

February 26, 2024

VIA ELECTRONIC FILING (www.regulations.gov)
Docket ID IRS-2023-0066; REG-117631-23
[<https://www.regulations.gov/commenton/IRS-2023-0066-0001>]

Douglas W. O'Donnell
Deputy Commissioner for Services and Enforcement
CC:PA: LPD:PR (REG-117631-23)
Room 5203
Internal Revenue Service
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election to Treat Clean Hydrogen Production Facilities as Energy Property, Notice of Proposed Rulemaking and Notice of Public Hearing, 88 Fed. Reg. 89,220 (Dec. 26, 2023)

Dear Mr. O'Donnell:

Brightmark LLC ("Brightmark") appreciates the opportunity to submit comments on the proposed rule entitled "Section 45V Credit for Production of Clean Hydrogen," published at 88 Fed. Reg. 89,220 (Dec. 26, 2023) (Proposed Rule). The Proposed Rule outlines the recommended regulations for determining eligibility and seeking a credit to produce clean hydrogen, as established by the Inflation Reduction Act of 2022 (IRA) under 26 U.S.C. §45V.

Brightmark submits these comments to urge the U.S. Department of Treasury and the Internal Revenue Service (collectively, the IRS) to recognize that renewable natural gas (RNG) provides a ready avenue for clean hydrogen production today and that the final rule should facilitate its use for clean hydrogen to take advantage of the substantial decarbonization benefits that RNG can provide.

Brightmark was founded in 2016 with the mission of solving some of the greatest environmental challenges facing the United States. One of these solutions is capturing methane emissions from organic waste and producing biogas and digestate through the natural process of anaerobic digestion.

When organic waste decomposes, methane, a potent greenhouse gas (GHG), is emitted in the form of biogas. Managing these wastes and emissions is an important step toward meeting the Biden-Harris administration's methane and GHG emission reduction goals. RNG is derived from biogas captured (rather than emitted into the atmosphere) from existing organic waste streams - including animal and agricultural wastes, municipal wastewater, and municipal solid waste in landfills.

Agricultural activities contribute approximately 30% to total U.S. GHG emissions, a significant portion attributable to methane emissions from animal waste.¹ The biogas is cleaned and conditioned to remove contaminants and concentrate the methane to achieve quality standards necessary to blend with or substitute for fossil natural gas.

Brightmark operates over 30 net-negative carbon intensity projects on dairy farms across the United States. We work with dairy farmers to harness the energy potential of their dairy manure, provide them with solutions to meet their GHG reduction goals, and enhance farm profitability. We are committed to reimagining waste and building projects that benefit farms, their dairy, their communities, and the planet. These facilities provide a win-win scenario for farmers and local communities; they help address methane emissions from organic waste produced locally and turn that waste into renewable energy and fertilizers. To date, our projects have offset over 850,000 metric tons of CO₂eq.

As the Proposed Rule recognizes, RNG can be used to produce clean hydrogen. Importantly, RNG is available today to seamlessly replace fossil natural gas in hydrogen production through such technologies as steam methane reformation as well as serving as a high-BTU, clean energy source in other hydrogen production processes, including electrolytic processes. Accordingly, the U.S. Department of Energy (DOE) has recognized that RNG can support clean hydrogen production.²

The Proposed Rule did not include specific regulations for RNG-to-hydrogen pathways but did provide information regarding how the IRS is anticipating regulating such pathways for purposes of the 45V credit. We appreciate these efforts, including acknowledging that sourcing of RNG feedstock, which is largely disseminated through the U.S. natural gas commercial distribution system, can be achieved through “book-and-claim” chain of custody tracking systems. While referred to as “book-and-claim” for ease of reference here, the industry uses what is referred to as a mass balance approach where the RNG is injected into the same distribution system from which gas is withdrawn for downstream uses. The mass balance approach to custody transfers has a long history in the natural gas market. It has been recognized in several regulatory programs without identified fraud cases or “double counting.” These systems have worked, and existing frameworks should continue to be available for hydrogen production facilities to show use of RNG as a feedstock or as process energy for electrolysis.

However, we are concerned with other aspects of the Proposed Rule that we believe would unduly limit the use of RNG with no added GHG reduction benefit and, indeed, possibly some detriments, as RNG removes methane emissions that otherwise would occur. Brightmark supports and incorporates by reference the comments submitted by the Coalition for Renewable Natural Gas (RNG Coalition) and the American Biogas Council, but we highlight the following concerns.

¹ U.S. Department of Agriculture Economic Research Service, citing the U.S. Environmental Protection Agency *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021*, April 2023 (EPA 2023).

² DOE, *U.S. Department of Energy Clean Hydrogen Production Standard (CHPS) Guidance*, at 3, 6 (2023), available at <https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/clean-hydrogen-production-standard-guidance.pdf>.

Additional RNG-to-Hydrogen Pathways Must be Included

The statute requires the use of the GREET model (or a successor) to determine emissions rates for purposes of Section 45V. The GREET model is transparent and well-respected. Importantly, it has included RNG pathways in its modeling for some time, including recognizing that RNG facilities avoid emissions in cases where the biogas may otherwise have simply been flared or released into the atmosphere. These avoided methane emission benefits are key and an important part of any lifecycle analysis for RNG.

The Argonne National Laboratory has provided a GREET model targeted for the Section 45V tax credit - the 45VH2-GREET model. However, this revised model appears to only include landfill gas pathways for hydrogen production, which is only one potential source of RNG. The current GREET model, however, includes additional RNG pathways that must be added. We urge the IRS to ensure these additional pathways are included, as well as pathways that are likely to be most used in the near future. These include, at a minimum, Biogas from Anaerobic Digestion of Animal Waste, Biogas from Anaerobic Digestion of Wastewater Sludge, Biogas from Anaerobic Digestion of MSW, and RNG-to-hydrogen via electrolysis. We appreciate that the GREET model is updated with new pathways and updated science, as appropriate and support those efforts.

We support using default assumptions to ensure these pathways are allowed, but certain site-specific factors for each pathway would better reflect the GHG emissions for the applicable RNG facilities. We also note that, to provide the needed certainty for investments while encouraging additional GHG reductions, the emissions rate should not be checked yearly but can be updated if material changes are made to the facility. In addition, there should be an ability to seek individualized emissions rates for those facilities that act to reduce their carbon footprint further. This would effectuate the program's intent to promote additional GHG emissions reductions.

Where Incentives are Expected to Result in New RNG Production at Numerous Existing Waste Sites, the IRS Must Defer on Including any “Induced Emissions” for RNG

For electricity, the Proposed Rule has raised concerns with what is referred to as “induced emissions,” a type of indirect emission that is attributed to the production of renewable electricity in one region for which credit is used in another region that requires increased energy to meet the demand in that region. While we understand potential concerns with unintended consequences because of increased hydrogen production, it is important to note that the RNG/natural gas market operates very differently than the electricity grid, and the Proposed Rule provides no evidence of similar “induced” emissions for RNG. We further note that the statute imposes limits on the indirect emissions that can be included - that is, they must be significant, tied to the production of RNG, and included in GREET. Such is not the case for RNG.

These “induced emissions” appear to be the basis for potential incrementality, deliverability, or temporality requirements for using RNG. The proposed requirements are inconsistent with the statute, are unduly limiting, and should not be adopted. Of particular concern is the “first productive use” requirement that would likely exclude viable RNG projects that could support

clean hydrogen production today. RNG projects have a long runway from development to operation, and it would be difficult, if not impossible, to match up initial operations with the startup of a hydrogen facility. If commencement of either operation is delayed, it could adversely impact the ability of the other facility. An RNG facility cannot be left idle, severely impacting its financial viability. Thus, requiring the RNG project and the hydrogen production facility to come online in the same year (or for the RNG project to come online after) is simply unworkable and must not be adopted in the final rule. The requirement would cause a significant value discrepancy for new RNG projects, creating a market distortion, greater risk of stranded RNG for existing projects, added complexity, and higher prices for end-consumers. This market distortion is counter to the goals of the IRA.

The concerns underlying the incrementality requirements for electricity are not present for RNG. It is speculative to believe that RNG in existing uses will be diverted for hydrogen production and backfilled with fossil fuels. RNG production today largely contributes to mandated renewable fuel programs, which would continue to support investments in *new production*. Indeed, ample potential biogas sources already exist to support RNG production to meet growing demand, provided the right incentives are available. On the other hand, removing incentives for existing sources to support hydrogen production could result in additional GHG emissions if these facilities lose available markets.

Since RNG is in the growing stages of the industry and to address potential concerns regarding unintended increases in GHG emissions, the IRS could find projects built prior to 2030 meet any such “additionality” requirements with a check on the market impacts of increased hydrogen production to determine if any such patterns can be discerned and allow for continuing policy changes to take shape.

Temporality and Deliverability Requirements are Not Appropriate or Necessary for RNG

Due to the operations of the natural gas market, where fossil natural gas is displaced by RNG injected into the U.S. natural gas commercial distribution system, time-matching requirements are not necessary for RNG. Time matching (aka temporality) and regionality does not exist in natural gas market and has only recently been contemplated in electricity markets.

Regarding the temporality requirements proposed for electricity, it is important to note that wind and solar power generation can be intermittent, and there is no substantial storage infrastructure for power. This is not the case for RNG, which has a steadier flow year-round and substantial storage is available to address any seasonal differences in demand. The natural gas grid in the US is not segregated by regions, as it is on the electric grid. There is no analogy to a Regional Transmission Operator (RTO) for gas infrastructure, and no unique emission profile associated with specific regions on the gas grid. Therefore, there is no need to impose regional geographic restrictions for RNG.

As importantly, hourly time matching would simply be unworkable. The industry typically balances supply and demand on at least a monthly basis, and hydrogen production is often tracked

quarterly. Moreover, state rules for credit programs regarding renewable electricity can dictate different pricing for electricity credits, resulting in a potential need to recognize regional differences. These regional differences do not exist for RNG, where the federal Renewable Fuel Standard (RFS) program typically sets a national market for RNG “credits”.

Similarly, because of the interconnectivity of the natural gas commercial distribution system and long-established delivery tracking systems, there is no need to impose regional geographic restrictions for RNG. The entire North American natural gas pipeline system is the proper geographic scope for the 45V tax credit.

Because of these long-standing delivery tracking systems, there is already a means to tie the hydrogen producer to the RNG being claimed to be used for 45V tax credit purposes. The IRS should use existing systems, to the extent applicable and practicable, to support the use of the tax credit for RNG. This includes, but should not require, an electronic system of tracking that has been used for RNG - M-RETS Renewable Thermal Tracking System, which can be a model for other programs and should be an available option to use. This system, the federal RFS, and the California Low Carbon Fuel Standard (LCFS) can be verified. In fact, the RFS and LCFS offer existing infrastructure and experts to make those verifications.

For more information and additional issues of concern to the RNG industry, we refer the IRS to the comments of the RNG Coalition and American Biogas Council submitted on this Proposed Rule.

We appreciate the efforts of the Treasury Department, the IRS, Argonne National Laboratory, DOE, and all that have contributed to ensure a successful 45V program. It is vital to create a workable program that supports the statute’s goals - increased production of clean hydrogen. RNG is key to decarbonizing the energy sector, and Brightmark stands ready to support those goals.

Thank you in advance for your consideration.

Respectfully Submitted,



Bob Powell,
Founder & CEO