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Office of the Associate Chief Counsel (Passthroughs and Special Industries)
Internal Revenue Service
CC:PA:LPD:PR (Notice 2022-57)
Room 5203, P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: Comments on the Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production (Notice 2022-58)

Dear Madam or Sir:

SunGas Renewables is a Houston based clean energy technology company providing systems designed to produce low and negative carbon fuels from sustainably sourced renewable feedstocks such as waste woody biomass. SunGas Renewables' gasification systems produce hydrogen and carbon monoxide – the building blocks necessary for large-scale production of renewable bio-fuels such as gasoline, diesel, sustainable aviation fuel, biomethane and marine shipping fuels. SunGas is taking a leading role in decarbonization and offers its gasification systems to third parties for hydrogen and biofuels production while also developing and investing in low-carbon biofuels projects in North America and across the globe.

Responses to Questions Presented by Treasury:

Credit for Production of Clean Hydrogen (§ 45V)

(1) What, if any, guidance is needed to clarify the definition of qualified clean hydrogen?
Response:
The statute defines "qualified clean hydrogen" as hydrogen "produced through a process that results in a lifecycle greenhouse gas emissions rate of not greater than 4 kilograms of CO2e per kilogram of hydrogen." 26 U.S.C.A. § 45V. The definition does not state whether the process utilized to produce qualified clean hydrogen must yield pure hydrogen although the Department seems to acknowledge that other byproducts are anticipated in 1(b)(i) below. SunGas requests that the Department state explicitly that the process used to produce qualified clean hydrogen be allowed to produce hydrogen that is part of a stream with other constituents, so long as any taxpayer utilizing the credit can accurately measure the quantity of qualifying hydrogen produced.

(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?
Response:
No comment.

(b)(i) How should lifecycle greenhouse gas emissions be allocated to co-products from the clean hydrogen production process? For example, a clean hydrogen producer may valorize steam, electricity, elemental carbon, or oxygen produced alongside clean hydrogen.
Response:
SunGas encourages the Department to allocate lifecycle greenhouse gas emissions to co-products from the clean hydrogen production process by mass.

(ii) How should emissions be allocated to the co-products (for example, system expansion, energy-based approach, mass-based approach)?
Response:
Please refer to Subpart 1(b)(i).

(iii) What considerations support the recommended approaches to these issues?
Response:
Please refer to Subpart 1(b)(i).

(c)(i) How should lifecycle greenhouse gas emissions be allocated to clean hydrogen that is a by-product of industrial processes, such as in chlor-alkali production or petrochemical cracking?
Response:
No comment.

(ii) How is byproduct hydrogen from these processes typically handled (for example, venting, flaring, burning onsite for heat and power)?
Response:
No comment.

(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?
Response:
SunGas encourages the Department to base the credit amount on the "qualified clean hydrogen" produced during the taxable year. A taxpayer claiming the credit should not be penalized for non-qualifying hydrogen produced during other parts of the taxable year.

One part of the definition of "qualified clean hydrogen" requires the hydrogen to be produced "for sale or use" and it requires the "production and sale or use" to be "verified by an unrelated party." Guidance should also make it clear that the verification of "for sale or use" does not have to be made in the tax year in which the "qualified clean hydrogen" is produced.

(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?

Response:

SunGas recommends that Department allow for flexibility in verifying inputs. Specifically, a taxpayer claiming the credit should be allowed to perform the analysis on its own or be able to hire an independent third-party, consistent with best practices and verifiable in an audit.

(i) How might clean hydrogen production facilities verify the production of qualified clean hydrogen using other specific energy sources?

Response:

No comment.

(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?

Response:

SunGas encourages the Department to be flexible in applying any temporal criteria. The onus is on the taxpayer to demonstrate a quantity of hydrogen produced consistent with the lifecycle greenhouse gas standards set out in the legislation; therefore, no temporal requirement is necessary. If the Department determines that a temporal limit is necessary, we recommend that it be done on not less than an annual basis.

(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).4 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?

Response:

No Comment.

(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?

Response:
A taxpayer that engages in the production of qualified clean hydrogen should be able to obtain a lifecycle greenhouse gas emissions rate of the hydrogen during the project concept phase. In the case of clean hydrogen produced from waste woody biomass, the model should analyze the carbon impact of using feedstocks and other inputs. Furthermore, once certified, that emissions rate should establish a rebuttable presumption that the lifecycle greenhouse gas emissions rate assigned to the production process is sufficient to form the basis for claiming the credit.

(b) What criteria should be considered by the Secretary in making a determination regarding the provisional emissions rate?
Response:
SunGas encourages the Department to establish criteria with respect to which companies may be qualified to conduct a lifecycle analysis to ensure that any analysis is rigorous and performed by reputable companies.

(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?
Response:
Taxpayers claiming the credit should be required to maintain any information relevant to the lifecycle analysis and submit, in a report, provided on not less than an annual basis.

(b) What technologies or methodologies should be required for monitoring the lifecycle greenhouse gas emissions rate resulting from the clean hydrogen production process?
Response:
No comment.

(c) What technologies or accounting systems should be required for taxpayers to demonstrate sources of electricity supply?
Response:
The Department should consider using data from renewable electricity clearinghouse systems similar to the Western Renewable Energy Generation Information System (WREGIS), a web-based tracking system for renewable energy certificates (RECs).

(d) What procedures or standards should be required to verify the production (including lifecycle greenhouse gas emissions), sale and/or use of clean hydrogen for the § 45V credit, § 45 credit, and § 48 credit?
Response:
No comment.

(e) If a taxpayer serves as both the clean hydrogen producer and the clean hydrogen user, rather than selling to an intermediary third party, what verification process should be put in place (for example, amount of clean hydrogen utilized and guarantee of emissions or use of

clean electricity) to demonstrate that the production of clean hydrogen meets the requirements for the § 45V credit?

Response:

A qualified third-party licensed engineer with suitable measurement equipment being utilized by both producer and user resulting in approved verification of the hydrogen quantities and emissions.

(f) 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?

Response:

Such book and accounting factors should be allowed in calculating the credit. Doing so will encourage taxpayers to take further steps to reduce the carbon impact of any production process. All approaches should be available to the taxpayer in calculating effective greenhouse emissions, including all book and accounting approaches that meet equivalent measurement and validation criteria as the taxpayer's own project, e.g., using GREET-based or other approved methodologies.

(g) If indirect book accounting factors that reduce a taxpayer's effective greenhouse gas emissions, such as zero-emission credits or power purchase agreements for clean energy, are considered in calculating the § 45V credit, what considerations (such as time, location, and vintage) should be included in determining the greenhouse gas emissions rate of these book accounting factors?

Response:

The factors above should be accounted for as they are accounted for in the existing processes and methodologies for renewable electrons utilized and produced today. Just like tax losses can be banked and applied to tax liabilities in different tax years, any credits should be bankable and fungible across tax years.

(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?

Response:

Any verification of the production and sale and use of clean hydrogen should be overseen by a third-party, licensed engineer.

(b) What criteria or procedures, if any, should the Treasury Department and the IRS establish to avoid conflicts of interest and ensure the independence and rigor of verification by unrelated parties?

Response:

As mentioned in the previous comment, verification of the production and sale and use of clean hydrogen should be overseen by a third-party, licensed engineer. These independent

third parties should be required to sign an affidavit, attesting, under law, that any opinion produced is made to the best of their knowledge and is made independently.

(c) What existing industry standards, if any, should the Treasury Department and the IRS consider for the verification of production and sale or use of clean hydrogen for the § 45V credit, § 45 credit, and § 48 credit?
Response:
The recommendation included in the previous comment aligns with current industry standards.

(6) Coordinating Rules

(a) Application of certain § 45 rules.
(i) Section 45V(d)(3) includes a reduction for the § 45V credit when tax-exempt bonds are used in the financing of the facility using rules similar to the rule under § 45(b)(3)). What, if any, additional guidance would be helpful in determining how to calculate this reduction?
Response:
No comment.

(ii) Section 45V(d)(1) states that the rules for facilities owned by more than one taxpayer are similar to the rules of § 45(e)(3). How should production from a qualified facility with more than one person holding an ownership interest be allocated?
Response:
No comment.

(b) Coordination with Section 48
(i) What factors should the Treasury Department and the IRS consider when providing guidance on the key definitions and procedures that will be used to administer the election to treat clean hydrogen production facilities as energy property for purposes of the § 48 credit?
Response:
No comment.

(ii) What factors should the Treasury Department and the IRS consider when providing guidance on whether a facility "s "designed and reasonably expected to produce qualified clean hydrogen?"
Response:
The lifecycle greenhouse gas emissions analysis done at the project concept phase should provide the information necessary to determine whether that phrase is satisfied.

(c) Coordination with § 45Q. Are there any circumstances in which a single facility with multiple unrelated process trains could qualify for both the § 45V credit and the § 45Q credit notwithstanding the prohibition in § 45V(d)(2) preventing any § 45V credit with respect to any qualified clean hydrogen produced at a facility that includes carbon capture equipment for which a § 45Q credit has been allowed to any taxpayer?
Response:

Where there is an opportunity to utilize renewable feedstocks and creation of a carbon negative hydrogen, the department should consider an interpretation that each production stream be considered a separate facility. This flexible interpretation would ensure that a facility could meet the requirements of the various credits. More importantly, such an interpretation would incentivize taxpayers to further reduce their carbon impact and, in the case of companies like SunGas that rely on waste woody biomass, even achieve a greater net reduction in carbon emissions.

Guidance should be issued to clarify that the process equipment for carbon capture of a BECCS facility is itself a separate "facility" under 45Q, which, as a result, is separate from the "qualified facility" under 45V for purposes of 45V(d)(2) and its cross-reference to 45Q. A hydrogen production facility using waste woody biomass that has a low carbon intensity, would not be incentivized otherwise to sequester carbon. As a result, any carbon capture equipment that is installed to further increase the removal of carbon emissions from the facility should be treated as a separate qualified facility for purposes of §45Q and §45V(d)(2).

Furthermore, the Department should allow the partitioning of GHG calculations from single facilities in a way that allows for making claims under both the 45Q and 45V. In many cases, when using waste woody biomass as a feedstock, none, or only a portion of produced CO_2 needs to be captured in order to achieve a GHG emissions rate that qualifies the H2 for the maximum tax credit under 45V. Any remaining CO_2 captured by the same facility should be determined to be eligible for the 45Q. This approach would incent maximum CO_2 capture/sequestration and maximum reduction of CO_2 for any qualifying facility, which otherwise might only capture the minimum amount of CO_2 required to maximize benefit under 45V.

(7) Please provide comments on any other topics related to § 45V credit that may require guidance.
Response:
The Department should provide specific guidance around coordination of overlapping incentives over time. Clarity on the temporal relationship between credits is essential to project scoping and analysis. For instance, under the statutory language, a taxpayer that takes 45V for ten years should then be allowed to take the 45Q for remainder of that 12-year period. Additionally, a taxpayer should be able to switch from 45V to 45Q at any point during the ten-year credit window of 45V. SunGas believes the plain language of the statute allows this and, practically speaking, a more flexible interpretation would support project development. Additionally, use of overlapping credits and partitioning approaches, as outlined in the previous answer, for the production of renewable carbon negative fuels, gaseous and liquid, coupled with carbon sequestration, should be considered and will accelerate the meeting of our nation's decarbonization goals.

Clean Fuel Production Credit (§ 45Z)

(1) Sale Definition

(a) What factors should the Treasury Department and the IRS consider in determining whether an unrelated person purchases transportation fuel for use in a trade or business for purposes of § 45Z(a)(4)(B)?

Response:

Any consideration should be based on the use of prevailing industry standards related to contracting and bills of sale to unrelated parties.

(b) What factors should the Treasury Department and the IRS consider in determining whether fuel is sold at retail for purposes of § 45Z(a)(4)(C)?

Response:

No comment.

(2) Establishment of Emissions Rate for Sustainable Aviation Fuel. Section 45Z(b)(1)(B)(iii) provides that the lifecycle greenhouse gas emissions of sustainable aviation fuel shall be determined in accordance with the Carbon Offsetting and Reduction Scheme for International Aviation or "any similar methodology which satisfies the criteria under § 211(o)(1)(H) of the Clean Air Act (42 U.S.C. 7545(o)(1)(H)), as in effect on the date of enactment of this section." What methodologies should the Treasury Department and IRS consider for the lifecycle greenhouse gas emissions of sustainable aviation fuel for the purposes of § 45Z(b)(1)(B)(iii)(II)?

Response:

SunGas encourages the Department to be open to additional models working closely with EPA and USDOE and industry stakeholders to determine appropriate additional models for estimating the lifecycle greenhouse gas emissions of sustainable aviation fuel. To support the production of the fuel and the growth of the industry more generally, it is important to establish scientifically supported processes and practices. Additionally, updates to certified models/processes need to be allowed as inputs and information changes.

(3) Provisional Emissions Rates. Section 45Z(b)(1)(D) allows the taxpayer to file a petition with the Secretary for determination of the emissions rate for a transportation fuel which has not been established.

(a) At what stage in the production process should a taxpayer be able to file a petition for a provisional emissions rate?

Response:

In order for projects to actually be undertaken, taxpayers and the stakeholders supporting any investment must be certain that a specific processes will qualify for the credit. For this reason, SunGas strongly encourages the Department to ensure that any certification be obtained during the concept phase of the project. Furthermore, once certified, that emissions rate should establish a rebuttable presumption that the lifecycle greenhouse gas emissions rate assigned to the production process is sufficient to form the basis for claiming the credit.

(b) What criteria should be considered by the Secretary to determine the provisional emissions rate?

Response:
Taxpayers should be able to rely, for tax purposes, on the estimates of emissions rates produced by qualified third party licensed engineers with demonstrated expertise in the estimation of emissions. It is not realistic to expect the Department to set emissions rates for every single production process. Relying on third party engineers that can produce verifiable results subject to potential audits is sufficient to ensure that emissions rates reported reflect the reality on the ground.

(4) Special Rules. Section 45Z(f)(1) provides several requirements for a taxpayer to claim the § 45Z credit, including for sustainable aviation fuel a certification from an unrelated party demonstrating compliance with the general requirements of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) or in the case of any similar methodology, as defined in § 45Z(b)(1)(B)(iii)(II), requirements that are similar to CORSIA's requirements. With respect to this certification requirement for sustainable aviation fuel, what certification options and parties should be considered to support supply chain traceability and information transmission requirements?
Response:
No comment.

(5) Coordinating Rules. Section 45Z(f)(4) states that under regulations prescribed by the Secretary, rules similar to the rules of § 52(d) apply in the case of estates and trusts. Section 45Z(f)(5) states that rules similar to § 45Y(g)(6) apply to patrons of agricultural cooperatives. Section 45Z(f)(6)(A) states that rules similar to the rules of § 45(b)(7) apply for the prevailing wage requirement. Section 45Z(f)(7) states that rules similar to the rules of § 45(b)(8) apply for the apprenticeship requirement. Is the application of the cross-referenced rules for purposes of the § 45Z credit adequately clear? What aspects of the cross-referenced rules should apply to the § 45Z credit without modification and what aspects should be modified?
Response:
No comment.

(6) Multiple Owners. How should production from a qualifying facility with more than one person having an ownership interest in such facility be allocated to such persons for purposes of § 45Z(f)(2)? Should rules similar to the rules under § 45(e)(3) apply for this purpose? If so, which aspects of § 45(e)(3) should apply without modification for this purpose and which aspects should be modified?
Response:
No comment.

(7) Please provide comments on any other topics related to § 45Z credit that may require guidance.
Response:
SunGas encourages the Department to interpret the definition of qualified facility such that each production stream be considered a separate facility. This flexible interpretation would ensure that a facility could meet the requirements of the various credits. More importantly, such an interpretation would incentivize taxpayers to further reduce their carbon impact and, in the case of companies like SunGas that rely on waste woody biomass, even achieve a net reduction in carbon emissions.

Thank you for the opportunity to provide these comments on the implementation of Section 45V, Clean Hydrogen Production Credit, and Section 45Z, the Clean Fuel Production Credit.

Sincerely,

Robert Rigdon
Chief Executive Officer
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