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SUBMITTED ELECTRONICALLY

Internal Revenue Service
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Room 5203
P.O. Box 5203, Ben Franklin Station
Washington, D.C. 20044

The Honorable Lily L. Batchelder
Assistant Secretary for Tax Policy
Department of the Treasury
1500 Pennsylvania Ave., NW
Washington, D.C. 20220

Mr. William M. Paul
Principal Deputy Chief Counsel
Internal Revenue Service
1111 Constitution Ave., NW
Washington, D.C. 20224

Dear Ms. Batchelder and Mr. Paul:
Fortescue Future Industries ("FFI") appreciates the opportunity to submit these comments in response to IRS Notice 2022-58 requesting comments related to the new Clean Hydrogen Production Tax Credit under §45V of the Internal Revenue Code.

I. BACKGROUND ON FFI

FFI is a global green energy and product company committed to producing zero-emission green hydrogen from 100 percent renewable sources. FFI is a developer, financier and operator investing in zero emission resources to produce renewable energy at a scale equal to the oil and gas super majors. FFI's vision is to make renewable green hydrogen the most globally traded energy commodity in the world. Examples of recent and relevant FFI developments include the recent acquisition of Williams Advanced Engineering on March 1, 2022; signing a long-term agreement on January 17, 2022 with Covestro, a world-leading, Germany-based supplier of high-tech polymer materials, for the supply of green hydrogen and its derivatives of up to 100,000 tons per year, starting as early as 2024; and starting construction of FFI's Green Energy Manufacturing Centre (GEM) in Queensland Australia, the world's largest electrolyzer manufacturing facility.

II. QUESTIONS RAISED BY THE IRS

.01 <u>Credit for Production of Clean Hydrogen</u>

(1) Section 45V provides a definition of the term "qualified clean hydrogen." What, if any, guidance is needed to clarify the definition of qualified clean hydrogen?

(a) Section 45V defines "lifecycle greenhouse gas emissions" to "only include emissions through the point of production (well-to-gate)." Which specific steps and emissions should be included within the well-to-gate system boundary for clean hydrogen production from various resources?

Achieving the production of low emission, green hydrogen should be at the core of any guidance promulgated under Section 45V. FFI supports the inclusion of upstream processes/fuels (e.g. electricity, fugitive emissions) as well as downstream processing (e.g. post-production processing) in the lifecycle analysis. It is also of the utmost importance to include all methane emission in the lifecycle analysis, including upstream supply chain fugitive methane emissions, given the global warming power of methane when compared to carbon dioxide. The specific steps and emissions that should be include will vary from plant-to-plant based on the processes used for the production of hydrogen (e.g. steam methane reforming, water electrolysis). In general, the source of hydrogen, feedstock for the production process, and energy sources used for transportation, storage and delivery up to the plant gate should be included in the lifecycle analysis.

Importantly, FFI recommends that Treasury permit hydrogen producers to use Renewable Energy Certificates ("RECs") in their lifecycle analysis to lower the overall emissions intensity of their clean hydrogen for grid connected electrolyser projects. As the Department of Energy recently noted in their proposed Clean Hydrogen Production Standard, green hydrogen produced through electrolysis would require at least 85% of electricity demand to be sourced from clean energy sources as opposed to a standard grid mix to meet the 4.0 kgCO2e/kgH2 emissions intensity. To achieve a lower emissions intensity, additional clean electricity would be required. Permitting the use of RECs would allow producers to invest in off-site generation of clean electricity, which both increase the amount of clean energy in the grid while also ensuring that any capacity-related or other issues, such as facility size or availability of technologies, relating to on-site generation are not barriers to the production of clean hydrogen. Additionally, the use of RECs would provide a verification method for clean energy inputs in the lifecycle analysis.

Further, this approach would be consistent with other emerging low carbon hydrogen standards, such as UK's Low Carbon Hydrogen Standard[1] and the International Partnership for Hydrogen and Fuel Cells in the Economy's (IPHE) draft emissions accounting methodology[2], which have recognized a flexible approach to supporting electrolytic hydrogen production is needed while the hydrogen market grows.

(ii) How should emissions be allocated to the co-products (for example, system expansion, energy-based approach, mass-based approach)?

FFI recommends the use of either the system expansion or economic value approach (i.e. ISO 14044) to allocate emissions to co-products. To align with the goals of 45V and the Clean Hydrogen Production Standard, the selected approach should not allow for emissions to be effectively hidden by the selected allocation method.

In promulgating rules related to the allocation of emissions, Treasury should also look to the International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE) Working Paper (the "Working Paper").[3] For

[1] United Kingdom Department for Business, Energy, and Industrial Strategy, "UK Low Carbon Hydrogen Standard,"(2022), available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1092809/low-carbonhydrogen-standard-guidance-v2.1.pdf

[2] International Partnership for Hydrogen and Fuel Cells in the Economy, "Methodology for Determining the Greenhouse Gas Emissions Associated with the Production of Hydrogen", available at: https://www.iphe.net/_files/ugd/45185a_ef588ba32fc54e0eb57b0b7444cfa5f9.pdf

[3] *Id.*

example, Section P1.4 of the Working Paper makes clear that the appropriate allocation method for electrolysis systems is system expansion.

(d) If a facility is producing qualified clean hydrogen during part of the taxable year, and also produces hydrogen that is not qualified clean hydrogen during other parts of the taxable year (for example, due to an emissions rate of greater than 4 kilograms of CO2-e per kilogram of hydrogen), should the facility be eligible to claim the § 45V credit only for the qualified clean hydrogen it produces, or should it be restricted from claiming the § 45V credit entirely for that taxable year?

Producers should only be permitted to claim the credit under Section 45V for qualified clean hydrogen produced during the taxable year.

(e) 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?

As noted above, FFI recommends the use of RECs, certificates of origin, other similar certificates generated by the purchase/use of clean energy or contracts for the purchase of clean energy (e.g. power purchase agreements) as methods to verify the procurement of clean energy. Permitting the use of RECs, other certificates and PPAs to verify the energy inputs would also align to international standards, such as those promulgated under the GH Green Hydrogen Standard.[4] While these are market-based instruments, they can be used to both verify the energy inputs and provide needed data as to the carbon intensity of those inputs, which is critical to the lifecycle emissions analysis.

Clear guidance is needed on how to determine the emissions rate from any energy inputs that are acquired from the grid or other third parties. Such guidance should allow the producer to verify the source/feedstocks of the energy being procured as well as geographic variability in the energy mix, so that the producer is not solely reliant on the standard grid mix which is still heavily impacted by natural gas and coal.[5]

For on-site energy generation, the onus should be on the producer to self-certify to the energy inputs based on the attributes (e.g. generation capacity) of the system. The onus to verify energy inputs should be on the producers to verify energy consumption, FFI recommends the use of other independent verification processes that maximize transparency and allow for simplified verification and review of the energy inputs.

Additionally, Treasury should allow for some modifications to the GREET model to account for the ongoing development of clean technologies that impact the model's assumptions. This flexibility is critical to ensuring that the lifecycle greenhouse gas emissions related to clean hydrogen are accurately represented based on the current mix of energy inputs that went into the project and the emissions factors associated with those inputs.

(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?

[4] The Green Hydrogen Organisation (GH2), "The Green Hydrogen Standard", available at: https://gh2.org/sites/default/files/2022-05/GH2_Standard_2022_A5_11%20May%202022_FINAL_REF%20ONLY%20%281%29.pdf

[5] U.S. Energy Information Administration, Electric Power Monthly, available at: https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_1_01

Monitoring and verifying energy inputs is critical to accurately calculating the lifecycle greenhouse gas emissions of hydrogen as well as other products, but overly restrictive matching will reduce efficiency and stifle the clean hydrogen market. Hourly matching would require producers to significantly increase their investments in on-site renewable energy generation impacting both the economic viability of clean hydrogen projects as well as the overall production of clean hydrogen in the US. FFI recommends monthly matching of energy inputs to energy demands.

(2) Alignment with the Clean Hydrogen Production Standard. On September 22, 2022, the Department of Energy (DOE) released draft guidance for a Clean Hydrogen Production Standard (CHPS) developed to meet the requirements of § 40315 of the Infrastructure Investment and Jobs Act (IIJA), Public Law 117-58, 135 Stat. 429 (November 15, 2021). The CHPS draft guidance establishes a target lifecycle greenhouse gas emissions rate for clean hydrogen of no greater than 4.0 kilograms CO2-e per kilogram of hydrogen, which is the same lifecycle greenhouse gas emissions limit required by the § 45V credit. For purposes of the § 45V credit, what should be the definition or specific boundaries of the well-to-gate analysis?

See answer to (1)(a) as well as attached for response to DOE's draft guidance for CHPS.

(3) Provisional Emissions Rate. For hydrogen production processes for which a lifecycle greenhouse gas emissions rate has not been determined for purposes of § 45V, a taxpayer may file a petition with the Secretary for determination of the lifecycle greenhouse gas emissions rate of the hydrogen the taxpayer produces. (a) At what stage in the production process should a taxpayer be able to file such a petition for a provisional emissions rate? (b) What criteria should be considered by the Secretary in making a determination regarding the provisional emissions rate?

FFI recommends that Treasury provide a streamlined process that allows for applicants to file petitions early in the facility planning process. Treasury should also provide reasonable time limits for the review of these petitions to ensure that the producer has some level of certainty as they move forward with their project. The onus should be on the producer to verify, monitor and update the estimates included in the petition as the project moves forward. Adopting this structure will ensure that the filing of a petition does not become a barrier to entry for new production processes or facilities.

(4) Recordkeeping and Reporting.
(a) What documentation or substantiation do taxpayers maintain or could they create to demonstrate the lifecycle greenhouse gas emissions rate resulting from a clean hydrogen production process?

Records kept in the ordinary course of business should be sufficient to demonstrate the lifecycle greenhouse gas emissions rate from the clean hydrogen production process as well as the sale and/or use of the hydrogen. FFI recommends that guidance requires producers to ensure that all records related to hydrogen production, including energy inputs, as well as the sale or use of hydrogen are verifiable and traceable by an independent third party. To ensure accurate and robust records are maintained, guidance should align with international standards such as the GH2 Green Hydrogen Standard[6] or The International Attribute Tracking Standard.[7]

[6] *See* note 5.
[7] The International REC Standard, "International Attribute Tracking Standard", available at: https://www.irecstandard.org/vision-for-standard-development/

(5) Unrelated Parties.
(a) What certifications, professional licenses, or other qualifications, if any, should be required for an unrelated party to verify the production and sale or use of clean hydrogen for the § 45V credit, § 45 credit, and § 48 credit?

To the extent producers are required to engage an unrelated party to verify the production, sale/use or other aspects of the hydrogen production, these individuals should hold appropriate professional qualifications or certifications that would allow them to complete their reviews in accordance with ISAE3000, ISO 14064-3 or a similar standard. Importantly, requiring the completion of project review under these or similar standards would align with the GH2 accreditation process and other global standards.

(7) Please provide comments on any other topics related to § 45V credit that may require guidance.

FFI suggests that Treasury clarifies through guidance the definition of "facility" for purposes of Sections 45V and 48C as well as other credits under the Inflation Reduction Act that include a double benefit limitation. Specifically, if a producer is also engaged in the manufacturing of electrolyzers some of which may be used to produce qualified clean hydrogen for purposes of 45V, they should be permitted to seek a credit for manufacturing activities under 48C, while preserving the ability to take a credit for their production of hydrogen under 45V. FFI requests that Treasury issue guidance clarifying that the use of electrolyzers that were produced at a facility for which a Section 48C credit was allowed would not limit a taxpayer's ability to claim a credit under Section 45V for the production of qualified clean hydrogen using those electrolyzers.

III. CONCLUSION

We appreciate the opportunity to respond to this request for comments on Section 45V credits and look forward to continuing engagement with IRS. For any questions regarding these comments, please contact Hilary Moffett, Government Relations for FFI North America.

Sincerely,

Andrew Veasey
President and CEO, North America
Fortescue Future Industries

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