February 26, 2024

Douglas W. O’Donnell
Deputy Commissioner for Services and Enforcement
Internal Revenue Service
Department of the Treasury

Re: Methane offsets in the Section 45V hydrogen production tax credit (REG–117631–23)

Dear Deputy Commissioner O’Donnell,

Thank you for the opportunity to comment on the notice of proposed rulemaking for the Section 45V hydrogen production tax credit.[1] By way of introduction, we are two academic researchers who specialize in life cycle analysis, greenhouse gas accounting, and climate policy. We write to encourage you to uphold and strengthen the guardrails for electrolytic hydrogen in the proposed rule, as well as to make two important observations about the treatment of hydrogen produced from methane gas.

First, we are concerned about the potential for methane offsets to undermine the innovation potential of the hydrogen production tax credit, to waste federal taxpayer money, and to subsidize fossil fuel infrastructure that would either become stranded assets after the tax credit expires and/or lock-in substantial ongoing greenhouse gas emissions. To avoid these outcomes, we strongly encourage you to prohibit or severely limit the use of calculations that offset the greenhouse gas emissions from methane-based hydrogen production processes by claiming that projects avoid upstream methane emissions, such as from industrial animal agriculture or fugitive emissions from the oil and gas supply chain.

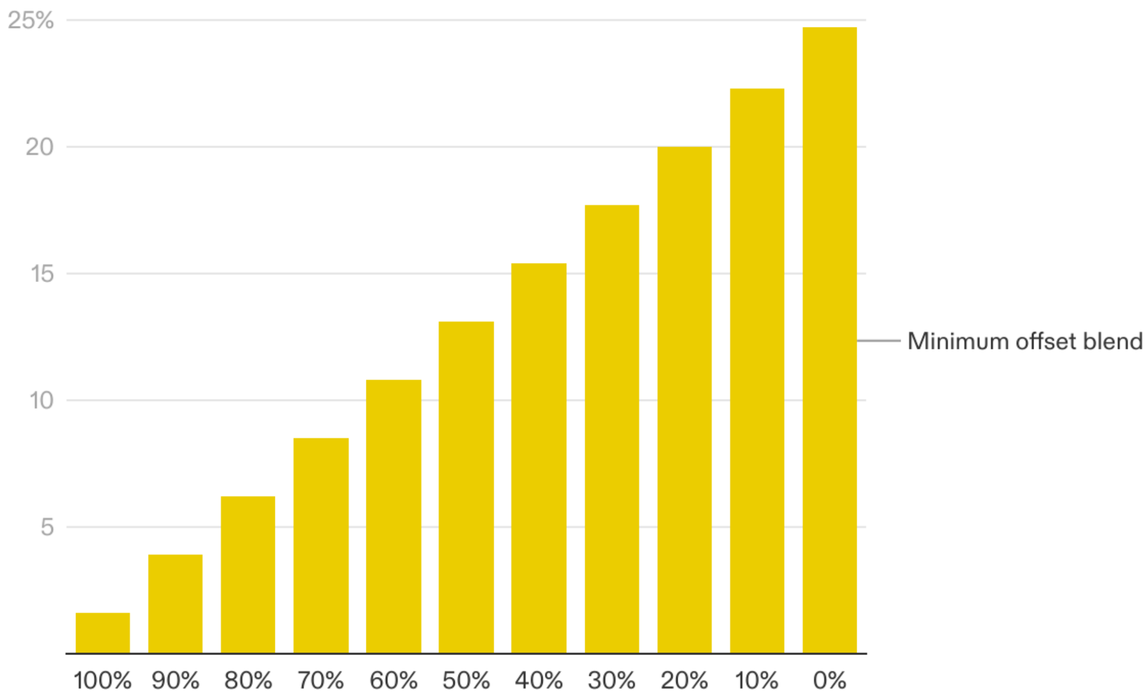
To illustrate our concerns and the potential for these practices to cause severe harm, we calculated the potential for methane-based hydrogen production processes to use methane offsets to reduce their claimed life cycle emissions down to the levels that would earn the hydrogen production tax credit’s highest level of incentive, $3 per kg of hydrogen.[2] This analysis is based on a spreadsheet that is publicly available.[3]

We found that a conventional facility that produces hydrogen from methane gas and does not control its carbon dioxide emissions — a process that would normally be too

[1] Department of the Treasury, Internal Revenue Service, Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property, 88 Fed. Reg. 89,220 (Dec. 26, 2023).
[2] Emily Grubert and Danny Cullenward, The New Hydrogen Rules Risk Opening the Door to Methane Offsets, Heatmap News (Feb. 9, 2024).
[3] Emily Grubert, 45V Hydrogen Tax Credit: Alternative Methane Blend Calculator (Feb. 4, 2024).

emissions-intensive to qualify for any support under the statutory requirements for the Section 45 tax credit — could nevertheless lower its reported emissions down to the level required to earn the top tier of the production tax credit by purchasing methane offsets to cover less than 25% of its feedstock. For hydrogen production processes that capture carbon dioxide emissions, the necessary blending rate shrinks considerably. A hydrogen producer that captures 90% of its point-source carbon dioxide emissions would only need to purchase methane offsets equal to about 4% of its feedstock.

Methane Offsets Needed to Qualify for the Top-Tier Hydrogen Tax Credit



Results are expressed as a mass fraction of the project's feedstock, based on an assumption of 0.9% life cycle methane emissions for the primary feedstock and a carbon intensity of -150 gCO2e/MJ for the methane offset.

HEATMAP

These results are possible due to two practices we urge you to prohibit in the final rule. The first factor is the negative emissions number assigned to methane offsets, and the second is the ability to blend feedstocks such that a hydrogen producer could claim that its methane gas supply is a combination of traditional fossil natural gas and negative-emissions methane offsets. We encourage you to prohibit or severely limit both of these methods, such that the lowest carbon intensity score assigned to methane supplies is zero and the unit of analysis for a production facility requires that facility to be supplied with a single feedstock type.

Our second observation is that many policy debates about this issue implicitly and wrongly assign the burden of proof to stakeholders who prefer a strong climate outcome. Today, a wide variety of analytically questionable and environmentally harmful claims are made about the production of hydrogen using methane offsets in other jurisdictions and policy environments. Many of the industries that benefit from these accommodations are asking you to provide them with similar treatment here. We are struck that this request effectively asks you to hold off on any restrictions unless you can identify a comprehensive and coherent system of safeguards that is both internally consistent and broadly analogous to the thoughtful requirements developed for electrolytic hydrogen production in the draft rule.

That framing gets it backwards. Projects and companies that want to justify public investment in fossil fuel infrastructure on the basis of methane offsets are the ones that should explain why their preferred course of action is acceptable. We respectfully suggest that the appropriate decision-making framework for the Department of the Treasury to adopt is one in which no methane offsets are allowed, unless and until proponents of those systems can demonstrate that their preferred approaches are reliable, do not lead to new investments in fossil fuel infrastructure that are inconsistent with the administration's climate goals, and do not create the risk that new investments will either be stranded or lead to ongoing greenhouse gas emissions after the expiration of the current tax credit's authority.

Thank you for the opportunity to submit comments and for your careful consideration of these complicated issues.

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