

Carbon Credits May Be The Next Big Thing For Tax Equity

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Investors and project sponsors await proposed regulations and interim guidance under Section 45Q of the Internal Revenue Code to resolve uncertainty and unlock significant carbon capture, utilization and storage market activity.[1]

Section 45Q of the Internal Revenue Code provides a federal tax credit for the sequestration of carbon oxides and certain other greenhouse gases captured from an industrial source that would otherwise be released into the atmosphere as an industrial emission.

Although, as described below, the market is still awaiting guidance on key aspects of the credit, the market is beginning to see keen interest in deals that will seek to utilize Section 45Q. We believe that this credit is poised to be one of the next big things in the tax equity marketplace.

Section 45Q was originally enacted in 2008 to provide a credit for the sequestration of carbon dioxide but it did not achieve widespread utilization by carbon dioxide generating industries and their financing partners due to an annual aggregate programwide aggregate cap on available credits.

As a result of amendments in 2009, and more recent revisions under the Bipartisan Budget Act of 2018, the programwide cap was removed and the applicability of the credit has been broadened to cover the sequestration of all qualified carbon oxides, or CO, such as methane, not just carbon dioxide.

The amount of the credit has also been increased for CO captured with equipment placed in service subsequent to the Bipartisan Budget Act of 2018 from \$10 to \$35 per metric ton for sequestration through enhanced oil recovery, or EOR, and certain other uses and from \$20 to \$50 per metric ton for pure sequestration projects. The credit applies to CO captured from industrial sources or directly from the atmosphere and permanently sequestered in underground storage.

Section 45Q delegates to the secretary of the U.S. Department of the Treasury, in consultation with the U.S. Environmental Protection Agency, the authority to



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promulgate regulations for determining adequate security measures for the storage of CO. Project sponsors and potential tax equity investors have been eagerly awaiting such regulations in order to have sufficient certainty to move ahead with securing financing for and constructing long-planned projects.

Many observers predicted guidance by the end of 2019, but it has yet to materialize. As Section 45Q tax credits are critically important to unlock the nascent carbon capture, utilization and storage, or CCUS, market, and projects are required to commence construction prior to Jan. 1, 2024, in order to qualify for the credit, the release of the Internal Revenue Service regulations and guidance is eagerly awaited by the market.

As carbon dioxide has been used for enhanced oil recovery for decades, projects that capture industrial carbon dioxide emissions for enhanced oil recovery are expected to dominate the first wave of CCUS projects after the implementing regulations are issued.

Carbon Capture Credits in the Enhanced Oil Recovery Context

To qualify for credits under Section 45Q, carbon oxide used in enhanced oil recovery must be “disposed of by the taxpayer in secure geological storage” (including, in principle, the rock formations in the oil or gas field where the carbon oxide is used). In addition:

- The CO must be captured from an industrial source or directly from ambient air.
- The CO must be used in a project that either meets the definition of qualified enhanced oil recovery project for purposes of the expired enhanced oil recovery credit under Section 43[2] or, in the case of a natural gas project, would meet that definition if it produced oil instead of gas.
- The CO must be measured at the point of capture and verified at the point of injection.
- Both capture and injection of the CO must take place in the United States or a possession of the United States.
- Construction on the facility where the CO is captured must have begun by Dec. 31, 2023.
- If the equipment used to capture the CO was not part of the original planning and design of the facility where it is used, construction on the equipment must also have begun by Dec. 31, 2023.
- The facility must capture at least 100,000 metric tons of CO (or, if it is an electric generating facility, at least 500,000 metric tons) to be eligible for credits in any taxable year
- The credit applies for 12 years from the date the facility is placed in service.

Amount of the Credit

Section 45Q(a)(3) and (4) allow a credit equal to the applicable dollar amount (as determined under Section 45Q(b)(1) and as defined below) per metric ton of qualified carbon oxide captured by the taxpayer using carbon capture equipment which is originally placed in service at a qualified facility on or after the date of the enactment of Bipartisan Budget Act during the 12-year period beginning on the date the equipment was originally placed in service.

The applicable dollar amount differs depending on the manner in which the captured CO is used or disposed of by the taxpayer. The IRS and Treasury department have published Notice 2018-93 that sets forth the applicable dollar amounts, which are illustrated below.

Year of Capture and Sequestration	Credit Per Metric Ton (Unused CO Deposited in Secure Geological Storage)	Credit Per Metric Ton (CO Used in EOR or for Other Permitted Purposes)
2020	\$31.77	\$20.22
2021	\$34.81	\$22.68
2022	\$37.85	\$25.15
2023	\$40.89	\$27.61
2024	\$43.92	\$30.07
2025	\$46.96	\$32.54
2026	\$50.00	\$35.00

Limitations for Equipment Placed in Service Before Feb. 9, 2018

Different rules generally apply with respect to carbon capture equipment that was placed in service before Feb. 9, 2018. The credit is not available for certain uses of CO that would be eligible if the equipment was placed in service later. In addition:

- Only the first 75 million metric tons of CO captured (in the aggregate) by all such equipment, plus any additional amount captured in the year the 75 million ton limit is reached, are eligible for credits.
- The amount of the credit is \$10 per metric ton (or \$20 if the CO is not used in EOR), and is not indexed for inflation.
- The credit does not apply with respect to carbon oxides other than CO.

There is an exception, however. The owner of a facility may elect to treat such equipment as if it had been placed in service on Feb. 9, 2018 for purposes of Section 45Q, if:

- The facility was placed in service before that date;

- No taxpayer claimed a credit under Section 45Q with respect to the facility for a taxable year ending before that date; and
- The facility captures at least 500,000 metric tons of CO in the relevant taxable year.

Who Gets the Credit?

Under Section 45Q, the credit is attributable to either:

- The person who owns the carbon capture equipment and physically or contractually ensures the capture of the carbon dioxide and its use in the EOR project; or
- The person that uses the carbon dioxide in the EOR project.

The latter option will require an explicit election and is not available with respect to equipment placed in service before Feb. 9, 2018.

In contrast to prior law (which limited the credit to only the taxpayer that captured and stored the gas), this modification makes the Section 45Q credit appealing to companies and investors that would otherwise have no means of using the credit, paving the way for new business models and investment structures.

In particular, we expect that tax equity should be able to finance the construction and installation of CO capture and processing equipment through the mechanism of joint ventures between CO emitters (such as a power plant, ethanol plant or similar business) and CO consumers (i.e., exploration and production businesses involved in EOR) or entities specializing in the sequestration and storage of CO.

IRS Guidance

The IRS announced in May 2019 that it anticipates issuing regulations and other guidance to implement Section 45Q. Issues on which it requested comments include:

- Technical and procedural issues involved in determining whether the “secure geological storage” requirement has been met.
- Methodologies for determining the amount of gas captured.
- Application of the recapture rules when CO ceases to meet the utilization and disposal requirements of Section 45Q.
- How IRS rules should interact with existing state and federal guidance, such as Environmental Protection Agency regulations for proper storage of greenhouse gases.

- When the beginning of construction should be deemed to occur for purposes of the Section 45Q cutoff dates.
- How the election to attribute the credit to the person who uses the CO instead of the owner of the equipment that captures it should work.

The IRS has also requested comment on the factors that should be evaluated when analyzing the transfer of the credit to the party that disposes of the CO, as well as whether guidance is needed regarding partnership structures involving investors and developers who seek to enter into project partnerships that will allocate the credit.

Guidance on all of these points is crucial for project sponsors and potential tax equity investors, and is expected to unlock significant project and financing activity as soon as it is released.

Looking Ahead

The Section 45Q credit, as expanded by recent legislative action, is poised to spur investment in carbon capture, utilization and storage projects (and technology) at generating plants and industrial sites. The ability of the owner of the capture equipment to transfer the credit to the CO user or to effectively monetize it through seeking tax equity financing for the acquisition and construction of such equipment and related infrastructure will undoubtedly lead to an increase in project and project financing activity, building upon traditional tax equity financing structures (such as partnership flip structures and inverted leases), established in other tax equity financed sectors (such as wind).

These projects will include novel features based on the specific requirements of Section 45Q, the specific and varied attributes of CCUS projects as well as the opportunity for certain CCUS projects to also benefit from other available incentives, such as California's low carbon fuel standard credits.

However, the market requires the certainty of guidance from the IRS, so that project developers and investors can model their projects appropriately. Areas that are most in need of clarification are the manner of making the election to transfer the credit, recapture triggers and liability, the appropriate framework and process for demonstrating secure geological storage of qualified CO captured from a qualified facility, and the definition of "beginning construction".

Questions also remain regarding alternative permitted uses of CO, which may include various types of photosynthesis and chemosynthesis processes, chemical conversions, and other commercial uses (e.g., using captured carbon oxide in synthetic fuel production). Other technical issues regarding how one contractually ensures disposal of carbon oxide and whether the existing begin-construction requirements translate to the carbon capture industry remain open.

In addition, more nuanced questions will inevitably arise as a result of the historically risk-averse mentality of tax equity investors. These issues will only be more acute where they arise in the context of a newly developing segment of the tax equity market that includes projects that are likely to be varied and to have risk profiles that are meaningfully different from the risk profile of traditional tax equity financed sectors, such as wind and solar power generation.

Mitigating these varied risks from the perspective of tax equity and project sponsors may require

creativity and the deployment of various methods, including both well-known methods from the wind sector and novel methods to address the particular risks of CCUS projects.

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[1] IRC Section 45Q.

[2] IRC Section 43.