natural gas industry and limiting this pathway's ability to access the 45V credit.

Additionally, the IRS and DOE made a conscious decision to focus on specific production pathways and feedstocks within the 45VH2-GREET model. Producers leveraging a production pathway excluded from this pre-approved list will need to go through an additional cumbersome and costly process to calculate lifecycle greenhouse gas emissions, which creates another market barrier and disincentivizes bringing new innovation into the commercial market. One prominent example is pyrolysis. This exclusion is particularly disappointing, considering the DOE Loan Program Office issued a $1.04 billion loan to the Monolith LLC project in Nebraska, which will leverage methane pyrolysis technology. The facility will "convert natural gas into carbon black and hydrogen—two products that are frequently used in difficult to decarbonize industrial sectors like tire and ammonia fertilizer production."

Impacts on Building Clean Hydrogen Demand

If the proposed regulations are adopted as written, it will dramatically impact the industry's ability to reduce the cost of clean hydrogen and drive adoption across multiple sectors of the economy. Without lower cost clean hydrogen, there will no incentive for prospective hydrogen-users to fuel-switch and increase demand. This credit is intended to open a viable market for clean hydrogen supply and demand. Devaluing the 45V credit through inconsistent requirements across production methods will not attract investment into this market. Potential clean hydrogen users will see the persistent higher costs, and potentially examine other decarbonization solutions or continue to operate business-as-usual.

The IRS needs to reconsider how the proposed regulations will impact growing clean hydrogen demand and remove barriers within the regulation to make fuel-switching possible.

Conclusion

Hydrogen Forward appreciates the opportunity to submit these comments. Economy-wide decarbonization cannot happen without clean hydrogen. The proposed regulations, as written, will add more market barriers to the clean hydrogen producers and create regulatory uncertainty. The proposed regulations are particularly disappointing considering the recommendations stakeholders from across labor unions, academia, and the hydrogen industry have stated for over a year:

- The Fuel Cell and Hydrogen Energy Association (FCHEA) and more than 50 companies across the hydrogen value chain expressed concerns around additionality requirement, which stipulates clean hydrogen production facilities must only be supplied with clean electricity from facilities built within the past three years.

- The North America's Building Trades Unions (NABTU), United Brotherhood of Carpenters and Joiners of America, International Brotherhood of Electrical Workers (IBEW), Laborers International Union of North America (LiUNA), and United Association of Union Plumbers and Pipefitters (UA) have all discouraged Treasury from adopting additionality and hourly matching requirements, warning of the consequences they may have on jobs and economic growth.

- The Center for Climate and Energy Solutions (C2ES) along with fellows and professors at Rice University's Baker Institute, University of Texas at Austin and State University of New York at Stony Brook also stated reservations over the restrictive requirements and called for practical, workable rules that align with the Congressional intent.

We urge the IRS to establish a level playing field for the diversity of clean hydrogen producers in the market and not finalize regulations that pick and choose the preferred production pathways and technologies promoted by a sub-set of agenda-driven interest groups. Congress intended the U.S. to have a global competitive edge in the deployment of clean hydrogen, but the proposed regulations as written will undercut the industry before it can even build the first 45V eligible project.

For specific recommendations to improve the final 45V regulations, Hydrogen Forward encourages the IRS to review comments submitted by the Fuel Cell and Hydrogen Energy Association (FCHEA) and U.S. Chamber of Commerce, and revise the final regulations accordingly.

Please do not hesitate to contact us to discuss our view of these proposed regulations.

Sincerely,

Jeff Bechdel

On behalf of Hydrogen Forward.