WYOMING ENERGY AUTHORITY

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Douglas W. O'Donnell,
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Submitted via the Federal eRulemaking Portal at: www.regulations.gov

Re: Comments of the State of Wyoming on the Notice of Proposed Rulemaking for the Section 45V Credit for the Production of Clean Hydrogen ("Proposal") (REG-117631-23)

Dear Assistant Secretary Batchelder and Deputy Commissioner O'Donnell:

The State of Wyoming has a long and proud history of powering our nation with affordable, reliable energy. Our state is the second largest net exporter of energy after only Texas, exporting approximately 80% of the energy we produce. As we look to the future of energy, we support hydrogen production, use, and export as another upcoming sector of the energy industry, where we can leverage our strengths in natural resources and the energy culture and knowhow of our citizens. In order to grow a successful hydrogen value chain, the U.S. must support all forms of low-carbon hydrogen production, whether produced via electrolysis using renewable and nuclear electricity, or using other feedstocks such as biomass, or fossil fuels combined with carbon capture, use and storage (CCUS). Based on existing infrastructure and energy industry knowledge, hydrogen produced via fossil fuels with CCUS (blue hydrogen)

is an essential pathway for expeditiously scaling up hydrogen production in the United States, especially in Wyoming.

Networks of hydrogen producers, consumers, and local connective infrastructure will accelerate the use of hydrogen as a low/no carbon fuel source. The 45V tax credit is a critical incentive that will support new investments in hydrogen production across the nation if implemented thoughtfully and deliberately.

Many concerns regarding the proposed regulations have arisen, the following which are of concern to Wyoming as well.

Proposal's preference for green hydrogen production:
Treasury's Proposal demonstrates a heavy preference for green hydrogen (produced via electrolysis) due to how the lifecycle emissions are calculated and the three pillars of incrementality, deliverability, and hourly matching. Of particular concern is that the three pillars are not referenced in the authorizing legislation (neither the IRA nor 45V), meaning the IRS has overstepped its authority with this Proposal.

Insufficient time to implement infrastructure to meet Treasury's Proposal timelines:
The grace period allowed for when Treasury's Proposal comes into full effect is far too short. First, the Proposal does not take into consideration the long timelines for clean electricity resources to become operational in order to deliver sufficient, low-cost hourly or additional resources for clean hydrogen production, which is a minimum of five years. Second, there is uncertainty for when an hourly system for tracking energy attribute certificates (EACs) will be in place and how long it will take for the EAC markets and transactional structure to develop. It is possible that this could take up to at least five years.

Hourly matching system for tax credit accounting for electrolytic hydrogen does not exist:
Hourly matching will also reduce the amount of total hydrogen production eligible for the Section 45V credit, with eligibility varying by day or even by hour due to grid intermittency. E.g., during periods when renewable power is unavailable due to intermittency, hydrogen facilities will be

unable to match their consumption with a qualifying EAC.[1] Accordingly, the hydrogen facility may have to be taken offline or ramped down during periods when renewable energy is unavailable, or continue production from electricity from fossil sources.[2] Monthly or annual matching would be able to better balance the vagaries of renewable energy production, with the consistent power needs of productive hydrogen production.

Provision for book-and-claim for RNG:
The Department of Treasury should provide for a practical book-and-claim accounting system that enables renewable natural gas (RNG) to be utilized per the federal common carrier pipeline rules that enable RNG to be injected into the interconnected common carrier pipeline anywhere in the U.S. and use it anywhere along the pipeline systems.

Incrementality is unnecessary and could limit energy sources:
Since the timing of contracts with existing energy resources do not necessarily align with the timing within Treasury's Proposal, excluding existing generating facilities could prohibit viable resources from providing electricity. Therefore, all existing generators of otherwise qualifying electricity should be available to provide electricity for hydrogen projects that qualify for the credit. For example, as proposed, it appears likely that Treasury's Proposal would disqualify numerous planned hydrogen facilities from the credit, including hydrogen production that planned to utilize nuclear energy from existing power plants.

Further, we also believe that whatever temporal matching requirement (annual, monthly, or hourly) is required when a project begins construction must remain in effect for the entire credit-claiming period for a hydrogen production facility.

Challenges with carbon intensity modeling using the 45VH2-GREET model:
GREET model uncertainty:

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[1] *See* George Humphrey, Yuhan Xie, Nneka Obiokoye, *Realizing Green Hydrogen Projects: Deal Structures, Federal Incentives, Financing, And Other Key Development Issues*, 69 FNREL-Inst. 23, 11 (2023).

[2] *Id.*

Proposed Treasury Regulation section 1.45V-1(a)(8) states taxpayers will determine lifecycle GHG emissions under "the most recent" GREET model, which means the calculation of a hydrogen facility's emissions rate may fluctuate as changes occur to the GREET model, even if production processes remain the same. This uncertainty related to the calculation of the annual tax credit will likely chill long-term investment as the return is difficult to compute. This could be resolved by allowing a taxpayer to elect to utilize either the 45VH2-GREET model in effect when the project begins construction or on the first day of the taxable year in which the project is placed in service.

Flawed fixed GREET model assumption of 0.9% upstream methane leakage rate:

The 45VH2-GREET 2023 fixes the upstream methane leakage rates for the natural gas supply chain at 0.9% in background data. This is unacceptable. The result is this blends the most responsible natural gas operators with the least responsible, rewarding the worst emitters unjustly and penalizing the most careful companies.

Some natural gas operators have made significant investments to have certified (or differentiated) natural gas[3] which has produced remarkable lower emissions results. Low-carbon natural gas from these operators has a fraction of the emissions embodied in natural gas from rival operators. While certified natural gas is not carbon-free, it is such a significant improvement over traditional natural gas that an operator's achievement merits recognition in the 45V regulation.

The best solution to this background data error is to bring this data into the foreground so a user may set it correctly. As with all foreground data, 45V will need proper verification of claims as well as adequate precautions against fraud, such as showing a Responsibly-Sourced Natural Gas certification to the administrative agency. Most Wyoming operators have spent a lot of effort reducing the carbon footprint of their natural gas. As a result, Wyoming has some of the lowest CO_2 footprint natural gas in the country, and this should be accurately reflected and rewarded for the lower CO_2 intensity of the hydrogen produced.

[3] "Certified gas" and "differentiated gas" refers to natural gas that has been produced and distributed in a manner that minimizes the methane emissions from those sources of methane.

Thank you for this opportunity to provide comments to the Treasury's Proposal. There are many promising proposed hydrogen projects, not only in Wyoming, but nationally. Properly structuring the production tax credits will allow the industry the necessary time and certainty which will help spur investment and innovation in the hydrogen economy.

Sincerely,

Rob Creager
Executive Director