Alternative Fuels & Chemicals Coalition

Advocating for Public Policies to Promote the Development & Production of Alternative Fuels, Renewable Chemicals, Biobased Products, and Sustainable Aviation Fuels

December 3, 2022

Internal Revenue Service,
CC:PA:LPD:PR (Notice 2022-58),
Room 5203, P.O. Box 7604,
Ben Franklin Station,
Washington, DC 20044

Re.: Notice 2022-58 Comments; Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production

Dear Honorable Janet Yellen,

Background

AFCC and its member companies appreciate the opportunity to respond to the request for comments on credits for clean hydrogen and clean fuel production.

AFCC member companies have viable and scalable technologies to produce hydrogen through an electrolyzer which is then combined with carbon monoxide (CO) to produce syngas which can be converted to Sustainable aviation fuel (SAF). In addition, these AFCC member companies have technologies which capture waste gas such as carbon dioxide (CO_2) and reacting it with water and electricity are able to produce carbon monoxide (CO) and ethylene. These latter products replace traditional fossil fuel products and can be used downstream to produce other high value chemicals such as polycarbonate, acetic acid, and SAF.

In addition, AFCC member companies have viable and scalable technologies which produce hydrogen insitu from renewable biomass such as woody biomass such as forest residuals or waste from national forests, private lands, and/or tribal lands. These woody biomasses can be converted to renewable nature gas, or hydrogen, or SAF.

While currently hydrogen is mainly used as a chemical in industry for oil refining and fertilizer production, it also has the potential to be an integral player in the clean energy innovation economy. Like electricity, hydrogen is a carrier for energy from any source to virtually any end use and it is made in a variety of ways.

AFCC is a collaborative government affairs effort organized by the Kilpatrick Townsend & Stockton law firm and American Diversified Energy. AFCC was created to address policy and advocacy gaps at the federal and state levels with respect to renewable chemicals, bioplastics/biomaterials, cell-cultured food ingredients, alternative proteins, single cell protein for food and feed, enzymes, alternative fuels, biobased products and sustainable aviation fuels sectors. AFCC member companies work on food and fiber supply chain security and sustainability,

renewable chemicals, industrial biotechnology, bioplastics and biomaterials, and biofuels.

The Importance of Section 45V

The IRA added section 45V to the Internal Revenue Code. Section 45V provides a credit for qualified clean hydrogen produced after 2022 at a qualified clean hydrogen production facility during the 10-year period beginning on the date the facility is originally placed in service.

Section 45V is a welcome addition to the Code as it will serve to stimulate the production of clean hydrogen. Hydrogen has long been recognized as an important tool in addressing some of society's most formidable carbon and climate challenges.

Section 45V(e)5 requires the Secretary of Treasury issue regulations or guidance to carry out purpose of this subsection. AFCC and its member companies urge Secretary of Treasury to address the following guidance sections shown below and which are expanded further:

- Guidance should confirm that "qualified clean hydrogen" includes hydrogen used in the process of producing other products for sale, regardless of whether the hydrogen physically becomes part of the products sold.
- Guidance should confirm that "qualified clean hydrogen" refers to hydrogen in any form.
- Guidance is needed to clarify the circumstances in which a single facility could qualify for both Section 45V and either Section 45Q or 45Z credits.
- Guidance should be provided with respect to the verification requirement as to the production of clean hydrogen in the use case.
- Guidance should clarify the circumstances in which a single facility could qualify for both Section 45Z and 45V credits, provided the generation of those credits results from distinct processing activities within the same facility.
- Response to questions.

Guidance should confirm that "qualified clean hydrogen" includes hydrogen used in the process of producing other products for sale, regardless of whether the hydrogen physically becomes part of the products sold

Section 45V(c)(2)(B)(i)(III) defines "qualified clean hydrogen" as hydrogen produced "for sale *or use*" . Accordingly, "qualified clean hydrogen" is not limited to hydrogen that is sold; it includes hydrogen that is used and there are no conditions stated as to the nature of that use.

It would be helpful, however, if guidance confirmed that the "use" of hydrogen does not require that the hydrogen be incorporated into the product that is produced using the hydrogen. Hydrogen is used to make or produce a variety of products and not all hydrogen ends up in the sellable end-product produced. There is a range of

production processes using hydrogen: (i) in some production processes, the hydrogen is entirely incorporated, becoming part of the product produced and sold; (ii) in some processes, part of the hydrogen is incorporated into the end product and part is used to effect a reaction and (iii) in some processes, the hydrogen is used to effect a reaction as a catalyst or reagent and none of it ends up in the product to be sold.

An example of the first type of process would be the common use of hydrogen to make ammonia by reacting the hydrogen together with nitrogen at high temperatures to produce ammonia (NH3). Indeed, in the case of ammonia the hydrogen is incorporated in the process; it becomes part of the product that is sold.

An example of the second type of process is the production of Fischer-Tropsch liquids, i.e. biomass-to-liquid fuels or synfuels. The production of such liquids generally involves the combination of CO with two H2 molecules to make CH2 plus H2O (water), with some of the hydrogen becoming part of the CH2 molecule and some of the hydrogen being used to separate and bond with the oxygen thereby producing the H2O by-product.

An example of the third type of process, in which the hydrogen is used to produce a product without the hydrogen becoming a part of the final product, is the production of carbon monoxide, as described in which the hydrogen does not become part of the product that is sold. Instead, the hydrogen is used as a chemical reagent to effect the split of carbon dioxide into oxygen and carbon monoxide and, once so used, it ends up physically as by-product water from the reaction.

If clean or green hydrogen were not produced by an electrolyzer, producers would have to obtain hydrogen produced from less-clean sources. Since the clear intent of section 45V is to stimulate the production of clean hydrogen, it is consistent with that intent to incentivize any use of clean hydrogen, even in cases in which the hydrogen is used to produce a product that does not contain hydrogen. The use of clean hydrogen as a chemical reagent in the process of producing another product should therefore qualify as the production of qualified clean hydrogen.

Accordingly, AFCC member companies respectfully request guidance confirming that the definition of "qualified clean hydrogen" includes hydrogen that is used in the production process of another product regardless of whether the hydrogen becomes part of that product. In other words, "use" be interpreted to mean use in the process of producing other products, regardless of whether the hydrogen becomes part of such other products. Such guidance might be included in the definitional portion of any guidance provided with respect to section 45V and phrased as follows[1]:

[1] Alternatively, consideration could be given to defining "use" in a manner similar to prior definitions of "use" with respect to chemical substances. See, for example, the definition of "use" found in Proposed Treas. Reg. section 52.4661-1(f) with respect to the imposition of Superfund excise taxes on certain chemicals stating that "A taxable chemical will be considered used when (i) it is consumed; (ii) its chemical composition is changed; or (iii) its chemical composition remains unchanged but the chemical reaction in which it plays a role would not have occurred without it." 48 Fed. Reg. 48,839 (October 21, 1983) (proposed regulations were subsequently withdrawn when section 4661 expired in 1996). See also Prop. Reg.

(a) The term "qualified clean hydrogen" shall not include any hydrogen unless such hydrogen is produced for sale or use.

(b) Use of hydrogen. The term "use" includes, but is not limited to, use of hydrogen as a transportation fuel, as a source of energy, or as a catalyst or reagent to produce another product. For purposes of determining whether hydrogen has been used, the consumption of the hydrogen into another product is immaterial.

Guidance should confirm that "qualified clean hydrogen" refers to hydrogen in any form

Guidance should confirm that "qualified clean hydrogen" can be hydrogen in any form. Hydrogen is usually thought of as a gas that at supercritical temperatures becomes a liquid. In most electrolyzers, however, including the hydrogen produced is a hydrogen ion, i.e., the hydrogen nucleus without an accompanying electron. Although not hydrogen in gas form (H2), the hydrogen ions nevertheless should constitute the production of hydrogen for purposes of section 45V.

A number of beneficial uses of green hydrogen include the production of products using the hydrogen ions produced in an electrolyzer, not hydrogen in gas or liquid form.

Section 45V refers to "hydrogen" not "hydrogen gas" or "hydrogen atoms having a certain positive electric charge." Therefore, the production of hydrogen ions should be eligible for the credit on the same basis that the production of hydrogen gas would be eligible. Since the credit amount is based on the weight of the qualified clean hydrogen produced (kilograms of qualified clean hydrogen), to the extent that a hydrogen ion weighs less than, for example, a hydrogen molecule, it would be necessary to produce a greater amount of hydrogen ions to constitute a kilo of hydrogen than may be the case for the production of hydrogen molecules. Since both are forms of hydrogen, however, both should be considered hydrogen for purposes of the determination of "qualified clean hydrogen."

Although section 45V does not restrict "qualified clean hydrogen" to hydrogen in any particular form, because hydrogen can take several forms, for the avoidance of doubt, it would be helpful if guidance were to confirm all forms of hydrogen may constitute qualified clean hydrogen.

Such guidance might be included in the definitional portion of any guidance provided with respect to section 45V and could be phrased as follows:

52.4611-1(b)(1) providing that crude oil is "used" when it is consumed, used as a catalyst, or its characteristics are changed.
Id.

(a) [Definition of "qualified clean hydrogen"] The term "hydrogen" means the chemical element with the atomic number 1 in all forms, gas, liquid or otherwise, including hydrogen atoms, hydrogen ions, and hydrogen molecules.

Guidance is needed to clarify the circumstances in which a single facility could qualify for both section 45V and section 45Q credits

Section 45V(d)(2) provides: "No credit shall be allowed under this section with respect to any qualified clean hydrogen produced at a facility which includes carbon capture equipment for which a credit is allowed to any taxpayer under section 45Q for the taxable year or any prior taxable year." Similarly, section 45Z(d)(4)(D), the credit for clean fuel production, provides that a "qualified facility" does not include any facility for which the section 45V credit is allowed.

Notice 2022-58 asks in section .01(6)(c) "Are there any circumstances in which a single facility with multiple unrelated process trains could qualify for both the section 45V credit and the section 45Q credit notwithstanding the prohibition in section 45V(d)(2) preventing any section 45V credit with respect to any qualified clean hydrogen produced at a facility that includes carbon capture equipment for which a section 45Q credit has been allowed to any taxpayer?"

In response, AFCC and its member companies can affirm that there are definitely circumstances in which section 45Q carbon capture equipment may be co-located and in geographic proximity to a clean hydrogen production facility such that they may be considered part of a "single facility" and yet be unrelated to the hydrogen production process such that it would clearly be inappropriate to restrict the ability to claim both credits.

In general, AFCC member companies suggest that consideration be given to providing guidance that interprets the phrase "hydrogen produced at a facility which includes carbon capture equipment for which a credit is allowed to any taxpayer under section 45Q" as meaning "hydrogen produced at a facility which includes carbon capture equipment in the qualified clean hydrogen production process for which a credit is allowed to any taxpayer under section 45Q." Without such an interpretation, the availability of the section 45V credit will be restricted to circumstances in which the section 45Q credit has not incentivized any activity, even an activity that is completely unrelated as a matter of production, thereby losing the opportunity to incentivize two clean energy activities with both credits – especially, when the processes and resources are unrelated.

To take a simple example, a producer may locate one of its production plants on a parcel of land directly adjacent to an unrelated industrial emitter of CO2, such as a pulp and paper production facility. The industrial emitter is incentivized to install a CO2 carbon capture system because of the potential for a section 45Q credit with respect to such captured CO2. The producer will purchase the captured CO2 for production of its CO, which is combined with hydrogen to make fuels or other products. However, even though the carbon capture is co-located with the hydrogen production, the CO2 is not used in the generation of clean hydrogen by the

electrolyzer, and it is not a by-product of the clean hydrogen production process. In such circumstances, it is readily apparent that it would be inappropriate to disallow a section 45V credit for the producer simply because its electrolyzer is adjacent to a process that captures CO2 for use in the production of products downstream from the producer's clean hydrogen production. Allowance of both credits implements the legislative intent to incentivize each of the activities in which the taxpayers are engaged.

In a variation on the above example, instead of being co-located with an industrial emitter of CO2, the producer may locate its production plants adjacent to direct air capture plants in order to have immediate access to the CO2 removed from the atmosphere by the direct air capture. The CO2 removal that is accomplished by the direct air capture plant is incentivized by availability of a section 45Q credit. However, the CO2 is not used in the generation of the clean hydrogen and is not captured as a by-product of the clean hydrogen production. Allowing the section 45V credit as well as the section 45Q credit in such circumstances incentivizes two separate activities, each of which is clearly intended to be incentivized. Therefore, unless the prohibition on claiming both credits is clarified to mean credits claimed with respect to carbon capture equipment in the hydrogen production process, the direct air capture activity would not be incentivized.

In contrast to the above examples, in the case of the production of blue hydrogen, i.e., the steam reformation of hydrogen followed by capture of the accompanying carbon dioxide emissions, the capture of the carbon is part of the production process for the hydrogen. It would certainly be taken into account by the taxpayer in calculating the carbon intensity of the hydrogen production process for purposes of determining the amount of the section 45V credit. In this case, only one incented activity is being performed -- the production of clean hydrogen – and thus allowing both credits would reward one activity doubly. In the examples above, however, allowing both credits to be claimed incentivizes two separate activities.

Clearly, there are situations in which carbon capture or clean fuel production may be happening at the same facility as the clean hydrogen production, but which do not relate to the clean hydrogen production. In such situations, claiming both credits is not a doubling (or double dipping) up of the credits for one incented activity but, rather, it is the appropriate claiming of credits designed to incentivize each of two separate activities. In order to limit the prohibition on claiming both credits to situations in which the taxpayer is engaging in a single incented activity, AFCC member companies respectfully proposes the prohibition be interpreted to mean "hydrogen produced at a facility which includes carbon capture equipment in the qualified clean hydrogen production process and for which a credit is allowed to any taxpayer." Such guidance might read as follows:

Coordination with credit for carbon oxide sequestration. No credit shall be allowed under Section 45V with respect to any qualified clean hydrogen produced at a facility which includes carbon capture equipment for which a credit is allowed to any taxpayer under Section 45Q for the taxable year or any prior taxable year. For purposes of

this rule, the presence of carbon capture equipment at a facility shall be ignored unless such carbon capture equipment is used in the process of production of the qualified clean hydrogen. Alternative language could read: For purposes of this rule, the word "facility" shall refer to a single production process. Separate production processes on the same geographic site shall be considered separate facilities for the purpose of this section.

Guidance should be provided with respect to the verification requirement as to the production of clean hydrogen in the use case

Notice 2022-58 asks in section 3.01(4)(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 section 45V credit?"

In some AFCC member company processes, the hydrogen is produced in the electrolyzer and then it is used in situ, i.e., it is used inside of the same equipment to assist in the splitting of carbon dioxide into oxygen and carbon monoxide. It bonds with the oxygen to form water which is then expelled from the equipment. Therefore, the hydrogen that is used in this process is not isolated, emitted or accumulated as such outside of the equipment and its production cannot be directly observed. Nevertheless, it is possible to determine exactly how much hydrogen has been produced by calculation from the amount of the outputs from the reactor (in this case, by proxy from the output of O2).

Therefore, AFCC and its member companies recommend that the verification process for hydrogen that is used consist of certification by a certified chemical engineer or an EPA auditing process, of the amount of clean hydrogen produced based on either observation of production amounts or derivation of production amounts based on a calculation of the inputs, the amounts of which have been certified by the engineer, and the outputs, the amounts of which have also been certified by the engineer.

Guidance in this regard might read as follows:
Verification. The production and sale or use of hydrogen must be verified by an unrelated party. Such verification shall be performed by an independent certified engineer and may be based on direct observation or readings of production amounts or on calculations that derive the production and use amounts based on the inputs and outputs of the production process, both of which have also been certified by the engineer.

Guidance should clarify the circumstances in which a single facility could qualify for both Section 45Z and 45V credits, provided the generation of those credits results from distinct processing activities within the same facility

Notice 2022-58, in section 3.02(7), calls for comments on any other topics related to the Section 45Z credit that may require guidance.

Section 45Z(d)(4)(B) provides that a "qualified facility" does not include a facility for which one of the following credits is allowed under section 38 for the taxable year: (i) the credit for production of clean hydrogen under Section 45V; (ii) the credit determined under Section 46 to the extent that such credit is attributable to the energy credit determined under section 48 with respect to any specified clean hydrogen production facility for which an election is made under subsection (a)(15) of such section; or (iii) the credit for carbon oxide sequestration under section 45Q.

AFCC member companies suggest that guidance clarify the circumstances in which a single facility might be considered a qualified facility for purposes of Section 45Z despite the allowance to that facility of the credits listed in Section 45Z(d)(4)(B). The issue presented here is similar to the issue discussed earlier, that is presented by Section 45V(d)(2) which disallows a section 45V credit if the facility includes carbon capture equipment for which a Section 45Q credit is allowed. However, as described earlier with respect to the issue for Section 45V, there are circumstances in which a single facility may be comprised of multiple process trains or equipment that should be treated as separate facilities for purposes of applying the prohibition on multiple credits for a single facility.

An example of a situation relevant for purposes of Section 45Z would be a clean fuel production facility that, rather than purchasing carbon monoxide as a feedstock from an offsite provider, produces it on site. The carbon monoxide production process includes the production of green hydrogen to be used as a chemical reagent to implement the carbon monoxide production. Without the Section 45V credit, producers would have no incentive to use green hydrogen in its CO production process; it could purchase and use less clean hydrogen for the same purpose. Similarly, if the Section 45Z credit is not available because the section 45V credit is claimed, the fuel producer would not be incentivized to produce clean fuel.

AFCC member companies suggest that guidance clarify that the production of feedstocks for the clean fuel production process are not intended to be treated as part of the same facility as the clean fuel production process for purposes of determining whether one of the listed credits is claimed for the same facility. In the example above, the green hydrogen production process is used to create a feedstock (carbon monoxide) for the syngas and clean fuel (SAF) that is produced. The clean fuel producer has an ability to obtain its feedstock from green or "clean" sources or other sources that are less clean. Disallowing the Section 45Z clean fuel production credit because the feedstock is derived from a co-located process that is eligible for the section 45V credit disincentivizes the clean fuel producer from obtaining the feedstock from clean sources. In order to incentivize both activities, i.e., both the production of feedstock through the production of green hydrogen and the production of clean fuel itself, it is appropriate to treat these activities as not occurring at a single facility.

Prohibiting both credits in this situation disincentivizes at least one activity. If the taxpayer claims the section 45Z credit for clean fuel production, it will have no incentive to use feedstock (carbon monoxide) derived by using green hydrogen as part of the process. Similarly, if the taxpayer is restricted to claiming the section 45V credit for the green hydrogen production, it would not be incentivized to use that hydrogen in the production of clean fuel since it would have no opportunity to obtain a section 45Z credit.

AFCC and its member companies believe that in order to best incentivize the production of clean fuels a single facility should be treated as multiple, separate facilities for purposes of application of the definition in Section 45Z(d)(4) when the credits claimed relate to the process of producing feedstocks to the clean fuel production process.

Guidance in this regard could read as follows:
The term "qualified facility" does not include any facility for which one of the following credits is allowed under Section 48 for the taxable year: (i) the credit for production of clean hydrogen under section 45V; [other credit references]. For purposes of this rule, allowance of a credit under section 45V shall not disqualify a facility if such credit is allowed with respect to the production of qualified clean hydrogen in connection with the production of a feedstock for the clean fuel produced at the qualified facility.

Response to Questions

Section 3.01(1)(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?
Well to gate boundaries should include emissions from: procurement and transportation of feedstock (and production of feedstock when not a waste product), production of hydrogen, electricity generation for electricity used in production process, and through the truck-rack loading or pipeline injection to transport hydrogen away from the production facility.

Section 3.01(1)(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.
Producers should be able to monitor any external heat sales for use by other entities, which could impact the GHG emissions by displacing other heat production from non-renewable sources. Energy content of heat sales can be measured in MMbtu's and emissions reduction calculated based off of the amount of emissions produced if heat were to be generated from a stand-alone process.

Section 3.01(1)(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?
Yes, the facility should be eligible to claim the 45V credit for clean hydrogen it produces even if it is not able to meet the GHG requirements for the entire year. There may be times during the year when renewable electricity or CO2 sequestration is temporarily unavailable to the production facility. In these instances, it would be extremely costly and inefficient for the plant to shut down, but it would have to shut down if the alternative option were to lose all 45V credits for the whole year. There is no prohibition in the law against receiving 45V for clean hydrogen even if the facility does not produce clean hydrogen 100% of the time.

Section 3.01(1)(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?
The gold standard, GREET should be used by all producers, therefore having one unified standard and since this is a federal bill, it would be highly encouraged by AFCC and its member companies to use a federal standard, GREET and no other model should supplement it.

Section 3.01(1)(e)(i) How might clean hydrogen production facilities verify the production of qualified clean hydrogen using other specific energy sources?
Chain of custody transactions for energy sources used as inputs must be documented, verified, auditable, and include a carbon intensity or other lifecycle GHG measurement from GREET as the modeling tool.

Section 3.01(1)(e)(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?
It is important to require time matching at an interval that reasonably ensures prevention of fraud and minimizes loss when renewable electricity is temporarily unavailable. To do so, one idea is to time match monthly, as well as any time that type of energy used is changed from expected energy supply and associated carbon intensity. This way companies that use a constant energy supply are not having to constantly report their energy input, while companies whose energy inputs are changing are documenting and reporting all changes. All electricity usage should be auditable.

Section 3.01(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?
Well to gate boundaries should include emissions from: procurement and transportation of feedstock (and production of feedstock when not a waste product), production of hydrogen, electricity generation for electricity used in production process, and through the truck-rack loading or pipeline injection to transport hydrogen away from the production facility.

Section 3.01(4)(b) What technologies or methodologies should be required for monitoring the lifecycle greenhouse gas emissions rate resulting from the clean hydrogen production process?
Use of the gold standard, GREET should be the model/method of choice monitoring the lifecycle greenhouse gas emissions.

Section 3.01(4)(c) What technologies or accounting systems should be required for taxpayers to demonstrate sources of electricity supply?
Industry standard smart meters that monitor real time electricity input, as well as chain of custody documentation should be used to document electricity supply. This should not be complicated using industry standard technology.

Section 3.01(4)(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?
A third-party auditing is recommended.

Section 3.01(4)(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?
The recommendation is not to have a book and claim system, since existing technologies derived from fossil fuels will dominate the market and there is an unfair advantage for the existence of the fossil fuel industry relative to new renewable energy technologies coming online, especially from the use of natural gas as feedstocks.

Section 3.01(4)(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?
There should not be any accounting factors for Section 45V, especially from the use of natural gas as feedstocks, since this will dominate the market, and will cause a shut down of Section 45V for renewable energy producers.

Section 3.01(5)(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?
Section 3.01(5)(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?
Section 3.01(5)(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?
Multiple standards should not be used, it will cause market confusion. The GREET model should be considered as the gold standard for Section 45V, Section 45, and Section 48.

Conclusion

We would respectfully ask that The Department of Treasury and IRS to acknowledge that the production or use of hydrogen if not produced at the same facility as the carbon capture facility and is registered as two different manufacturing entities are permitted Section 45Q for the carbon oxide capture facility and the use of the same carbon oxide to generate hydrogen in another manufacturing facility regardless of location or co-location be eligible for hydrogen credits; these facilities should be recognized as two different manufacturing facilities and should be provided tax credits for hydrogen and separately for Section 45Q.

Moreover, if the carbon oxide is generated or captured at the same manufacturing facility as the production of hydrogen, both chemicals (carbon oxide and hydrogen) should receive tax incentives under Section 45Q for carbon oxide and hydrogen tax credits, since the production of carbon oxide and hydrogen require different processes.

We look forward to working with you toward these goals and developing guidance towards these impactful technologies and would appreciate a meeting to discuss clarification for the sources of hydrogen and ensuring appropriate tax incentives are provided for AFCC member companies.

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