

Carbon Capture Coalition
Fiscal Year 2025 Request
Financial Services & General Government Appropriations Bill

Below is an overview of our FY25 requests for the FSGG bill. If you have any questions regarding this request or need more information, please contact Madelyn Morrison at mmorrison@carboncapturecoalition.org.

Title of Request: Federal Section 45Q Guidance – Carbon Utilization

Appropriations Bill: Financial Services & General Government

Department/Agency: Department of the Treasury

Account: Departmental Offices, Salaries and Expenses

Requested Report Language: *The Committee recognizes the important role carbon utilization technologies can play in achieving critical greenhouse gas emissions reductions. In addition to issuing guidance on the most recent enhancements to the federal Section 45Q tax credit, the Department should finalize guidance associated with electing the federal Section 45Q tax credit under the utilization pathway, including addressing barriers to electing the credit. Final guidance is necessary to provide clarity and certainty for carbon utilization project developers. The Committee further recommends that within final guidance, Treasury eliminate the current pre-approval requirement for lifecycle analysis (LCA) in Treas. Reg. § 1.45Q-4(c)(6) and instead allow taxpayers to petition DOE for a technical review of an LCA as a risk management tool.*

Brief Description and Justification:

The Need for Final 45Q Guidance:

Over the past several months, it has become apparent that project developers can only move forward to secure the necessary private financing to build carbon management projects once the federal Section 45Q regulations are in place following the enactment of significant enhancements to the program in 2022. This, in turn, is jeopardizing the fate of nearly 200 [announced projects](#) that span both the carbon management value chain and stages of project development. Commercial-scale projects are capital- and time-intensive, and financial institutions are less familiar with them than other clean energy technologies. This makes clear and workable guidance even more essential to give these projects a runway to meet the 2033 commence-construction deadline.

Challenges with Electing the Utilization Pathway Under 45Q

Carbon reuse, also referred to as carbon conversion, or its statutory term, utilization, is the reuse of carbon oxides (CO₂, or CO) captured from industry, power, and directly from the atmosphere to produce valuable products. In 2018, Congress significantly restructured the federal Section 45Q tax credit with the enactment of the Furthering Carbon Capture, Utilization, Technology, Underground storage, and Reduced Emissions (FUTURE) Act. Among these changes was the inclusion of the utilization pathway (i.e., non-enhanced oil recovery) to claim the tax credit.

As part of the FUTURE Act statute, utilization project developers intending to claim 45Q must perform a cradle-to-grave Lifecycle Analysis (LCA) of the project through a professionally licensed and independent third-party entity to demonstrate the permanent displacement or storage of qualified carbon oxides as compared to an incumbent product or process. **Importantly, the tax credit is only available for the volume of carbon oxide demonstrated to be stored permanently as a carbon-based product or displaced compared to the incumbent product, not the total amount of carbon dioxide captured.** In early 2021, the US Department of the Treasury and the Internal Revenue Service (IRS) issued regulations for claiming 45Q, including guidance for electing the tax credit for projects under the utilization pathway. In that guidance, the Treasury outlined steps taxpayers

must take to elect the utilization pathway under Section 45Q, noting that they would issue separate procedural guidance relevant to the utilization pathway in the future, including the length of time necessary for LCA review.

Under these regulations issued in 2021, carbon utilization project developers must use retrospective or real-world operating data to prepare and submit the LCA in parallel to IRS and DOE for approval. **The regulation requires taxpayers to receive LCA approval before claiming Section 45Q credits. However, the requirement of pre-approval of the LCA does not appear in the statute.** 45Q is good policy, which has been the key economic driver to seeing the full suite of carbon management technologies scale at the rate necessary to meet emissions reduction and midcentury climate goals; however, this pre-approval requirement effectively disincentivizes utilization technologies from scaling. The requirement of the pre-approval of LCA significantly diminishes the incentive the tax credit intends to offer utilization project developers and creates a considerable barrier for utilization projects to even claim the credit, preventing the statute from working as Congress intended.

The taxpayer must make significant investments to undertake carbon utilization activities, complete the LCA, and receive prior approval before knowing if they will be able to claim the credit, which puts these technologies at a significant disadvantage relative to other pathways under 45Q. This puts projects in a precarious position as project developers need up-front financing to provide certainty to move forward with building a project. **Put simply, the vast majority of project developers will need to know if they will or will not qualify for 45Q to be able to secure project financing.**

Since the issuance of regulations in 2021, it has become clear that the LCA approval process for utilization has impeded project developers from gaining the economic incentives intended by the statute. Furthermore, anecdotal evidence suggests that since the issuance of 45Q guidance in 2021, at least 20 LCA applications, and likely many more, have been filed with the Treasury. Of those applications, only a small handful have been recently approved to begin electing the tax credit. Many more are sitting on the sidelines due to a host of issues, including the requirement from the 2021 guidance from the Treasury to use actual operating data on the LCA application, which creates a significant barrier for utilization technologies to benefit from the tax credit.

Finally, it is critical that final 45Q guidance clears any roadblocks for project developers related to the LCA requirement in claiming the tax credit.

The environmental benefits of carbon utilization technologies:

While still nascent relative to the other technologies in the carbon management value chain, carbon reuse can serve as a key driver to pursuing capture and removal technologies. Reuse pathways supplement efforts to geologically store captured carbon dioxide with less pressure on supporting infrastructure. These technologies will also play a complementary role in a broader portfolio of strategies to reduce greenhouse gas emissions, decarbonize and introduce circularity to the American economy, and create new manufacturing sectors resulting in the creation of family-sustaining jobs.

Carbon-based materials are the building blocks of modern life. As a molecule, carbon dioxide's properties are responsible for its versatility and outstanding durability, and hence, ubiquity in essential materials. While low- and zero-emissions sources of energy will provide a transition opportunity for much of the economy to reach net zero goals, the goods and materials we use daily will continue to rely on carbon-based feedstocks, which are readily provided by fossil fuels today. Captured carbon oxides that reduce emissions at industrial or power facilities or remove legacy carbon emissions from the air can be reused as feedstocks to produce a range of carbon-based products such as fuels for aviation and heavy transport, medical devices, plastics, building materials, and even the coatings and paints that protect other materials. **For example, the National Academies of Science has estimated that globally, reuse pathways such as aggregates, fuels, concrete, methanol, and**

polymers could use up to 1 gigatons of captured CO₂ per year. This growing carbon-to-value market could be worth an estimated \$800 billion annually by 2030.

In addition to reducing emissions, certain carbon reuse applications have the potential to store carbon permanently, including in concrete and polymers, ultimately preventing associated carbon emissions from entering the Earth's atmosphere. Even in products where captured carbon is not permanently stored, these materials can offset greenhouse gas emissions by displacing traditional sources of carbon. If the carbon feedstock is removed from the atmosphere, the resulting products can be climate-neutral or even provide net-negative emissions, depending on the full product lifecycle.