American Council on Renewable Energy
1150 Connecticut Ave NW, Suite 401
Washington, DC 20036

December 2, 2022

Via Electronic Submission

Office of Associate Chief Counsel
(Passthroughs & Special Industries)
Internal Revenue Service
1111 Constitution Ave NW
Washington, DC 20224

Re: Comments pertaining to Notices 2022-56 and 2022-58:

Dear Office of Associate Chief Counsel:

The American Council on Renewable Energy ("ACORE") respectfully submits the following comments in response to the U.S. Department of the Treasury ("Treasury" or "Department") and Internal Revenue Service ("IRS") request for comment on implementing key provisions of the Inflation Reduction Act of 2022 ("IRA"). ACORE is a 501(c)(3) national nonprofit organization working to unite finance, policy, and technology to lead the transition to a renewable energy economy.

ACORE appreciates this opportunity to provide Treasury with feedback on Notices 2022-56 and 2022-58 pertaining to its implementation of IRA under § 30C, Alternative Fuel Vehicle Refueling Property Credit and § 45, Clean Hydrogen and Clean Fuel Production tax credits, respectively. The comments below reflect our appreciation of the pivotal role the Department has for incenting greater development of refueling stations, especially for communities without historical access to these properties, as well as the development of a durable and world-leading national clean hydrogen network. We applaud Treasury's continued efforts to solicit robust and broad public engagement on the incentives described below.

Request for Comments on § 45W Credit for Qualified Commercial Clean Vehicles and § 30C Credit for Alternative Fuel Vehicle Refueling Property

Regarding the Definition of a "Single Item" of Qualified Alternative Fuel Vehicle Refueling Property:

To maximize the benefits of this credit, ACORE recommends that for commercial properties the term "single item" apply to both the individual Level 2 or 3 electric vehicle chargers and to individual

hydrogen vehicle dispensers. In both cases, ACORE further recommends that "single item" be defined by the individual plug, given that some charger models have more than one plug. Further, upstream investments from the plug, including switchwear, meters, transformers, H2 compressors, dryers and other components should be considered eligible under this definition. Such an interpretation would incent the installation of a greater number of chargers or dispensers per individual location, which would maximize the benefits of the investments in this property.

Regarding the Qualification of Alternative Fuel Vehicle Refueling Property That is Also Bidirectional Charging Equipment:

ACORE recommends that the guidance allow for bidirectional chargers and equipment to be eligible for the § 30C credit but clarify that this credit does not apply to equipment internal to the vehicle itself. Bidirectional charging equipment that is used for vehicle-to-grid or vehicle-to-home charging, only works with a small group of electric vehicles that are compatible with such equipment.[1] However, for bidirectional charging of individual appliances, such equipment is not required. Vehicles have a built-in bidirectional charger and standard AC power outlets that can be used to plug in any regular household AC appliances.[2] In this case the bidirectional charging is completely within the vehicle. Without clarification that this tax credit applies to such property outside of the vehicle, the administration of this credit could become overly broad and complex.

Regarding the Definition of Eligible Census Tract:

This important provision of the §30C credit would benefit from greater clarity. Section 30C(e)(3)(A) states that "qualified alternative fuel vehicle refueling property" must be "in an eligible census tract," which is defined in §30C(e)(3)(B) as "any population census tract which (I) is described in §45D(e) or (II) is not an urban area." But § 45D(e) does not define the term "eligible census tract" and instead defines the term "low-income community" as "any population census tract if (A) the poverty rate for such tract is at least 20 percent, or (B)(i) in the case of a tract not located within a metropolitan area, the median family income for such tract does not exceed 80 percent of statewide median family income, or (ii) in the case of a tract located within a metropolitan area, the median family income for such tract does not exceed 80 percent of the greater of statewide median family income or the metropolitan area median family income."

Given the different terminology in §30C(e)(3)(A) and 45D(e), ACORE recommends that the guidance clarify that the term "eligible census tract" encompass the full meaning of "low-income community" as defined in §45D(e), and especially in § 45D(e)(1)(B)(ii), defining such a community as one where the median family income is at or below 80 percent of the greater of the statewide or metropolitan area median family income. To obtain the full benefits of this credit, it is important that communities where electric vehicle ownership is more likely are eligible, which would be those communities defined based on the median family income rather than the poverty rate.

ACORE also advises Treasury to further refine the definition of a non-urban area, which is defined in 30C(e)(3)(B) as "not an urban area." An urban area is then defined as "a census tract (as

[1] See *Bidirectional Chargers Explained*, Clean Energy Reviews (September 2, 2022), https://www.cleanenergyreviews.info/blog/bidirectional-ev-charging-v2g-v2h-v2l

[2] *Id.*

defined by the Bureau of the Census) which, according to the most recent decennial census, has been designated as an urban area by the Secretary of Commerce." But the definition of an urban area by the Census Bureau uses census blocks, not tracts, as the unit of analysis.[3] ACORE therefore recommends that Treasury adopt a methodology for determining which census tracts are classified as "urban" (which is then used for the determination of non-urban areas) based on census block data.

Specifically, ACORE recommends Treasury define an "urban area" as a census tract in which no more than 20 percent of census blocks are classified as rural by the Census Bureau. This is consistent with the Treasury's guiding principle of "ensuring that as many eligible taxpayers as possible benefit from the incentives provided by the law while protecting against fraud and abuse."[4] In addition, a publicly available online mapping tool that allows taxpayers to determine their §30C eligibility would be highly beneficial.

Regarding Recapture Rules:

Section 179A (e)(4) allows for recapturing the benefit of any deduction "with respect to any property which ceases to be property eligible for such deduction." Because the §30C credit is now only applicable to projects located within eligible census tracts, ACORE recommends that Treasury clarifies that the eligibility of a project is determined by the status of that tract at the commencement of construction. Moreover, this eligibility should continue to apply for at least a certain time period. This recommendation is analogous to the following provisions in ACORE's comments on energy communities:

> "[W]e recommend Treasury clarify that a project qualifies for the energy community bonus, after a developer seeks a determination, if the project is located in an area that satisfies the requirements in § 45(b)(11)(B) at the commencement of construction. This will ensure that project developers that seek to invest in energy communities are not penalized when construction timelines are extended or delayed. Further, we seek clarification that projects that have successfully qualified for the energy community bonus will not lose their status over time. For example, if a developer elects the PTC, and the qualifying brownfield site, N/MSA, or census tract subsequently loses eligibility during the 10 years from which the project was placed in service, ACORE asks that the developer not be penalized." [5]

<u>Request for Comments on § 45V Credit for Clean Hydrogen and § 45Z Credit for Clean Fuel Production</u>

Regarding the Increased Credit Amount for Qualified Clean Hydrogen Production Facilities:

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[3] See Urban Area Criteria for the 2020 Census—Final Criteria, Census Bureau, U.S. Department of Commerce, 57 FR 16706 (March 24, 2022), https://www.govinfo.gov/content/pkg/FR-2022-03-24/pdf/2022-06180.pdf?utm_campaign=subscription+mailing+list&utm_source=federalregister.gov&utm_medium=email

[4] FACT SHEET: Treasury, IRS Open Public Comment on Implementing the Inflation Reduction Act's Clean Energy Tax Incentives, https://home.treasury.gov/system/files/136/FactSheet-Implementing-IRA-Climate-CleanEnergy-TaxIncentives.pdf

[5] See ACORE Comments pertaining to Notices 2022-49; 2022-51; 2022-47; and 2022-5 (November 4, 2022), https://acore.org/acore-comments-to-treasury-on-implementing-the-inflation-reduction-acts-clean-energy-tax-incentives/

ACORE requests certainty from Treasury regarding the credit amount awarded under § 48 to § 45V hydrogen production facilities that elect the investment tax credit (ITC) under § 48(a)(15) and comply with certain prevailing wage and apprenticeship requirements established by IRA.[6] The law provides that the credit for energy projects meeting such requirements will be multiplied by five,[7] but it is unclear whether this applies to the energy percentage for electing hydrogen projects under § 48(a)(15). It is the view of ACORE that the increased credit amount for prevailing wage and apprenticeship compliance is clearly extended to hydrogen facilities irrespective of their election for an ITC or production tax credit (PTC), and ACORE urges the Department to issue unequivocal clarification to this effect. In its recent comments to Treasury pertaining to the implementation of IRA labor requirements, ACORE requested that the Department clarify these rules to maximize the involvement of apprentices at the production site of clean energy facilities and throughout their operation, which is crucial to growing an inclusive clean energy workforce. The same reasoning underpins our request that the credit amount be multiplied for both ITC and PTC hydrogen facilities that meet IRA prevailing wage and apprenticeship requirements. Guidance should also clarify that the grandfathering rules under § 48(a)(9)(B)(ii) apply to such hydrogen facilities, notwithstanding the grandfathering rules under § 45V(e)(2)(A) which are different with respect to alterations and repairs.

Regarding the Determination of Lifecycle Greenhouse Gas Emissions:

ACORE recognizes that the historic nature of the § 45V credit provides Treasury an unprecedented opportunity to catalyze hydrogen production to meet U.S. clean energy goals. Therefore, we urge the Department to avoid issuing overly restrictive rules, which could be ruinous to a sector that has yet to reach full maturity. To ensure appropriate and timely application of the GREET model, ACORE suggests that Argonne National Laboratory recommend third parties that can apply the model.

On the Calculation of Emissions from Upstream Electricity Generation:

ACORE recommends that the calculation of emissions from upstream electricity generation account for the current and future resource mix. In cases where average grid intensity is used to calculate emissions from upstream electricity generation, recent analysis by Resources for the Future estimated that electrolytic hydrogen connected to the largely fossil fuel-dependent Texas grid would result in roughly 20 kg of CO_2 per kg of hydrogen produced, a level of emissions characteristic of more polluting forms of hydrogen (e.g., "brown" hydrogen).[8] Yet average grid intensity is a metric that may fail to adequately reflect the true emissions profile of many grid-connected green hydrogen facilities, especially as Texas and other states move toward a cleaner resource mix.

ACORE recommends Treasury aid this transition by recognizing the boundaries of the well-established wide-area synchronous grids (referred to as "interconnections"): the Eastern Interconnection, the Western Interconnection, the Texas Interconnection, and the Alaska Interconnection. ACORE supports the IRS adopting a requirement that the electrolyzer be in the same grid as the renewable project that it claims as the source of electricity. This would enable electrolytic hydrogen producers to draw power from a renewable resource if they have a power purchase agreement (PPA), virtual PPA (vPPA), or storage

[6] *See* §48(a)(9)-(11).

[7] § 48(a)(9).

[8] Weiss, T. et al. Resources for the Future. Hydrogen Reality Check: All "Clean Hydrogen" Is Not Equally Clean. (October 2022).

tolling agreement within the same financially settled, balancing authority or organized market. We also suggest that Treasury allow electrolyzers the latitude to demonstrate that their power is drawn from more conscribed areas that are cleaner than the broader grid in which they are located. This voluntary mechanism would provide a means for electrolytic hydrogen producers to assure a clean energy supply, notwithstanding geographic proximity to high concentrations of fossil combustion generation in their vicinity and enable the application of the GREET model to recognize their choice of power supply to avoid those polluting generation resources. This would have the additional policy benefit of incentivizing a more balanced build out of renewable energy projects and infrastructure, including storage, contributing to grid stability and lower market volatility.

On the Use of Green Power Purchase Options Under the GREET Model:

In general, but especially for electrolytic hydrogen facilities built in areas where fossil fuel remains the primary source of energy, ACORE asks that Treasury enable such facilities to demonstrate that the electricity they use is cleaner than the grid average through well-established and broadly-used voluntary market mechanisms. The failure to make such an allowance via the GREET model could render many fossil fuel-heavy localities inhospitable to clean hydrogen development, a potentially major setback to the energy transition at the overwhelming expense of fossil fuel-dependent communities ("energy communities").

In line with our comments above, ACORE urges Treasury to authorize electrolytic hydrogen facilities to count bundled renewable energy credits (RECs), renewable power purchase PPAs, and other certifiable financial mechanisms toward their lifecycle greenhouse gas emissions calculations under the GREET model. Leveraging these proven methods will be crucial to scaling hydrogen applications with the lowest emissions potential. ACORE generally recommends that the GREET model accommodate the use of RECs and PPAs at an annual timescale.

Regarding Subregional Alignment:

Subregional alignment of green power purchase options will help to ensure that renewable electricity is generated close to the site of production, resulting in tangible air improvement benefits that wider geographic arrangements may not guarantee. It is critical that the Department restrict attempts by facilities to claim renewable energy credits coming from generation points far distant from their hydrogen production assets.

ACORE requests that Treasury work collaboratively with Argonne National Laboratory to set clear and reasonable territorial parameters for the use of RECs under the GREET model, imposing constraints that balance the success of the industry in the short term with the emissions integrity of grid-connected electrolysis in the long term. In developing this framework, ACORE recommends the establishment of a balancing authority-based regional boundary as described above with voluntary measures for a subregional boundary. However, a geographic threshold should not apply when facilities are directly interconnected (including via verifiable power wheeling arrangements) to renewable generation resources or similar cases in which distance is not a relevant factor in the assessment of the clean electricity source.

Regarding Annual Matching*:*

With respect to temporal alignment, ACORE advises an approach that would support rather than impede the growth of electrolytic hydrogen, and rely on long-established and proven market mechanisms for supplying clean energy generation. We suggest that Treasury use an annual time horizon for demonstrating clean energy supply. Notably, the European Union recently rejected requirements for hourly matching for green hydrogen production, which had been described as unachievable and unacceptably expensive.[9]

Hydrogen production equipment remains expensive and requires high utilization to improve the overall facility economics. Electrolyzers, due to their high capital investment, will need to operate at high capacity factors, such that even those co-located with solar, wind or other variable renewables will need to use grid power for times at which their generation- or even their co-located short-duration storage- are not able to sustain their operation.

If an electrolytic hydrogen production facility can only produce during hours when variable renewables (such as wind and solar) are available, the low utilization rate will dramatically increase the price of the hydrogen produced and reduce the quantity of hydrogen available to realize the potential for a hydrogen economy. The higher production cost and lower quantities of available hydrogen resulting from hourly matching risk snowballing, leading to reduced investment by equipment manufacturers for the production or utilization of hydrogen, further slowing the pace of technological innovation and manufacturing scale-up. The poor economic returns would demotivate investment from electrolytic hydrogen project developers, owners, and lenders. Therefore, any matching less than annual would severely limit the buildout of the electrolytic hydrogen economy because it makes electrolytic hydrogen production uneconomic compared to other forms of hydrogen.

Requiring that time matching be too granular, such as hourly, would limit economic opportunities of electrolytic hydrogen production. Hourly matching would increase the cost of electrolytic hydrogen production versus annual matching, eliminating the ability of the PTC to make electrolytic hydrogen cost competitive with other forms of hydrogen. This is because hourly matching would require an electrolytic hydrogen facility to buy time-correlated renewables during periods of under-generation, which corresponds to higher market price periods, increasing the overall cost of the hydrogen produced. If time-correlated renewables are not available, the hydrogen facility may curtail its electrolyzer, leading to long idle times. Hydrogen production equipment remains expensive and requires high utilization to improve the overall facility economics. If an electrolytic hydrogen production facility can only produce during hours when wind and solar are available, the low utilization rate will dramatically increase the price of the hydrogen produced.

The § 45V credit is intended to support the critical early stages of building out the electrolytic hydrogen economy. To ensure this is the case, annual matching should apply for the duration of the 10-

[9] *See. e.g., "*Scrapped | EU's controversial 'additionality' rules for green hydrogen are history after European Parliament vote" (Recharge News, Sept. 14, 2022), *available at* https://www.rechargenews.com/energy-transition/scrapped-eus-controversial-additionality-rules-for-green-hydrogen-are-history-after-european-parliament-vote/2-1-1299195; 'EU green hydrogen sector still needs additionality, but hour-by-hour rules were impossible' | Recharge (rechargenews.com), available at https://www.rechargenews.com/energy-transition/eu-green-hydrogen-sector-still-needs-additionality-but-hour-by-hour-rules-were-impossible/2-1-1324462

(Sept. 30, 2022).

year PTC. ACORE is confident that annual correlation is best suited to protect the economic viability of the green hydrogen sector by affording producers the time and financial flexibility to reach the scale needed to drive further innovation.

On End Product Delivery:

ACORE requests that lifecycle greenhouse gas emissions exclude transportation emissions where hydrogen production and hydrogen to electricity production occur at different locations to accommodate current production capabilities and technological limitations.

Regarding Unrelated Parties:

ACORE requests confirmation that the effective date relates to electricity produced and not a 'placed into service' definition to allow currently existing § 45 eligible facilities to benefit from § 13204(b).

Regarding Recordkeeping and Reporting:

Determining the source of electricity supply in both regulated and unregulated power markets will ensure the efficacy of GREET model outputs. Inputs into the GREET model that capture historical data such as pricing, dispatch mix and generation should cite publicly available information from grid operators in deregulated markets. In regulated markets, coordination with utilities may be needed to provide such inputs and records under the GREET model.

Regarding Recapture Rules:

Agency rules for meeting requirements of a qualified clean hydrogen facility should account for and limit recapture where production does not meet the definition. For example, recapture of PTC credits should be limited to those credits that fail to meet the requirements. In the case of the ITC, total credits over the life of the project subject to recapture should be limited to original ITC amounts.

Thank you for the opportunity to submit these comments. Please do not hesitate to contact me, Allison Nyholm, at nyholm@acore.org with any additional questions you may have.

Sincerely,

/s/

Allison Nyholm
Vice President of Policy

Elise Caplan
Director of Electricity Policy