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Internal Revenue Service  
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Ben Franklin Station,  
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**Re: Comments to Proposed Regulations under the Clean Hydrogen Production Credit**

We respectfully request that the Department of the Treasury (the "Treasury") and the Internal Revenue Service (the "IRS") consider our comments to the proposed regulations published under REG-117631-23 (the "Proposed Regulations")<sup>1</sup> related to the clean hydrogen production credit as determined under Internal Revenue Code §§ 45V and 48(a)(15) (the "45V Credit"),<sup>2</sup> particularly concerning the anti-abuse rule and the use and metering of electricity from renewable or zero-emission sources for qualified clean hydrogen production.

#### **About Mesabi Metallics and Its Green Steel Project**

Mesabi Metallics Company LLC, MMCL, situated near the city of Nashwauk, in Itasca County, Minnesota, is a 7 MT DRI (Direct Reduction Iron) pellet plant project. Globally, there is approximately 1.6 BLN tons of steel via BF-BOF process, which emits CO<sub>2</sub> @ 2.2.-2.5 Tons of CO<sub>2</sub> per ton of steel produced. You might also be aware that the steel sector contributes to 7-8% of the global CO<sub>2</sub> and is in the forefront of industrial sectors that has been in focus for quick abatement by 2030 and 2050 to be NET ZERO carbon footprint. One of the key routes for emission abatement is to use Direct Reduction Iron (DRI) + Electric Arc Furnace (EAF) production. The 2<sup>nd</sup> step after adaptation of this technology is to use H<sub>2</sub> (Green H<sub>2</sub>) in the DRI making

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<sup>1</sup> Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election to Treat Clean Hydrogen Production Facilities as Energy Property, 88 Fed. Reg. 89220 (proposed Dec. 26, 2023) (to be codified at 29 C.F.R. pt. 1) [hereinafter *Proposed Regulations*].

<sup>2</sup> 26 U.S.C. § 45V.

process to make it NET ZERO CARBON. MMCL is completing the project to produce 7 MT of such DRI pellets, which are crucial for the world's decarbonization journey.

Additionally, MMCL, doesn't want to stop the journey in just making the DRI pellets, but wants to use part of the pellets to make Green Steel, right in the state of Minnesota for the USA. MMCL currently holds the environmental permits to produce 1.8 MT DRI + 1.5 MT Steel in Minnesota, USA.

For making Green Steel, the key component is to have renewable power, connected to the electrical grid. {Green Steel for MMCL will need about 1500 MW of renewable power, to produce Green H2 on site for self-consumption and for running the balance of our plant equipment.

Minnesota Power (MP) is already engaged in conversations for providing renewable power to our site. However, the latest announcements on supply and utilization of renewable power has put the whole vision of MMCL on hold, owing to the difficulty in practically implementing the proposed rules.

Mesabi Metallics parent company, ESSAR Global, operates in the EU, India and East Asia, and we see far more practical and encouraging laws which excites company(s) to transit to clean source of H2 and adapt very fast decarbonization.

Mesabi Metallics is highly motivated to be the first steel making plant in Minnesota and the first ever GREEN STEEL plant in its entirety in the USA. However, to achieve this, we seek support from IRS to create a platform, conducive for MMCL and other steel makers in whole of the USA, and also all other industries like agriculture, aviation, copper, aluminum etc., who we believe are all affected by current proposals in their ambitious plan and path for CO2 abatement. The details are as follows:

### **Anti-Abuse Rule Requires Specificity to Avoid Deterring Clean Hydrogen Production**

The anti-abuse rule as proposed § 1.45V-2(b)(1) (the "Anti-Abuse Rule")<sup>3</sup> requires three clarifications. First, to avoid inconsistent enforcement, the Anti-Abuse rule should specify that it is not "wasteful" if qualified clean hydrogen is produced and sold or used for any purpose other than to "be vented, flared or used to produce hydrogen."<sup>4</sup> Without defining wastefulness, the Anti-Abuse Rule risks making the 45V Credit unavailable in circumstances that would otherwise reduce greenhouse gas ("GHG") emissions. Further, (non-wasteful) use of qualified clean hydrogen is already statutorily "verified by a third party."<sup>5</sup> Beyond venting, flaring and hydrogen reproduction, all other uses would constitute productive replacement of other (less efficient) energy sources. Even if more "wasteful" uses exist beyond venting, flaring or re-producing hydrogen, the Anti-Abuse Rule should still be limited to a specific list of wasteful uses, instead of considering "all the

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<sup>3</sup> See Proposed Regulations at § 1.45V-2(b)(1).

<sup>4</sup> *Id.*

<sup>5</sup> 26 U.S.C. § 45V(c)(2)(B)(ii).

relevant facts and circumstances,” which risks inconsistently making 45V Credits unavailable beyond “extraordinary circumstances.”<sup>6</sup>

Second, the Anti-Abuse Rule need not contemplate “the primary purpose of production” when determining whether the 45V Credit was wastefully obtained.<sup>7</sup> It does not matter if the primary purpose of producing qualified clean hydrogen is to obtain a 45V Credit or reduce GHG emissions, since both purposes can coexist and neither necessarily implicates wasteful intent. Further, the taxpayer’s primary purpose should be irrelevant under the Anti-Abuse Rule so long as wastefulness is specifically and comprehensively defined (*i.e.*, as venting, flaring, or producing more hydrogen).

Third, the Anti-Abuse Rule should not compare the cost of producing qualified clean hydrogen to the amount of the 45V Credit. Though the Treasury and the IRS are concerned that taxpayers may exploit the 45V Credit “in a manner that is inconsistent with a purpose of section 45V,” they should not make the 45V credit unavailable merely because “the cost of producing qualified clean hydrogen were to be less than the amount of the section 45V credit.” Scolding cost efficiency would stymie desired development of cost-efficient, breakthrough technologies in clean hydrogen production, particularly technologies that could further the U.S. National Clean Hydrogen Strategy and Roadmap, which “explores opportunities for clean hydrogen to contribute to national decarbonization goals across multiple sectors of the economy.”<sup>8</sup> Cost-efficient production of qualified clean hydrogen should be encouraged, especially because hydrogen energy is “more efficient than many other energy sources, including many green energy solutions,” yet it currently constitutes a “high cost option.”<sup>9</sup> Thus, the Anti-Abuse Rule should not punish cost efficiency, which are otherwise not statutorily limited under the 45V Credit program.<sup>10</sup>

### Incrementality Should Not Punish Unfavorable Geographic Areas

For comments sought by the Treasury and the IRS regarding proposals under § 1.45V-4(d)(3)(i) related to incrementality (the “Incrementality Proposals”),<sup>11</sup> taxpayers should be allowed to meet this alternative test for incrementality at an applicable percentage of 100 percent, if:

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<sup>6</sup> See Proposed Regulations at § 1.45V-2(b)(1).

<sup>7</sup> See Proposed Regulations at § 1.45V-2(b)(1).

<sup>8</sup> See U.S. National Clean Hydrogen Strategy and Roadmap (June 2023),

<https://www.hydrogen.energy.gov/library/roadmaps-vision/clean-hydrogen-strategy-roadmap>.

<sup>9</sup> See What Are The Pros And Cons Of Hydrogen Fuel Cells?, TWI, <https://www.twi-global.com/technical-knowledge/faqs/what-are-the-pros-and-cons-of-hydrogen-fuel-cells#:~:text=4.,energy%20per%20pound%20of%20fuel>.

<sup>10</sup> The statutory definition of “qualified clean hydrogen” does not indicate cost efficiency metric despite being an otherwise particular definition; see 26 U.S.C. § 45V(c)(2) (with no mention production cost, hydrogen is deemed *qualified clean hydrogen* if it meets the lifecycle GHG emissions rate and is produced in the United States within taxpayer’s ordinary course of business for sale or use, where such production and sale or use is verified by a third party).

<sup>11</sup> Proposed Regulations at § 1.45V-4(d)(3)(i).

- (a) The taxpayer's ordinary course of business (and related qualified clean hydrogen production) is located in a measurably, non-optimal geographic area for renewable or zero-emission energy production, or
- (b) Due to geographic features, the taxpayer cannot feasibly procure sufficient, nearby renewable or zero-emission energy for its business and related clean hydrogen production, and
- (c) Due to its geographic affiliation (e.g., location of natural resources), the taxpayer cannot—without producing more GHG emissions (e.g., by freight transportation of those resources)—wholly or partially move energy-intensive parts of its business (related to qualified clean hydrogen production and use), to a more efficient renewable or zero-emission energy location.

This alternative test is particularly necessary for taxpayers intending to incorporate qualified clean hydrogen production and use at their location-dependent, high-emitting industrial or mining businesses. Consider a U.S. taxpayer that intends to produce and use hydrogen for its green steel production, who will procure iron-ore from a U.S. mine over the next forty years. If that mine is not efficiently located near current or future wind, solar, geothermal, or hydropower energy production, and if that taxpayer would create more GHG emissions by transporting these iron-ore deposits to a faraway, renewable-efficient location, then that taxpayer should be incentivized to produce qualified clean hydrogen without having to increase its carbon footprint by moving operations away from the natural resources. Further, such a taxpayer should be allowed to receive maximum benefits under the 45V Credit program, especially if they use renewable energy however feasible (i.e., from farther locations), because—given the high-emitting nature of industrial and mining operations—incorporation of qualified clean hydrogen will significantly reduce GHG emissions (e.g., using hydrogen as a reduction agent instead of coal).<sup>12</sup> For example, Mesabi Metallics aims to produce green steel by producing qualified clean hydrogen and using this hydrogen as a reduction agent instead of coal, thereby substantially reducing GHG emissions and bolstering the U.S. green steel supply chains. However, hydrogen production, coupled with compliance costs under these strict Incrementality Proposals, would easily exceed the costs borne by Mesabi Metallics and passed onto U.S. consumers, who may be inclined to ship cheaper steel from heavily subsidized European locations, such as Sweden.

This is the prime example of a minimal-emission modeled approach, which treats “electricity produced by certain existing electricity generating facilities under certain circumstances as satisfying the incrementality requirement” by demonstrating “that such sources and circumstances would not give rise to significant induced grid emissions.”<sup>13</sup> However, this model must take into account CO<sub>2</sub> emissions from non-electric freight transportation of natural

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<sup>12</sup> The Potential of Hydrogen for Decarbonising Steel Production, *European Parliament Think Tank Briefing* (Dec. 12, 2020), [https://www.europarl.europa.eu/thinktank/en/document/EPRS\\_BRI\(2020\)641552](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2020)641552) (“Replacing coal by hydrogen generated with renewable energy would make it possible to largely decarbonise the industry”).

<sup>13</sup> *Id.*

resources(e.g., iron-ore) from non-optimal to optimal renewable or zero-emission energy locations. Taxpayers in higher-emitting industrial and mining businesses should not be disincentivized to produce and sell or use qualified clean hydrogen merely because their business, which is to promote clean energy manufacturing (e.g., electric vehicles and energy efficient buildings), is geographically tied to non-favorable areas for renewable production. Further, the statutory definition of *lifecycle GHG emissions rate* allows for the provision of emission rates for not-yet-determined purposes such as the one proposed above.<sup>14</sup>

A certain amount of existing renewable or zero-emission energy should count for the purposes of 45V.

The Treasury and IRS also seek comments regarding, “alternative formulaic, proxy approaches that might better capture conditions under which using existing minimal-emitting electricity generation to produce hydrogen does not significantly impact induced grid emissions.”<sup>15</sup> To that end, taxpayers should be allowed flexibility in sourcing electricity from new or existing renewable and zero-emission sources for production of qualified clean hydrogen, especially if:

- (a) The taxpayer is already committed to a long-term, state-specific clean energy pledge; and
- (b) Qualified clean hydrogen will contribute to decarbonizing the heavy-emitting, industrial sector.

Following the above example, Mesabi Metallica wishes to procure an existing source of hydro-sourced energy for its qualified clean hydrogen production from the adjacent Canadian Province of Manitoba. Mesabi Metallica has already committed to support Minnesota’s enacted pledge to reach 100% carbon-free electricity by 2040 (“Minnesota’s Clean Energy Pledge”).<sup>16</sup> Mesabi Steel should be alternatively allowed to adhere to Minnesota’s Clean Energy Pledge, which is an established, formulaic and gradual approach that allows time and flexibility in sourcing -- both of which are needed to implement qualified clean hydrogen production. By 2040, Mesabi Metallica and the State of Minnesota will be 100% carbon free by 2040, but flexibility in sourcing is necessary to achieve that milestone. Further, to incorporate the U.S. Department of Energy’s Industrial Decarbonization Roadmap,<sup>17</sup> an unavoidable piece of U.S. emissions reduction, the Treasury and IRS should allow for an “alternative formulaic”<sup>18</sup> approach that offers increased flexibility to the heaviest-emitting industrial sectors (e.g., chemicals, refining, iron and steel), allowing these taxpayers to source a larger percentage of electricity from existing renewable or zero-emission energy sources. “Bold action is needed” to combat climate change, and this flexibility would boldly expedite the incorporation of qualified clean hydrogen production into the heaviest-emitting

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<sup>14</sup> 26 U.S.C. § 45V(c)(2)(C).

<sup>15</sup> See Proposed Regulations at 89232.

<sup>16</sup> See Minn. Stat. § 216B.1691 Subd. 2g(3) (2022),

[https://www.revisor.mn.gov/bills/text.php?number=SF4&version=latest&session=ls93&session\\_year=2023&session\\_number=0](https://www.revisor.mn.gov/bills/text.php?number=SF4&version=latest&session=ls93&session_year=2023&session_number=0).

<sup>17</sup> U.S. Department of Energy’s Industrial Decarbonization Roadmap (Sep. 2022).

<sup>18</sup> See Proposed Regulations at 89232.

sector, which the Department of Energy has deemed a “difficult-to-decarbonize sector of the energy economy.”<sup>19</sup>

### Hourly Metering is Impossible and Administratively Burdensome

The hourly metering requirement contemplated under proposed § 1.45V–4(d)(3)(i)(B) and elsewhere within the Proposed Regulations (the “Hourly Metering Rule”) is administratively burdensome, impractical to all taxpayers and unfair to certain taxpayers. Given the varying nature of electric grids, weather patterns and energy technologies, taxpayers should not be required to keep records on any particular manner so long as records are maintained in a way that substantiates entitlement to the 45V Credit. The Hourly Metering Rule reduces a taxpayer’s ability to pursue the 45V Credit (and thus produce qualified clean hydrogen) and hamstrings our competitiveness with European green steel producers, which need only adhere to monthly metering.<sup>20</sup> Further, it is impractical and counterintuitively energy consuming to switch off large-scale clean hydrogen production every time there is no wind or sunshine, “resulting in increases of 68-175% in the levelized cost of hydrogen compared to an annual matching scenario.”<sup>21</sup> Though the 45V Credit should not result in increased fossil-based power generation, “annual matching could not only result in net-zero emissions but also produce far cheaper green hydrogen”.<sup>22</sup> By waiting to implement hourly metering like Europe (i.e., allowing hydrogen, renewable and metering technologies to improve), the Treasury and IRS will make the U.S. globally competitive by promoting the much-needed and imminent investment in qualified clean hydrogen production.

Further, current hourly metering technologies have concerning limitations, which DOE identified in the Proposed Regulations. DOE found that only two of nine reviewed metering systems incorporated hourly tracking, and “software functionality in these two systems remains limited” along with numerous additional challenges noted by the DOE.<sup>23</sup> The Hourly Metering Rule should not be implemented until less concerning and more complete results regarding hourly metering efficacy are found, and studied for relevancy of application.

The Hourly Metering Rule would impose impossible, costly, and unnecessary recordkeeping burdens by significantly increasing the amount of detail required to be kept, which will discourage taxpayers from engaging in qualified clean hydrogen production. Tax professionals face more

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<sup>19</sup> *Id.* at page xv.

<sup>20</sup> Questions and Answers on the EU Delegated Acts on Renewable Hydrogen, European Commission (Feb. 13, 2023), [https://ec.europa.eu/commission/presscorner/detail/en/qanda\\_23\\_595](https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_595).

<sup>21</sup> Leigh Collins, *US green hydrogen definition | 'Annual, rather than hourly matching could cut H2 costs by up to 175% and still be net zero'*, Hydrogeninsight (Mar. 13, 2023), <https://www.hydrogeninsight.com/policy/us-green-hydrogen-definition-annual-rather-than-hourly-matching-could-cut-h2-costs-by-up-to-175-and-still-be-net-zero/2-1-1417840> (quotations omitted).

<sup>22</sup> *Id.*

<sup>23</sup> Proposed Regulations at 89233 (citing *Readiness for Hourly: U.S. Renewable Energy Tracking Systems*, Center for Research Solutions (June 15, 2023), <https://resource-solutions.org/wp-content/uploads/2023/06/Readiness-for-Hourly-U.S.-Renewable-Energy-Tracking-Systems.pdf>).

complexity with fewer resources, as the most skilled resources near retirement without adequate replacement. The IRS has also incurred staffing challenges.<sup>24</sup> Yet clean hydrogen production in the United States is needed now more than ever. Given the changing nature of weather patterns, which are directly correlated to the hour-by-hour renewable energy production rate, this increased reporting burden on taxpayers will not improve the accuracy, consistency, or reliability of the 45V Credit program. Rather, it will threaten an important subsidy at a time when the country needs it the most. Administering a complex credit on a specified, ultra-specific timeline form does not help *any* taxpayer meet their obligations and raises concern on the effective implementation of the IRS Inflation Reduction Act Strategic Operating Plan. The Hourly Metering Rule will be particularly burdensome to smaller taxpayers and those not located near efficient renewable or zero-emission energy sources. As a proposed alternative, the IRS should provide a safe harbor for taxpayers electing to report through a certified third-party report. Alternatively, the IRS should require data collection that is less burdensome but aids in tax administration (e.g., third-party preparer disclosures similar to information disclosed on amended returns, or certified statements of the taxpayer's methodology).

We appreciate the opportunity to provide comments on the proposed regulations relating to the clean hydrogen production credit. We are happy to provide clarification or answer any follow-up questions as needed and look forward to your consideration.

Sincerely,



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<sup>24</sup> GAO-19-176, *Strategic Human Capital Management is Needed to Address Serious Risks to IRS's Mission* (2019), <https://www.gao.gov/assets/gao-19-176.pdf>.