August 2, 2024

Comments to the Department of Treasury and IRS on Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit; RIN 1545-BR17

Submitted electronically via the Federal eRulemaking Portal at *https://www.regulations.gov* IRS and REG–117631–23

To Whom it May Concern:

Taxpayers for Common Sense (TCS) submits the following comments to the Department of the Treasury and the Internal Revenue Service (IRS) regarding the proposed regulations under Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit of the Internal Revenue Code pursuant to the Inflation Reduction Act of 2022 (P.L. 117-169, IRA).

TCS is an independent, nonpartisan budget watchdog that has been working on behalf of the nation's taxpayers since 1995. TCS works to ensure that taxpayer dollars are spent responsibly, and that the government operates within its means. This includes working to ensure that federal energy policy does not create short- or long-term liabilities for taxpayers.

The intent of this rulemaking is to provide clear guidelines and regulations for the implementation of the Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit. These credits are designed to incentivize the production of and investment in zero-emission electricity, a critical component of the effort to combat climate change. By reducing greenhouse gas emissions, these credits have the potential to save taxpayers from long-term climate liability costs.

However, these tax credits also have the potential to undermine the transition to a clean economy if they are poorly defined and implemented. Without stringent guidelines and robust verification processes, there is a risk that these incentives could be misused, leading to inefficiencies and potentially increasing long-term costs for taxpayers.

The Joint Committee on Taxation (JCT) estimates that the 45Y and 48E credits will cost taxpayers $11.2 billion and $50.9 billion, respectively, from FY2022 to FY2031.[1] Therefore, it is crucial that the Treasury Department and the IRS implement these credits with rigorous standards to ensure they effectively contribute to emissions reduction goals.

Life Cycle Analysis Baseline Scenarios and Alternative Fates

Establishing accurate and comprehensive Life Cycle Analysis (LCA) baseline scenarios is essential to ensure the effective allocation of taxpayer dollars towards clean electricity production. The proposed

[1] JCT. JCX-18-22. https://www.jct.gov/publications/2022/jcx-18-22/

rule requires a qualified facility to have a greenhouse gas (GHG) emissions rate or anticipated GHG emission rate, defined as the net rate of GHGs emitted into the atmosphere, not greater than zero. For facilities that produce electricity through combustion or gasification (C&G Facilities), the GHG emission rate would be determined by a lifecycle analysis, which includes the creation of a future anticipated baseline "which projects future status quo in the absence of the availability of the sections 45Y and 48E credits."[2]

TCS recommends considering historical data and anticipated future conditions under a business-as-usual (BAU) trajectory, incorporating key drivers and trends to project future emissions without the influence of new policies or incentives. This approach should account for several factors, including feedstock or fuel production systems, associated GHG emissions, sector details, demand and prices, energy market projections, and macroeconomic factors such as population growth and gross domestic product projections.

When creating and maintaining LCA scenarios other than the baseline, TCS advocates for a consequential approach that considers the real-world emissions consequences of increased production of biogenic and other feedstocks used in electricity production. This approach involves evaluating both direct and significant indirect emissions, such as those arising from induced land-use changes. GHG emissions from induced land-use changes have historically be underestimated and unaccounted for. For instance, academic research has highlighted that biofuels production can lead to deforestation and other land-use changes, which may negate the GHG emissions reductions achieved through biofuel use.[3]

To ensure accurate and consistent emissions reporting, the Treasury should adopt a standardized methodology for LCA that includes both direct and significant indirect emissions. This approach should apply to all Combustion and Gasification (C&G) facilities and cover all stages of fuel and feedstock production and distribution, from generation or extraction through to the ultimate consumer. Clear guidelines should be established for determining GHG emissions rates, particularly for facilities without an established emissions rate.

To establish whether the incentives created by the Clean Electricity Tax Credits have resulted in a reduction, removal, or increase in GHG emissions, an LCA baseline must comprehensively account for the alternative fates of the feedstock in the absence of the tax credits. For example, in the case of woody biomass, the LCA should consider the emissions associated with each alternative fate, such as leaving the biomass standing or laying in a forest, pile burning, or using it to create timber products like charcoal or mulch.[4] Each of these fates has distinct GHG effects: standing or laying biomass may sequester carbon until it decomposes, pile burning releases carbon dioxide and other GHGs immediately, and converting biomass to timber products may sequester carbon for varying durations depending on the product's lifespan.

When assessing avoided emissions of certain fuels and feedstocks, the IRS should use the alternative fate that would have resulted in the greatest emissions reduction. For example, comparing the GHG emissions of biogas and renewable natural gas (RNG) against venting and flaring would result in

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[2] https://www.federalregister.gov/d/2024-11719/p-622

[3] National Academy of Sciences, Effects of U.S. Tax Policy on Greenhouse Gas Emissions. 2013. https://nap.nationalacademies.org/catalog/18299/effects-of-us-tax-policy-on-greenhouse-gas-emissions

[4] https://www.federalregister.gov/d/2024-11719/p-185

inaccurate and exaggerated amount of GHG emissions avoided as opposed to comparing against the alternative of capturing the methane that would otherwise be vented or flared.

Similarly, if a fuel or feedstock is used to generate electricity, the LCA should compare the emissions from this new use against the baseline emissions from the alternative fates. In the case of woody biomass, this involves calculating the net GHG emissions from the entire lifecycle of biomass electricity production, including feedstock harvesting, transportation, processing, and combustion. By comparing the lifecycle emissions of biomass electricity production to the baseline emissions of the best alternative fate that currently offers the most climate benefits, the LCA can determine the net impact of the Clean Electricity Tax Credits on GHG emissions.

Clean Electricity Tax Credits Should Not Incentivize GHG-Intensive Electricity Production Sources

The Treasury Department and the IRS must ensure that the implementation of 45Y and 48E will not lead to eligibility for GHG-intensive energy sources that also create other environmental and fiscal liabilities like biomass, biogas, etc.

Research has shown that biomass energy cannot be assumed to be carbon neutral.[5] And in practice, subsidizing the use of biomass, such as wood pellets, for electricity generation has led to increased – instead of decreased – carbon dioxide (CO_2) emissions,[6] negatively impacted air quality,[7] and created other long-term liabilities. According to a 2021 Chatham House report, US-sourced pellets burnt for energy in the UK were responsible for 13 million–16 million tonnes of CO_2 emissions, when taking into account emissions from their combustion and their supply chain, forgone removals of CO_2 from the atmosphere due to the harvest of live trees, and emissions from the decay of roots and unused logging residues left in the forest after harvest.[8] Similarly, biogas from livestock manure cannot be assumed to have a GHG emissions rate that is zero or lower. Any potential reduction in GHG emissions from manure methane capture cannot cancel out the tremendous GHG emissions from the full lifecycle of biogas production, from livestock feed production and associated induced land use impacts, the production and application of fertilizer and other inputs for livestock feed, fermentation, transportation, combustion, and storage, etc.[9]

Allowing GHG-intensive energy that also has harmful environmental and other impacts to claim the 45Y and 48E credits will fail to provide taxpayers with sufficient safeguard and fall short of the emissions reduction goal the credits were intended to achieve.

Book and Claim System Vulnerable to Abuse

The Treasury Department and the IRS are considering the implementation of book and claim (B&C) accounting systems in the final regulations for the Clean Electricity Tax Credits. The B&C system can be

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[5] CRS. Is Biopower Carbon Neutral? https://sgp.fas.org/crs/misc/R41603.pdf
[6] Chatham House. Greenhouse gas emissions from burning US-sourced woody biomass in the EU and UK https://www.chathamhouse.org/sites/default/files/2021-10/2021-10-14-woody-biomass-us-eu-uk-summary.pdf
[7] Air Quality Expert Group. The Potential Air Quality Impacts from Biomass Combustion. https://uk-air.defra.gov.uk/assets/documents/reports/cat11/1708081027_170807_AQEG_Biomass_report.pdf
[8] Chatham House. Greenhouse gas emissions from burning US-sourced woody biomass in the EU and UK https://www.chathamhouse.org/sites/default/files/2021-10/2021-10-14-woody-biomass-us-eu-uk-summary.pdf
[9] Bakkaloglu, S., Cooper, J., & Hawkes, A. Methane emissions along biomethane and biogas supply chains are underestimated. 2022. One Earth, 5(6), 724–736. https://doi.org/10.1016/j.oneear.2022.05.012.

used to track the energy attributes associated with energy production, including the type of fuel or feedstock used, the location of the generating facility, and the timing of energy production.[10]

However, while the B&C system was designed to facilitate the tracking of renewable energy attributes, it has potential vulnerabilities that could be exploited by energy producers to game the Section 45Y and 48E credits. The B&C system allows administrative record flow to be disconnected from the physical delivery of materials, fuels, and electricity. If certain fuel sources were to be treated as having zero or negative emissions, a power plant could purchase certificates or credits under the B&C system from a fuel producer that has "booked" a certain amount of negative emissions without physical use of such fuels while claiming zero GHG emissions.[11]

Currently, there is no established independent, reliable, and publicly accessible B&C registry that can ensure robust and accurate bookkeeping that can verify the emissions reduction claims made in corporate sustainability reports. Without a robust and universally recognized registry, there is a risk of double-counting, if tradeable credits and certificates were sold to multiple buyers, each claiming the associated tax credits. To prevent these abuses, the Treasury Department and IRS should not allow book and claim accounting to be used for claiming 45Y and 48E. If B&C were to be used, the IRS must implement robust verification, establish a transparent registry, impose stringent penalties for fraudulent claims, and mandate detailed reporting requirements for energy producers.

Avoid Perverse Incentives for Double-Dipping.

Pursuant to the Inflation Reduction Act (IRA), the proposed rule disqualifies any facility that has received a tax credit under sections 45, 45J, 45Q, 45U, 45Y, 48, or 48A of the Internal Revenue Code for the taxable year or any prior taxable year. However, no such restriction exists for the 45V Credit for Production of Clean Hydrogen.

The final guidance for the 45V tax credit will likely consider certain ways of producing hydrogen to have zero lifecycle greenhouse gas emissions. If determined to have a zero emissions rate for the purposes of 45Y and the 48E, generating hydrogen from electricity could receive two tax credits, 45V and either 45Y or 48E. Furthermore, if the electrolyzer is directly connected with a clean generator and produced hydrogen is later used to produce electricity, the final production of electricity could receive three tax credits: the 45Y or 48E credit twice and the 45V hydrogen production tax credit once. But generating hydrogen from electricity and using that hydrogen to generate electricity is extremely inefficient and makes no economic sense absent of these tax incentives.

To ensure the efficient use of taxpayer dollars to reduce emissions, the Treasury Department should pursue a strong rule to avoid double-dipping of 45V and 45Y or 48E. Hydrogen is an indirect GHG that can chemically react with components in the atmosphere and change the abundances of GHGs like methane. The Treasury Department can use this as the basis for assigning all hydrogen, including

[10] https://www.federalregister.gov/d/2024-11719/p-193
[11] https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1500-206.pdf

hydrogen facilities that qualify as zero-emissions for 45V, a positive emissions rate.[12] Assuming hydrogen to have a positive emissions rate could avoid the potential for perverse outcomes from credit stacking.

Substantiating and Verifying Carbon Capture and Sequestration

For carbon capture and sequestration (CCS) occurring in the production of fuel used by a facility to produce electricity, the LCA should account for emissions from the entire CCS process, including capture, purification, compression, transportation, and injection. Emissions from these stages should be included in determining the net GHG emissions rate of the facility. Verification and substantiation requirements must include detailed records of the CCS process, third-party audits, and compliance with U.S. Greenhouse Gas Reporting Program (GHGRP) reporting standards.

For CO_2 captured by taxpayers to be excluded from the GHG emissions rate of a facility under proposed §1.45Y-5(e), stringent requirements should be in place to substantiate and verify the disposal or utilization of the CO_2. One approach is to limit qualified CO_2 to that which is reported to the GHGRP. For example, subparts RR (Geologic Sequestration of Carbon Dioxide) of the GHGRP could be used to verify secure geological storage.

To account for cases where captured and sequestered CO_2 subsequently escapes into the atmosphere, enforcement mechanisms should include regular monitoring and reporting to detect such leakages. The existing recapture provisions under section 45Q, which mandate the repayment of credits if sequestered CO_2 is released, could be applied to ensure compliance.

Conclusion

It is crucial that the implementation of Section 45Y and 48E is done in a manner that ensures true zero emissions of greenhouse gas, as was intended by Congress. We appreciate the opportunity for public comment and encourage the Treasury Department and the IRS to continue engaging with stakeholders, including environmental groups, industry participants, fiscal groups, and the public. The success of the tax credits will require appropriate application, accountability, and transparency now and in the future.

Thank you for considering our comments.

Sincerely,

President

[12] Resources for the Future. On Deck for Treasury: The Inflation Reduction Act's New Approach to Clean Electricity Tax Credit. https://www.rff.org/publications/issue-briefs/treasury-technology-neutral-tax-credits-clean-electricity-inflation-reduction-act/