Carbon Capture Coalition Statement for the Record

United States House Committee on Ways and Means
Tax Subcommittee Hearing on Tax Policies to Expand Economic Growth and Increase Prosperity for American Families

December 6, 2023

The Carbon Capture Coalition (the Coalition) appreciates the opportunity to submit this statement for the record for the House Ways and Means Tax Subcommittee hearing on tax policies to expand economic growth and increase prosperity for American families. Carbon management technologies are essential tools in a broader federal strategy to reduce greenhouse gas emissions, while providing co-benefits in the form of reduction of air pollutants and the creation of family-sustaining jobs. Tax policies that incentivize the sustained deployment of these technologies and associated infrastructure across the economy are crucial pieces in ensuring continued American leadership in the carbon management sector as well as environmental stewardship, more broadly.

The Carbon Capture Coalition is a nonpartisan collaboration of more than 100 companies, unions, conservation and environmental policy organizations, building federal policy support to enable economywide, commercial scale deployment of carbon management technologies. This includes carbon capture, removal, transport, reuse, and storage from industrial facilities, power plants, and ambient air. Coalition members recognize that economywide adoption of carbon management technologies is critical to achieving net zero emissions to meet midcentury climate goals, strengthening and decarbonizing domestic energy, industrial production and manufacturing, and retaining and expanding a high-wage jobs base. Successful commercial deployment of these technologies requires prioritizing meaningful engagement and consultation with local communities as well as associated workforce development.

The 117th Congress provided some of the most consequential modifications to the federal Section 45Q tax credit since its 2008 inception. These widely-supported enhancements, coupled with the historic investments made in research, development and deployment included in the Bipartisan Infrastructure Law now form the most forward-looking portfolio of federal policy support for these technologies in the world. Building off this unprecedented support, Congress now has the opportunity and responsibility to reinforce and grow the role of American leadership in the development and deployment of these climate-essential technologies throughout the remainder of this decade.

While it remains true that the 45Q tax credit is the foundational federal policy incentive needed to drive private investment and ultimately make these projects economical, the Coalition has identified a course of necessary, small-scale adjustments that Congress should make to have an outsized impact on the deployment of these technologies. In that vein, this statement outlines a slate of near-term federal tax policies for the committee to consider to increase the return on investment provided by the tax credit and ensure it continues to effectively incentivize carbon management projects. Specifically, these recommendations include indexing the federal Section 45Q tax credit for inflation prior to the statutorily mandated date of 2027 and passing the Captured Carbon and Utilization Parity Act (H.R. 1262 / S. 542), which seeks to establish parity between credit levels for geologic storage and carbon reuse. Additionally, the Coalition has identified challenges with the Life Cycle Assessment (LCA) pre-approval process for carbon utilization projects – a practice that is hindering the ability of taxpayers to claim the credit under the 45Q utilization pathway. In making these small-scale recommendations, the Coalition aims

to ensure the investments in project deployment and recent project announcements made possible by the enhancements to the 45Q tax credit deliver on their emissions reduction potential as Congress intended.

Existing Tax Incentives and Necessary Enhancements

The International Energy Agency's (IEA) Net Zero Emissions by 2050 Scenario estimates that the current slate of projects under development globally will capture and store about 40 million tons of CO_2 in the next five years. That number must increase to 1.6 gigatons by 2030 and 7.6 gigatons by midcentury to reach net zero, further underscoring the urgent need to build out carbon management technologies to capture and store CO_2 at scale by midcentury. Keeping that in mind, over the course of the 117th Congress, the Coalition and its members played a central role in ensuring that key carbon management priorities were reflected in broadly bipartisan pieces of legislation, and eventually included in larger legislative vehicles like the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA). Today, thanks in great part to Congress' continued commitment to ensuring the 45Q tax credit works as originally envisioned, the U.S. policy framework is now recognized as the most comprehensive and robust federal policy support for carbon management technologies in the world.

The 45Q tax credit is the foundational policy mechanism to incentivize the deployment of carbon management projects, but the value of the credit goes well beyond being a key driver of private investment – it serves as the anchor to ensure these technologies fulfill their full emissions reduction potential. 45Q reduces the cost and risk to private capital of investing in the deployment of carbon management technologies and associated transport and storage infrastructure across a range of industries.

By 2030, it is crucial to see further deployment of carbon management technologies in lower-cost sectors and to see significant demonstrations and cost reductions in critical-to-decarbonize sectors. These include heavy industrial sectors, such as steel, cement, and basic chemicals production, electric power generation, and direct air capture. Recent enhancements to the 45Q tax credit will help to close the cost gap between levels of financing available for project deployment and necessary financing needed to develop first-of-a-kind projects or less commercially mature technologies in several sectors. However, further small-scale adjustments to the tax credit will be necessary to ensure investment certainty and business model flexibility. Combined with additional guidance expected in 2024 from the U.S. Department of Treasury and the Internal Revenue Service on the updates made to the 45Q program, the further adjustments outlined below would serve to maximize the number of sectors able to access the credit and provide the greatest possible amount of greenhouse gas emissions reductions, as Congress intended:

- **Indexing 45Q for Inflation**: Increased credit values provided to projects developed in the industry, power, and direct air capture sectors represent the cornerstone of the most recent enhancements made to 45Q. However, unlike other low- and zero-emissions technology tax credits recently reformed under the 117th Congress which adjust for inflation beginning in 2022 and 2023, the 45Q tax credit value is not adjusted for inflation until 2027, putting carbon management projects at a significant disadvantage. Already, much of the value increase realized in 2022 has been eroded due to significant inflation in both capital goods costs and energy prices. In numbers, the 2022 Consumer Price Index (a standard metric of inflation) rose by 7 percent. Therefore, value of an $85 per metric ton 45Q credit would now be only $74 per metric ton as measured in 2020 dollars, and early modeling suggests by 2026 the value of the credit could diminish by nearly 40 percent. Similarly, the decline in the value of 45Q lowers the emissions reduction

potential of the credit by about 50 percent by 2037, or as much as 108 million metric tons of CO_2 annually. Ignoring these inflationary pressures on 45Q jeopardizes not just the bipartisan investments already made under the 117th Congress, but the economic and environmental returns expected from those investments, including the creation and retention of family-sustaining jobs and tangible health benefits from co-captured air pollutants.

- **Creating Parity Between Credit Levels for Carbon Storage and Carbon Reuse**: Increasing credit levels for the nascent carbon reuse sector, which is the conversion of captured carbon oxides to produce a wide range of commercial products is necessary to realize commercial viability for this portfolio of technologies. Credit levels are bifurcated between higher values for the permanent storage of captured CO_2, and lower levels for the utilization of CO_2 as a feedstock for commercially valuable products, or to produce additional oil in depleted oil and gas wells. However, relative to using CO_2 for the purposes of producing additional oil, reusing carbon to produce commercial products is not yet cost competitive with incumbent technologies. Under the current statute, there is a $25 per ton disparity between those projects that reuse carbon emissions versus those that securely and permanently store the captured carbon. This disparity effectively disincentivizes the development and deployment of relatively new carbon reuse technologies, acting more like a tax on such operations. This disparity rises to $50 per ton in relation to direct air capture projects.

Luckily, there is already bipartisan support for creating parity between these two credit levels in the 118th Congress. In February 2023, the bipartisan Captured Carbon Utilization Parity Act was introduced by Representatives David Schweikert (R-AZ-01) and Terri Sewell (D-AL-07), aiming to increase the credit levels provided for carbon utilization to $180/ton for products sourced from direct air capture and $85/ton for those products sourced from industry and power – thereby matching credit levels provided for permanent geologic storage of CO_2 and making the carbon reuse sector more economically competitive. Current estimates on the potential uptake of CO_2 reuse to make valuable products range from 5 to 10 percent of global emissions, or several billion metric tons per year. Put simply, carbon reuse is an important, complementary effort to storing captured CO_2 in secure geologic formations.

The positive impact of 45Q is clear: since significant enhancements to the tax credit were enacted just last year, there have been 59 project announcements, with an estimated annual capture capacity of more than 28 million metric tons per year. These announced projects span the carbon management value chain and include projects at various stages of technology development and deployment—from pilot scale, feasibility (front end engineering and design studies) up to commercial scale projects, signaling that increased federal policy support for carbon management technologies will translate into real-world projects. As such, federal tax incentives should more appropriately reflect the important role of carbon management technologies in a broader portfolio of climate mitigation strategies, in reducing greenhouse gas emissions, decarbonizing and introducing circularity to the American economy, and creating new manufacturing sectors resulting in the creation of family-sustaining jobs.

Misalignment in Requiring LCA Pre-Approval for Carbon Utilization Projects

Under the carbon utilization pathway of 45Q, project developers intending to claim the tax credit must perform a life cycle assessment of the full scope of the project through a professionally licensed independent third-party entity to demonstrate the **permanent displacement or**

storage of qualified carbon oxides. In early 2021, the U.S. Department of Treasury and the Internal Revenue Service (IRS) issued final regulations for claiming 45Q, including preliminary guidance for electing the tax credit for utilization projects. Taxpayers must submit their LCA using a standard format and use the National Energy Technology Laboratory (NETL)'s CO_2 Utilization LCA Guidance Toolkit for conducting the LCA of the end product. NETL guidance requires project developers to conduct a cradle-to-grave LCA that considers emissions associated from upstream emissions to downstream effects (see Figure 1).

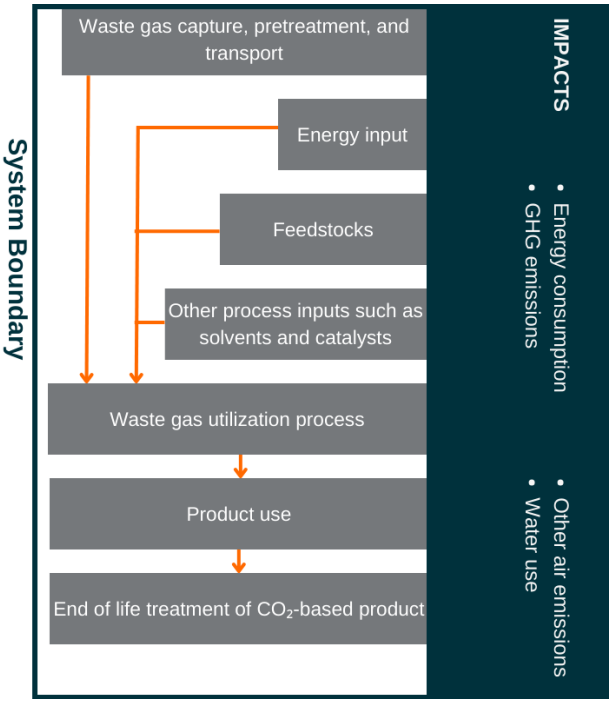

Figure 1

LCA applications contain details of retrospective, real-word operation data submitted in parallel to both IRS and the U.S. Department of Energy (DOE) – meaning taxpayers must invest in carbon utilization activities without knowing if they will, in fact, qualify for 45Q. After submitting a LCA to DOE and IRS, the LCA is then subject to a **lengthy technical review that can take up to 8 months**. By requiring real-world as opposed to estimated data, taxpayers are effectively discouraged from pursuing carbon utilization projects. This is because the taxpayer must make significant investments to undertake the utilization activities to complete the necessary LCA prior to claiming the credit. Better alignment between various comparison systems used for LCAs across government would provide project developers with a more streamlined application process and certainty for project financing.

Since the 2018 restructuring of the 45Q tax credit, anecdotal evidence suggests that pending projects intending to claim 45Q under the utilization pathway are at an impasse with regards to the current LCA process. Through information sharing, the reuse community has identified that there are more than 20 LCAs for utilization projects that have been submitted to IRS and DOE since guidance was provided by IRS in 2021, **only one of which has been approved**. Additionally, stakeholders have provided feedback that there is misalignment between LCA development tools required by DOE versus the LCA process outlined in the final regulation. This could be due, in part, to a perceived disconnect between the DOE office charged with providing technical assistance and recommendations on LCA applications and the IRS office charged with issuing appropriate approval and rejection decisions.

The Coalition is actively working with stakeholders to determine the best course of action to resolve this disconnect, but we wanted to ensure subcommittee members were aware of the issue as we look to identify a path forward.

Conclusion

Carbon capture, removal, transport, reuse and storage technologies are essential tools for achieving CO_2 capture goals in critical-to-decarbonize sectors, increasing domestic energy production, protecting and growing a high-wage jobs base, and fulfilling our climate obligations. The groundbreaking policies to scale deployment of associated CO_2 transport and storage infrastructure enacted as part of the Bipartisan Infrastructure Law and subsequent enhancements to the foundational 45Q policy framework are essential to placing America's energy, industrial and manufacturing sectors on track to reach net-zero emissions by 2050. At the same time, these will ensure the long-term viability of vital industries that provide millions of existing high-wage jobs, which represent the lifeblood of American workers, their families and communities, and regional economies.

The Carbon Capture Coalition appreciates the opportunity to comment on the important topics of today's hearing and the Subcommittee's support in advancing federal tax policies to enable greater deployment of carbon management technologies and associated transport and storage infrastructure necessary to meet midcentury climate goals. We look forward to working with the subcommittee in a bipartisan manner to capitalize on momentum in the industry and improve upon existing tax incentives to ensure they continue to deliver the highest return on investment possible, from both a financial and environmental standpoint. Should you have any questions about anything outlined in this statement, please contact Madelyn Morrison, Director of Government Affairs, Carbon Capture Coalition at mmorrison@carboncapturecoalition.org.