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February 26, 2024

Re: Comments on Proposed Guidance for Clean Hydrogen Production Credit (45V)

To Whom it May Concern,

8 Rivers Capital is a Durham, North Carolina-based climate technology company leading the energy industry towards achieving net zero. Founded in 2008, 8 Rivers is pioneering the clean energy and climate future through the invention and commercialization of infrastructure-scale technologies and projects that enable the global energy transition. The 8 Rivers technology portfolio includes cleantech innovations such as 8RH2, an ultra-low-carbon hydrogen production technology, the Allam-Fetvedt Cycle, a transformative low-carbon power cycle, and Calcite, a hyper-efficient direct air capture process.

We are developing Project Cormorant, a first-of-a-kind project, using our proprietary 8RH2 technology. Unlike existing technologies, ours is an innovative method of producing ultra-low carbon hydrogen by reforming natural gas with a carbon capture rate exceeding 99.9%. 8RH2 is a clear example of technology that 45V is intended to support. Project Cormorant will be built in Southeast Texas and represents an investment of more than $1B, will support 1,000 construction jobs and 97 long-term, high paying jobs.

8 Rivers commends the U.S. Treasury and Department of Energy for importance of a technology-neutral approach to emissions reduction. The technology-neutral approach prevents the picking of winners and losers, allowing the best technologies to win in the market by reducing the gap between clean and legacy technologies.

Key Provisions for Inclusion

Support for proper life-cycle accounting across the natural gas value chain, including any leakage.

Our commitment to environmental stewardship extends to rigorous life-cycle accounting across the natural gas value chain. This includes not only the direct emissions from extraction and processing but also any incidental leakage, which can significantly impact the overall carbon footprint. By systematically tracking and minimizing methane leaks and other unintended emissions, we aim to ensure a more sustainable and responsible approach to natural gas production. This comprehensive accounting is vital for accurately assessing our environmental impact and for making informed decisions about energy sources in the context of global climate change goals.

Support the implementation of RNG production systems emissions accounting, monitoring, and reporting best practices.

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Adopting a comprehensive, transparent, and rigorously enforced framework for emissions accounting, monitoring, and reporting in Renewable Natural Gas (RNG) production, inspired by the California Low Carbon Fuel Standard (LCFS), is essential. This approach ensures that RNG serves its intended purpose as a genuinely sustainable energy resource, contributing to the reduction of greenhouse gas emissions while also promoting continuous improvement and innovation in the sector.

Support the implementation of a transparent system for the public to verify the certified carbon intensity of facilities that are receiving 45V credits.

We advocate for the establishment of clear and transparent systems that allow the public to easily verify the certified carbon intensity of facilities benefiting from 45V credits. This transparency is crucial for building trust and ensuring accountability in our efforts to combat climate change. To achieve this, we propose the development of publicly accessible documentation systems that include detailed third-party verification of compliance. These systems should provide comprehensive insights into various factors affecting carbon intensity, such as leakage rates and grid power emissions factors, which are essential for accurately assessing the environmental impact of these facilities. Moreover, it is vital that this information is not static; regular updates are necessary to reflect any changes in operational practices or energy sources. By enabling real-time tracking and verification, we can ensure that the facilities receiving these credits are genuinely contributing to the reduction of greenhouse gas emissions and are aligned with broader sustainability goals. Such a framework not only reinforces the credibility of the 45V credit system but also empowers the public and stakeholders to make informed decisions and hold organizations accountable for their environmental impact.

Further we support the implementation of reasonable requirements to account for indirect emissions effects of biogas and RNG: arbitrary restrictions should be discouraged. A geographic restriction is unnecessary considering the life-cycle approach can properly account for indirect emissions effects of production and delivery. Our natural gas pipeline network is sufficiently interconnected and has the proper infrastructure to permit inter-regional trade of natural gas, which justifies robust emissions accounting for biogas and RNG. A time-related element for gas transport can be addressed by emissions accounting that considers pipeline distance and a leakage factor.

45V credits should not be claimed when using RNG/coal mine methane for any existing hydrogen facilities using steam methane reforming without carbon capture.

While RNG and coal mine methane reduce the life cycle carbon footprint compared to using conventional natural gas, the lack of carbon capture in existing SMR facilities does not align with the overarching goals of reducing greenhouse gas emissions by fostering technological innovation in the hydrogen industry.

Therefore, it is arguable that such facilities should not be eligible for 45V credits unless capture equipment is also added.

Support an allowance for vented gas/coal mine methane and the treatment of first productive use being defined by methane source.

Supporting an allowance for vented gas and coal mine methane in the IRS 45V guidance offers multifaceted benefits. It significantly contributes to environmental efforts by reducing potent greenhouse gas emissions, turning waste methane into a valuable energy source. This approach aligns with global climate change mitigation strategies, promoting energy diversification and enhancing resource efficiency. Economically, it stimulates growth and job creation, particularly in regions reliant on the coal industry, while incentivizing technological innovation in methane capture technologies. Including vented gas and coal mine methane under the 45V guidance offers a balanced blend of environmental, economic, and technological advantages, aligning with broader efforts to combat climate change and foster sustainable energy development. Additionally, we request that if Treasury insists on the first productive use requirement as proposed, then it be defined per methane source as this would lock out a tremendous amount of supply and limit methane abatement. We support classifying each individual borehole for coalmine methane as additional and as a first productive use of supply due to each of them being a unique investment decision requiring incremental CapEx to mitigate leaking methane.

Remaining Questions Seeking Additional Information

As we continue to review the proposed guidance, 8 Rivers has several questions from which we would benefit additional information.

- Is the IRS considering offering the same 36-month leniency period to renewable natural gas facilities, like that afforded to electrical facilities for additionality qualification purposes, to ensure a balanced and fair approach to supporting clean hydrogen production? The rationale of the different timeline requirements for renewable natural gas facilities versus electrical facilities is not clear.
- Can the 45V credit be claimed for all the hydrogen that is produced in a plant if some of that hydrogen is recycled and consumed in the plant to displace fossil fuel input? In particular, the plant produces hydrogen using gasification and the hydrogen is sent to both a power island and partially recycled back to the gasifier as fuel for thermal use. The gasification island requires fuel input for heating, and can use natural gas or hydrogen, so the design in this case recycles a partial stream of the hydrogen to the gasifier to replace natural gas use.
- In the gasification of a feedstock, such as biomass, how is the volume of hydrogen in the syngas measured? Does the hydrogen need to be fully separated out of the syngas at a high purity for 45V claims, or can a mass balance approach be undertaken on the syngas itself?

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Thank you for the opportunity to submit these comments and questions. As you continue to flesh out the final version for implementation, we firmly believe that innovation in hydrogen production will take place across a wide field of technology solutions, and therefore guidance must be structured in the spirit of the mandate of the Inflation Reduction Act: technology-neutral using a life-cycle approach. We appreciate this opportunity to contribute to incredibly important work that will shape the future of hydrogen production in the United States for generations.

Sincerely,

Damian Beauchamp
President and Chief Development Officer