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Re: Comment on Proposed Guidance for Clean Hydrogen Production Credit

To Whom It May Concern,

I am writing on behalf of the Waste Gas Capture Initiative (WGCI) to express our strong support for the proposed regulations for the Inflation Reduction Act's (IRA) 45V Clean Hydrogen Production Credit, as outlined in the recent announcement from the U.S. Department of the Treasury (Treasury) and Internal Revenue Service (IRS). The WGCI is dedicated to expanding fugitive methane capture practices, and we commend the Treasury for its commitment to exploring additional hydrogen production pathways, especially the capture and utilization of fugitive methane, such as coal mine or coal bed methane.

The significant environmental benefits associated with mine methane capture are a crucial component in the fostering of a strong and sustainable hydrogen production economy. As the proposed rules rightly recognize, fugitive methane capture and utilization holds tremendous potential to reduce greenhouse gas (GHG) emissions, particularly through fugitive methane's role as a feedstock for hydrogen production.

Importance of methane emissions reduction

Methane, a potent greenhouse gas with a global warming potential over 28 times greater than carbon dioxide over a 100-year period, contributes substantially to climate change. The U.S. Environmental Protection Agency's (EPA) Coalbed Methane Outreach Program (CMOP) data indicates that methane emissions from coal mining and abandoned coal mines accounted for approximately eight percent of total U.S. methane emissions in 2019. The inclusion of mine methane capture in the proposed regulations aligns with broader goals to achieve significant emissions reductions.

Recent analyses highlight the United States' potential to achieve methane emissions reductions of over 30 percent by 2030, a critical target in addressing climate change. The WGCI applauds the Treasury's proactive stance in recognizing mine methane capture as a key tool to help the U.S. achieve these ambitious climate goals. Analogous low carbon gases such as Renewable Natural Gas benefit greatly from existing federal incentives available through the Renewable Fuel Standard (RFS) and state clean fuels programs. These programs encouraged billions of dollars of investments and yielded an estimated 38,500 energy transition jobs in 2022 through the widespread deployment of capture systems for beneficial use and reduced methane emissions from waste sources such as agriculture, municipal solid waste, and wastewater treatment facilities nationwide. With the implementation of fugitive methane pathways under the

IRA, capture for beneficial use of coal mine methane (CMM) is anticipated to follow a similar development trajectory.

Fugitive methane's role in clean hydrogen production

The proposal's acknowledgment of fugitive methane, including CMM, as an impactful feedstock for hydrogen production is particularly commendable. Fugitive methane, when captured and utilized as a feedstock, not only transforms a potential environmental hazard into a resource but also plays a pivotal role in advancing and diversifying clean energy production and displacing consumption of conventional sources of fossil fuels.

It is of key importance to highlight that CMM capture technology deployment is completely independent of mining operations and the incentives that would be applicable under the IRA would not impact mine operational plans with respect to development or production activities. The WGCI would like to clearly state that the value of methane incentives as contemplated in the IRA are not substantial enough to alter mining plans as new coal operations require billions of dollars of investment per project. Capture project operators are typically entirely separate entities from mine operators and the decision to implement capture technology is made as a discrete investment decision by the capture project operator on a borehole-by-borehole basis. Incentives recognized under the IRA would be used by capture project operators to fund necessary infrastructure for the capture and productive use of waste methane and provide investment justification for new project development.

Less than one percent of coal mines currently capture fugitive methane. Today's limited incentives – which in most cases don't recognize climate benefits of captured CMM when it is put to beneficial use – are not able to catalyze or maintain methane abatement, as also evidenced by the 66 percent decrease in mines performing CMM use since 2010. The 45V program is an unprecedented opportunity to not only decarbonize hydrogen production in a technology-neutral manner as intended by Congress, but also to break the status quo limiting methane abatement from active and inactive mining operations.

Including fugitive methane as a pathway for clean hydrogen production would encourage a standardized approach to managing CMM emissions and enable the kind of capital deployment needed to stop future CMM emissions. Stated simply, putting fugitive methane to productive use as a low carbon fuel resource through 45V would provide a market incentive to support the deployment of capture systems.

We also highlight that certain provisions suggested by the Treasury in the proposed rule require strong refinement lest the program becomes unconducive to fugitive methane-based hydrogen decarbonization. One of these key areas is the First Productive Use requirement and how it is applied to CMM: Any CMM project that achieves meaningful methane abatement is necessarily expansive and spans multiple point sources for methane capture (i.e. boreholes). Capturing new CMM source boreholes for beneficial use is an incremental, discrete investment decision that is unjustified economically today since the capture and collection infrastructure for each borehole has significant investment and ongoing operational expenditure demands. It is thus important

that the final regulations recognize this important circumstance and establish that the First Productive Use requirement is to be applied on a CMM source borehole basis.

Further supporting the importance of CMM as a low carbon fuel, CMM was included in the Department of Energy's (DOE) 2023 GREET R&D model with a carbon intensity score representative of the environmental benefits associated with methane capture for productive use. By harnessing fugitive methane for hydrogen production, we can significantly reduce the carbon footprint associated with hydrogen production. This approach aligns with the broader vision of a hydrogen economy that is both economically viable and environmentally responsible. We request that the Coal Mine Methane / Waste Gas Capture and Utilization pathway present in R&D GREET be included in the next iteration of the 45VH2-GREET model for use by hydrogen producers leveraging CMM to displace natural gas going into their process.

Economic benefits

Beyond its environmental benefits, fugitive methane capture and potential hydrogen production applications can stimulate economic growth and create thousands of good-paying jobs, especially in regions that have experienced economic decline due to the clean energy transition. By supporting the development of robust fugitive methane capture and clean hydrogen production industries in the U.S., we can foster innovation and job creation while propelling the nation toward a sustainable, low-carbon future.

According to an analysis performed by FTI Consulting, estimates for West Virginia—the top state for CMM emissions by volume—indicate that CMM capture would reduce emissions by 236 million metric tons of carbon dioxide equivalent over a 20-year timeframe. In that same timeframe, CMM capture would create over 1,400 jobs and contribute $2.7 billion to West Virginia's gross domestic product (GDP).

Key IRA provisions to enable successful mine methane capture

The WGCI encourages the Treasury to finalize rules that address fugitive methane emissions, advance the clean energy transition, and catalyze the hydrogen production economy through the proposed regulations. The WGCI believes that mine methane management should be a cornerstone in the nation's efforts to reduce emissions, create jobs, and foster a low-carbon economy. To ensure the successful inclusion of mine methane under the IRA, the WGCI encourages the Treasury to consider the following policy implementation factors:

First productive use

The first productive use requirement, especially if implemented as drafted, is overly burdensome and will unnecessarily restrict opportunities to decarbonize hydrogen production as well as curtail methane abatement at scale. The WGCI strongly opposes this measure in the form proposed. Many mines have terminated productive use due to economic conditions and would not be afforded the opportunity to re-deploy capture systems if strictly implemented.

Acceptance GREET R&D to assess life cycle emissions

The WGCI strongly advocates that the Treasury accept Argonne National Laboratory's GREET R&D model as the sole life cycle analysis tool under the program. As currently drafted, the 45VH2-GREET model would exclude key low carbon intensity sources for H2 production which have already been vetted and assessed through rigorous scientific review. The application of 45VH2-GREET as drafted would disincentivize the productive use of methane capture from sources like CMM and fugitive methane and the deployment of Carbon Capture and Sequestration technology; it is therefore in opposition to US Federal methane reduction pledges.

Anti abuse and causality

Due to a lack of incentive programs that accurately value the environmental impacts of productive use of CMM, CMM capture for productive use is not common industry practice. The deployment of CMM capture technology is unrelated to mining activities, meaning inclusion in the 45V program would not increase mining activity or waste production. Each waste gas capture investment decision requires a separate waste business case evaluation, and incentives under the IRA would be a key factor in the deployment of waste methane capture infrastructure. The WGCI strongly encourages the Treasury to allow for the inclusion of a CMM pathway in clean hydrogen production that will encourage the reduction of fugitive methane emissions, increase capture for beneficial use, and drive capital investment supporting future methane mitigation.

Mine methane capture: A cornerstone in America's emissions reduction

We look forward to continued collaboration and dialogue to ensure the final rules reflect the full spectrum of environmental and economic benefits associated with fugitive methane capture and utilization and its pivotal role in the hydrogen production landscape.

Thank you for considering our comments. We appreciate the opportunity to contribute to the development of regulations that will shape the future of hydrogen production and methane emissions reduction in the United States.

Michael Moore

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