



Insight

New Regulation Provides Clarity for Carbon Capture

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Executive Summary

- The Internal Revenue Service recently issued its final regulations governing tax credits for the capture and sequestration of carbon oxides under Section 45Q.
- The 45Q regulations build on a 2008 congressional mandate to incentivize carbon capture and sequestration and provide certainty to industry about what sorts of facilities are eligible, for how long, and at what level.
- Innovation related to carbon capture and sequestration will be crucial to long-term emissions reductions, but the degree to which these clarified credits successfully prompt more efficient carbon storage over time remains to be seen.

Introduction

Carbon dioxide can be captured and sequestered in order to prevent its release into the atmosphere. To that end, Congress enacted capture and sequestration tax credits in 2008 and has since amended this provision (Section 45Q in statute) four times. The most recent change was made as part of the Bipartisan Budget Act of 2018. On June 2, 2020, the Department of Treasury and Internal Revenue Service (IRS) issued a notice of proposed rulemaking to establish regulations for the latest changes to 45Q. In addition, the recently passed Taxpayer Certainty and Disaster Relief Act of 2020 extended the credit by two years by allowing construction of qualified facilities to begin before January 1, 2026, rather than 2024.[1] On January 6, 2021, the IRS issued its [final regulations](#) governing tax credits for the capture and sequestration of carbon oxide under Section 45Q of the tax code.[2] This paper summarizes these new regulations.

Carbon capture will be critical to meeting climate change targets and preventing increases

in atmospheric temperatures.[3] Congress decided to incentivize the capture of carbon dioxide by providing credits to those taxpayers who captured, utilized, and stored carbon dioxide. Yet changes to the provision over years and a lack of guidance left industry unaware of the extent to which they can continue to take advantage of the credit and thus make investment decisions about carbon sequestration.

Definitions

Carbon capture, utilization, and sequestration (CCUS) involves the capture of carbon emissions, their transportation, and their final storage within a reservoir, such as a geological formation, by injection. Emissions may be captured directly from the air or at their source, such as an industrial facility or coal plant, preventing their escape into the atmosphere.

In the United States, the most often employed form of CCUS is enhanced oil and gas recovery (EOR).[4] The practice of EOR allows oil and gas producers to extract resources that would otherwise be inefficient to gather by pumping carbon dioxide into an oil or gas field, thereby forcing natural gas and oil to exit at the well head. EOR is particularly appealing because it may result in carbon-negative or emissions-neutral fossil fuel production if the quantity of carbon dioxide injected into the well offsets the emissions of the produced oil or natural gas.

The latest regulations apply to the physical or contractual capture of qualified carbon oxide, its use as a tertiary injectant for the purposes of EOR, or other qualified use of carbon oxides. Qualified facilities include industrial facilities or direct air capture facilities under construction before January 1, 2026. These facilities must capture carbon oxides, which are defined as any carbon dioxide that is captured from an industrial source by carbon capture equipment and that would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release and is measured at the source of capture and verified at the point of disposal, injection, or utilization. Alternatively, if the qualified facilities are direct air capture facilities, carbon oxides are any carbon dioxide captured directly from ambient air, measured at the source of capture, and verified at the point of disposal, injection, or utilization.[5]

Final Regulations

In the United States, more than 70 percent of the carbon dioxide injected for EOR is from natural sources, such as the very same geological formations being drilled for extraction where these gases are associated with the resources extracted, rather than collected at industrial facilities.[6] Carbon oxides that are recaptured, recycled, and re-injected as part

of EOR, however, do not qualify for the tax credit under the latest rules. The regulations also provide the carbon oxide capture thresholds for facilities to qualify as well as clarification on the ability to aggregate the capture at multiple facilities.

The regulations provide tax credits in four scenarios based on the in-service date of the qualified facilities as well as a method of computation for facilities that are expanded following their initial in-service date.

- First, the regulations provide a \$20 credit per metric ton of qualified carbon oxide for taxpayers who put equipment in service before February 9, 2018, and utilize secure geological storage and not EOR or another utilization.
- Second, the regulations provide a \$10 credit per metric ton of qualified carbon oxide for taxpayers who put equipment in service before February 9, 2018, but utilize the carbon oxides for EOR and dispose of it in a secure geological formation or for another purpose.
- Third, the regulations provide \$22.66 to \$50 per metric ton for the quantities captured between 2017 and 2026, and \$50 adjusted for inflation for any year thereafter, for equipment placed in service on or after February 9, 2018, and for the following 12 years, for taxpayers that utilize secure geological storage and not EOR or other disposal methods.
- Fourth, the regulations provide \$12.83 to \$35 per metric ton for the quantities captured between 2017 and 2026, and \$35 adjusted for inflation for any year thereafter, for equipment placed in service on or after February 9, 2018, for taxpayers that utilize the carbon oxides for EOR and dispose of it in a secure geological formation or other disposal method.

Fiscal Impact

When the credit was enacted in 2008, it was included in the Emergency Economic Stabilization Act of 2008, better known as the legislative vehicle for the Troubled Asset Relief Program, or TARP. In its original form, the credit did not expire, but was capped at a maximum tonnage of carbon captured under the program. The Joint Committee on Taxation (JCT) estimated that the credit would cost \$1.12 billion over the period 2008-2019.^[7] In 2018, Congress amended the credit, and among other changes, eliminated the tonnage limit and instead enacted a sunset, limiting the credit to apply to facilities placed in service before 2024. More generous credit treatment however, increased the cost of the program by \$689 million over the period 2018-2027.^[8] JCT estimated that the two-year extension included in the Taxpayer Certainty and Disaster Relief Act of 2020 would cost an additional

\$641 million over the 10-year budget window.[9]

Conclusion

The IRS has taken a critical step to clarify tax credit details, and no doubt industry will use those details to determine the degree to which further capture and sequestration advances make sense. Naturally, time will tell if these clarifications effectively promote further innovation and, ultimately, lower emissions.

[1] <https://www.law.cornell.edu/uscode/text/26/45Q>;
<https://www.jdsupra.com/legalnews/section-45q-carbon-capture-and-6482049/>

[2] <https://www.irs.gov/pub/irs-drop/td-9944.pdf>

[3] <https://www.iea.org/reports/ccus-in-clean-energy-transitions>

[4] <https://www.pnas.org/content/115/38/E8815>

[5]
<https://us.eversheds-sutherland.com/portalresource/GuideSection45QProposedRegulations.pdf>

[6] <https://www.iea.org/commentaries/can-co2-eor-really-provide-carbon-negative-oil>

[7] <https://www.jct.gov/publications/2008/jcx-78-08/>

[8] <https://www.jct.gov/publications/2018/jcx-4-18/>

[9] <https://www.jct.gov/publications/2020/jcx-24-20/>