February 26, 2024

Internal Revenue Service
CC:PA:LPD:PR (REG–117631–23)
Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: VDMA Public Comment in Response to Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property

Dear Sir or Madam,

Verband Deutscher Maschinen- und Anlagenbau (VDMA) thanks you for welcoming our feedback on this important issue. VDMA is a private industry association based in Frankfurt, Germany that represents more than 3,600 companies in the machinery and industrial equipment sectors. These companies are primarily headquartered across Europe, but the United States is the most important export and investment market for these businesses outside of the European Union. Hundreds of VDMA member companies have affiliates involved in manufacturing, service, and sales in the United States, and VDMA estimates that our member company affiliates collectively employ over 100,000 workers in the U.S. VDMA America, Inc. represents the public policy priorities of VDMA member companies in Washington.

VDMA member companies supply critical machinery and equipment to manufacturers in virtually every sector, including to companies involved in clean energy supply chains. The critical investments made to accelerate the U.S.'s "green transition" in the August 2022 Inflation Reduction Act have created new opportunities for VDMA member companies involved in these supply chains, as the expected new solar, wind, battery, and hydrogen projects will increase the demand for capital goods produced by our member companies. As a result of the Inflation Reduction Act, VDMA has held two delegation trips to the U.S. where our member companies involved in solar energy and battery supply chains met with potential U.S. industry partners. Some member companies have expressed interest in expanding operations as a result of the Inflation Reduction Act, while others have expressed interest in increasing capital goods exports from Europe to the U.S. to meet this new demand.

VDMA member companies stand ready to provide innovative solutions that will help facilitate the American transition to a green economy, and VDMA views the Inflation Reduction Act as a catalyst for this process. However, some of the requirements regarding additionality, temporal matching, and deliverability included in the proposed rule for Section 45V, the Credit for Production of Clean Hydrogen, create concerns for VDMA member companies looking to support the scale-up of clean hydrogen production in the U.S.

Equipment Supplier Concerns over the Proposed Rule for 45V

While hydrogen equipment suppliers are eager to support the investments intended to be spurred on by the Inflation Reduction Act, these companies are genuinely concerned that the current proposed rule may restrict the ability of new hydrogen projects to materialize. After the 45V proposed rule was published, VDMA sought feedback from its member companies involved in several stages of the hydrogen production process. These companies are end-product equipment producers that are involved in electrolysis, steam reforming, carbon dioxide separation, and more, in addition to companies that produce components for these critical processes.

Overall, these companies are concerned that the criteria required in the proposed rule may make it untenable for clean hydrogen producers to qualify for Inflation Reduction Act incentives, potentially restricting demand for equipment suppliers in the U.S. market. VDMA member companies often referenced that the provisions relating to "incrementality," "temporal matching," and "deliverability" in the proposed rules may be unnecessarily stringent and restrict the potential for hydrogen projects to get off the ground in the U.S. The companies also cited concerns that the 45V proposed rule and the EU's Delegated Acts on Renewable Fuels of Non-Biological Origin (RFNBOs), which governs new hydrogen investments in Europe, are incompatible in certain aspects, making it difficult for equipment suppliers to develop products for both markets.

Incrementality

The requirement that hydrogen facilities can only qualify for the 45V credit if they source energy from a generation plant that goes online within 36 months before the hydrogen facility starts producing energy may provide both restrictions and opportunities for VDMA member companies looking to supply equipment to these projects. The intended effect of this requirement is to spur the creation of new hydrogen facilities in the U.S. and ensure that there is a reduction of carbon emissions in the generation of hydrogen. If the outcome accurately reflects this intention, this may result in new demand for relevant equipment used in hydrogen plants that can be supplied by VDMA member companies.

However, the lack of a transition period for hydrogen projects to adapt to this incrementality requirement is a concern, as it may restrict the ability of U.S. hydrogen production to scale up in the short term if producers cannot find energy sources that would make them eligible to receive the credit. In comparison, the EU opted to delay its own "incrementality" requirements for European hydrogen incentives under the RFNBOs so that they would not go into effect until 2028. European hydrogen producers can continue to use existing clean energy installations until that date.

Temporal Matching

The requirement that hydrogen producers must match their production to clean energy generation on an hourly basis by 2028 introduces unnecessary costs on hydrogen producers that may make it untenable to scale up the market in the U.S. In addition, there is reason to believe that an hourly matching requirement would increase costs for hydrogen production while being ineffective in reducing carbon emissions, compared to a strategy of temporal matching on an annual basis. Increased and unnecessary costs associated with an hourly matching requirement will likely restrict demand for critical equipment being supplied to hydrogen projects.

A recent study[1] published in the *Energy Policy* journal found that the cost of producing hydrogen through an hourly matching requirement would be 27.5% more expensive than the cost of producing hydrogen through an annual matching scheme, and a monthly matching requirement would increase costs by 10% compared to annual matching. Furthermore, this study suggests that there is little evidence that an hourly matching requirement would effectively reduce carbon emissions compared to an annual matching scheme.

While it is important to include temporal matching requirements to ensure that hydrogen production emits fewer carbon emissions, an hourly matching requirement is onerous and ineffective compared to an annual matching requirement. VDMA member companies are concerned that this requirement may unnecessarily restrict the scale-up of clean hydrogen production in the U.S.

Deliverability

The requirement that the hydrogen production facility needs to source clean energy generation from the same region defined in the *National Transmission Needs Study*, aims to diversify sources of energy for hydrogen production, incentivizing the creation of new clean energy generation for this production. In general, equipment suppliers are not too concerned that this provision would restrict the scale-up of hydrogen production in the U.S. if there is an abundance of eligible clean energy sources available in each region. However, these companies believe that there should be some exceptions to the deliverability requirement, especially if a hydrogen production facility exists on the border of a relevant region, and a respective energy source is closer on the other side of the border.

Apprenticeship Requirements

VDMA has previously noted in a public comment published in October 2023 for REG-100908-23 that new green energy projects in America that rely on European suppliers of machinery and equipment could face hurdles as they seek to claim the incentives under the clean-energy investment and production tax credits. To obtain the maximum tax credit listed under these incentives, U.S. developers and producers must certify that they have met specific wage and apprenticeship requirements. As it relates to the apprenticeship requirements that must be met, the American taxpayer (i.e. the American green-energy investor or producer) must certify that:

- a minimum percentage of the total hours of the construction, alteration, or repair work (including such work performed by a contractor or subcontractor) is conducted by qualified apprentices (the so-called “labor hours requirement”). Under the IRA, a qualified apprentice is an individual who is employed by the taxpayer or by any contractor or subcontractor and who is participating in a registered apprenticeship; program registered under the National Apprenticeship Act.
- the applicable apprentice-to-journey worker ratios of the U.S. Department of Labor or applicable state labor agency are met (the so-called “apprenticeship ratio requirements” which ensures that a minimum proportion of apprentices on the job site are used); and
- each contractor or subcontractor who employs 4 or more individuals to perform construction, alteration, or repair work with respect to the project employs one or more

[1] Ruhnau, O., & Schiele, J. (2023). Flexible green hydrogen: The effect of relaxing simultaneity requirements on project design, economics, and Power Sector Emissions. Energy Policy, 182, 113763. https://doi.org/10.1016/j.enpol.2023.113763

qualified apprentices to perform such work (the so-called “apprenticeship participation requirement”).

This apprenticeship participation requirement in particular, as it is also proposed to be applied to 45V, could give rise to new challenges and barriers for investors and producers that depend on European equipment producers who send assembly teams in from Europe to install the equipment on the job site. European assembly teams sent by their EU-based employers to perform services under a sales and service contract (in this case, to install and repair machinery and equipment) are not “working in the United States” in a legal sense. Under the typical scenario, a European technician enters the United States without a visa, simply using a European passport under the Visa-Waiver Program (VWP). In such a case, the European technician is entitled to remain in the United States for 90 days before returning to Europe.

Alternatively, some European technicians enter the United States with a B-visa, which allows the technician to remain for up to 180 days. (This is the case for Europeans who are either ineligible for the VWP, or else from EU member states that do not participate in the VWP.) In both cases, however, the technician has the status of “visitor” and is not working in the United States. These technicians are employed in Europe, receive their salary and benefits in Europe, and receive no compensation or employee benefits in the United States. The European technician also pays no state or federal income tax in the United States.

For these reasons, it is not possible, as a legal matter, for a European subcontractor to fulfill the apprentice participation requirement, which provides that any subcontractor who employs 4 or more technicians to perform construction on a qualified facility employ at least one qualified apprentice. To be clear, European companies without a U.S. subsidiary, which are often small-and-medium-sized enterprises, cannot employ workers in America—apprentices or otherwise. Even if a European team brought European apprentices with them, these apprentices would not have permission to work in the United States and thus would be ineligible to register at a state-based apprenticeship program as required by the IRA.

VDMA’s Recommendation for the Final Rulemaking

To scale up clean hydrogen production most effectively in the U.S. and boost demand for equipment supplied to these producers, VDMA believes that there needs to be a fundamental modification of the “incrementality” and “temporal matching” requirements in this proposed rule, in addition to a minor exemption added to the “deliverability” requirement. In addition, as noted in its October 2023 public comment regarding REG 100908-23, VDMA also believes that an exemption needs to be made to the apprenticeship requirements in order to streamline broader clean energy generation in the U.S., including for hydrogen production.

<u>Incrementality</u>

VDMA believes that including this incrementality requirement without a phase-in period significantly restricts the ability of hydrogen producers to create new production or scale up production in the short term. Therefore, VDMA believes that the final rulemaking should allow hydrogen companies a transition period lasting until 2028 to adjust to the incrementality requirement, similar to the EU’s RFNBO strategy. In this prospective transition period, VDMA recommends that if hydrogen producers can prove that their energy source provides minimal carbon emissions even if the source has been in commercial operation for over 36 months, this should be enough to satisfy the requirements of 45V.

Temporal Matching

VDMA is concerned that the hourly matching requirement may be onerous for hydrogen producers and unnecessary to achieve the goal of reducing carbon emissions in the hydrogen production sphere. Therefore, VDMA believes that substituting the hourly matching requirement with a requirement to match production with energy generation on an annual basis would achieve both goals of the IRA to scale up hydrogen production in the U.S. and reduce carbon emissions in the sector. If this recommendation is untenable, hydrogen producers should at least have more time to adjust to hourly matching rules. A possible solution could be to delay the implementation of this rule until 2030, similar to the strategy of the EU's RFNBOs.

Deliverability

VDMA recommends that the final rulemaking should consider providing minor exemptions to the deliverability requirement that would allow hydrogen production facilities located near a regional border, as defined by the *National Transmissions Needs Study,* to be able to source its clean energy from across the border, if the energy source is the closest available to the production plant.

Review Clause and Exceptions

Facing the novelty of its own proposal on incentivizing clean hydrogen production, the EU adopted a review clause in Article 10 of its Delegated Act[2] on the electricity procurement criteria for green hydrogen. This clause allows for a structured process to alter the rulemaking once initial experiences of the rulemaking's actual effects on the industry are made and evaluated. We believe this to be a prudent approach for the U.S. to also include in its final rulemaking for 45V.

Additionally, the proposed U.S. rulemaking does not propose a safe harbor exemption from the additionality criterion for electricity markets that exhibit a high share of renewable energy. Such an exemption should be considered similar to what already exists through the EU's Delegated Regulation 2023/1184, as this regulation notes that "adding additional installations producing renewable electricity is not necessary given that it can be reasonably assumed that producing renewable hydrogen in a bidding zone where the share of renewable energy exceeds 90 % allows meeting the 70 % greenhouse gas saving criterion […] and it may create challenges for the operation of electricity system." Certain regions of the U.S. that have a high production potential for renewables might benefit from a similar exemption, as this could meaningfully reduce administrative burdens for hydrogen producers.

Apprenticeship Requirements

VDMA continues to urge final rulemaking for the Inflation Reduction Act to expand the "Good Faith Effort Exemption" proposed in REG 100908-23 to include reasonable accommodations for developers and producers that depend on foreign companies that do not have a subsidiary in the U.S. While this exception provides a workable solution for developers and operators that may not be able to find the requisite number of apprentices, it does not take into account that assembly teams from abroad are not permitted to employ U.S. workers, including apprentices.

[2] Council Regulation (EC) 2023/1184 of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a Union methodology setting out detailed rules for the production of renewable liquid and gaseous transport fuels of non-biological origin [2023] L 157/11

While hundreds of VDMA member companies have established subsidiaries in the U.S., many small-and-medium-sized companies located in Europe, that produce highly specialized equipment supplied to solar, wind, and battery projects, are unable to do so for reasons ranging from a lack of resources to a lack of a business case to do so.

Under the NPRM, the "Good Faith Effort Exception" notes that "a taxpayer is deemed to have satisfied the Apprenticeship Requirements with respect to a qualified facility if the taxpayer has requested qualified apprentices from a registered apprenticeship program, as defined in section 3131(e)(3)(B), and:

i. such request has been denied, provided that such denial is not the result of a refusal by the taxpayer or any contractors or subcontractors engaged in the performance of construction, alteration, or repair work with respect to such qualified facility to comply with the established standards and requirements of the registered apprenticeship program, or
ii. the registered apprenticeship program fails to respond to such request within five business days after the date on which such registered apprenticeship program received such request."

To ensure that America's green transition is not imperiled by a newly erected trade barrier that blocks U.S. developers and operators from installing equipment made by highly specialized small-and-medium-sized suppliers located abroad, VDMA recommends that the final rule include a third prong of the "Good Faith Effort Exception" that recognizes that contractors and subcontractors domiciled abroad are not legally eligible to employ American apprentices. Such a prong could be defined as follows:

iii. "the apprenticeship requirements are met, except for the case where a contractor or subcontractor engaged in the performance of construction, alteration, or repair work with respect to such qualified facility is domiciled abroad and thus not legally eligible to employ registered qualified apprentices and is not domiciled in a "foreign entity of concern" defined by 42 U.S. Code § 19221."

Including this additional prong in the final rule would ensure that the goals of the IRA are not jeopardized by dissuading American producers and investors from installing highly specialized European equipment that, in many cases, is indispensable and not easily replaceable. This provision would also ensure that foreign contractors and subcontractors working on clean energy projects in the U.S. would not be sourced from nations the U.S. deems as a national security threat.

Thank you again for the opportunity to provide feedback on behalf of our innovative member companies. If you have any questions or need any additional information, please don't hesitate to reach out to Shawn Bengali, Trade Policy Director for VDMA America, Inc. at shawn.bengali@vdma-america.org, or Andrew Adair, North America Trade Advisor for VDMA at andrew.adair@vdma.org.

Sincerely,

Shawn Bengali
Vice President, Trade Policy
VDMA America, Inc.