Proposed Regulations Offer Welcome Guidance on Section 45Q Carbon Capture Credits

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The world response to COVID-19 may increase efforts to transition towards cleaner energy, as investors consider the impact the pandemic is having on climate change. Changing attitudes about commuting, air travel, and other activities that depend on fossil fuels may cause elected officials and leaders in private industries, including the hydrocarbon industry, to consider investing more heavily in and transitioning to more carbon-neutral sources of energy and processes. Achieving sustainability will take time, and transition efforts are expected to include carbon capture and sequestration measures. This article summarizes recent guidance for implementing a U.S. federal tax credit program aimed at such carbon capture and sequestration projects that will likely attract even more attention as the focus on sustainability continues to grow.

I. Tax Credit Program Under Section 45Q of the Internal Revenue Code

Section 45Q[1] provides a tax credit designed to incentivize investment in carbon capture and sequestration and ultimately reduce the emission of greenhouse gases. The credit encourages the installation and use of carbon capture equipment to remove greenhouse gases produced by industrial sources, gas and coal power plants, and other facilities from the atmosphere. To qualify for the credit, captured carbon must be disposed of in secure geological storage or utilized in certain processes, including by conversion into biofuels or other specified products for which a commercial market exists. In certain cases, carbon disposed of in secure geological storage may first be used to stimulate the production of oil and gas in a process referred to as enhanced oil recovery (EOR). Special rules that apply to an EOR process are discussed below.

Congress enacted Section 45Q in 2008, but the tax credit program failed to attract widespread attention. Although Section 45Q was amended in 2018 as part of the Bipartisan Budget Act (the "BBA Amendment"),[2] developers have remained cautious due to a lack of guidance and resulting uncertainty. In response, the IRS and the U.S. Treasury Department ("Treasury") recently issued proposed regulations (the "Proposed Regulations")[3] providing additional guidance in four key areas:

- basic eligibility requirements for claiming the credit;
- a limited framework for recapturing previously claimed credits if qualified carbon oxide ("CO") escapes back into the atmosphere;
- standards for ensuring secure geological storage; and
- requirements for contractually assuring the capture and disposal of CO.

II. Background

As originally enacted in 2008, Section 45Q provided (1) a credit of $20/metric ton of qualified carbon dioxide captured at a qualified facility and disposed of in secure geologic storage and (2) a credit of $10/metric ton for carbon dioxide captured at a qualified facility and

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1 I.R.C. § 45Q.
2 Bipartisan Budget Act of 2018, Pub. L. No. 115-123, Title II (February 9, 2018).
3 REG-112339-19, 85 Fed. Reg. __ (June 30, 2020).

used in an EOR process before being disposed of in secure geologic storage. However, the 2008 statute fell short in several respects.

First, Section 45Q was scheduled to expire when Treasury, in consultation with the Environmental Protection Agency (EPA), certified that 75 million metric tons of qualified carbon dioxide had been captured via the utilization of Section 45Q. Given that at least 500,000 metric tons of qualified carbon dioxide must have been captured and stored by a taxpayer to qualify for credits in any single year, the cap of 75 million metric tons meant that a few dozen qualifying participants likely would exhaust the credit program in five or six years.

Second, Section 45Q initially applied only to carbon dioxide but not other forms of CO such as carbon monoxide. Section 45Q was also only available to taxpayers who both captured and stored (regardless of whether first used in EOR) carbon dioxide that otherwise would have been released into the atmosphere. In addition, Section 45Q applied only to carbon dioxide captured at a "qualified facility," which originally was defined as any industrial facility owned by a taxpayer and at which carbon capture equipment was placed in service that captured not less than 500,000 metric tons of carbon dioxide during the taxable year. Perhaps unsurprisingly, Section 45Q failed to attract much attention for at least a decade. The renewables market focused primarily on wind and solar, where fewer technical requirements and the availability of low-cost financing presented lower barriers to entry.

In 2018, Congress passed the BBA Amendment to address many of these shortcomings. For example, following the BBA Amendment, Section 45Q now applies to the sequestration of "qualified carbon oxide" as opposed to "qualified carbon dioxide," which picks up a wider range of greenhouse gases. Furthermore, Section 45Q no longer expires upon reaching a total program cap of 75 million metric tons of CO, and instead provides that credits can be claimed over a 12-year period from the date the equipment was placed in service. For example, for CO captured using carbon capture equipment originally placed in service on or after February 9, 2018, and disposed of but not used for EOR, the credit amounts over a 12-year period range from $22.66/metric ton in 2017 to $50/metric ton starting in 2026 (subject to further adjustments for inflation). For CO captured using carbon capture equipment originally placed in service on or after February 9, 2018 and used in EOR, the credit amounts over a 12-year period would range from $12.83/metric ton in 2017 to $35/metric ton starting in 2026 (subject to further adjustments for inflation).

Additionally, the BBA Amendment broadened the universe of taxpayers who can claim the credit. Under the 2008 statute, the credit was available only to the taxpayer capturing and disposing of the CO, but typically that person or entity (often a developer) lacked sufficient taxable income to fully utilize the credit. Section 45Q now provides that the person who owns the capture equipment and *physically or contractually* ensures the capture and disposal, injection, or utilization of such CO will be eligible to claim the credit and may elect to transfer the credit to a third party who disposes of or uses the CO. Notably, however, the BBA Amendment stopped short of describing how to ensure that such contractual arrangements comply with the statute.

The BBA Amendment also expanded the scope of "qualified facilities" that may give rise to Section 45Q credits. Specifically, in addition to industrial facilities, the term now covers direct air capture facilities that use carbon capture equipment to remove CO from the ambient atmosphere. Construction of the qualified facility must begin before January 1, 2024, which

requires either construction of carbon capture equipment to begin before such date or the original planning and design for such facility include installation of carbon capture equipment.

Likewise, the BBA Amendment expands the application of Section 45Q to a broader audience by reducing the minimum, annual CO sequestration threshold from 500,000 metric tons/year to 100,000 metric tons/year, which is expected to extend eligibility to a broader range of industrial facilities, including concrete plants, ethanol plants and other facilities having a similar emissions profile (but not electricity generation facilities, where the higher annual threshold of 500,000 metric tons will continue to apply).

Notwithstanding the BBA Amendment, Section 45Q provides few specifics regarding secure geological storage or credit recapture if CO escapes back into the atmosphere. Instead, Congress deferred to Treasury, the EPA, the Secretary of Energy, and the Secretary of the Interior to establish regulations for determining the adequacy of "secure geological storage" facilities. Likewise, Section 45Q deferred to Treasury with respect to providing regulations addressing the recapture of credits but without specifying any time limits to do so.

III. Notice 2020-12 and Revenue Procedure 2020-12

In February 2020, the IRS issued Notice 2020-12, which provides guidance pertaining to the beginning of construction requirement (i.e., that construction must begin before January 1, 2024, to qualify for the Section 45Q credit). The Notice adopts guidance commonly applied to other renewables projects, such as wind and solar, and indicates that, for purposes of qualifying for the Section 45Q credit, carbon capture projects will be considered to have begun construction if the taxpayer starts "physical work of a significant nature" or pays or incurs at least five percent of the total cost of the project.

The IRS also issued Revenue Procedure 2020-12, which provides a safe harbor for tax equity partnerships to make valid allocations of the credit under Section 45Q. The Revenue Procedure provides an example of a "partnership flip" structure in which a partnership (the "Project Company") captures CO from one or more emitters and sells the CO to a qualified CO purchaser (the "Offtaker"). Under a contract with the Project Company, the Offtaker agrees to purchase the CO for use as a tertiary injectant in an EOR project, to store the CO in secure geological storage, and avoid any release of the stored CO.

The Revenue Procedure generally adopts prior guidance issued in the context of the Section 45 wind energy production tax credit and the Section 47 rehabilitation tax credit "partnership flip" structures, but differs from such prior guidance in a few respects.[4] For example, while Revenue Procedure 2007-65 permits a developer, investor, or any related parties to have a call option to purchase the equipment, the project, or another party's interest in the partnership at its then fair market value (provided certain requirements are satisfied), Revenue Procedure 2020-12 does not permit such call options. On the other hand, Revenue Procedure 2020-12 permits the investor to make up to 50 percent of its capital contributions contingent on the amount of carbon captured and credits generated, in comparison to the 25 percent threshold permitted under Revenue Procedure 2007-65.

IV. Guidance Under Proposed Regulations

[4] *See* Rev. Proc. 2007-65, 2007-45 I.R.B. 967; Rev. Proc. 2014-12, 2014-3 I.R.B. 415.

The Proposed Regulations clarify the basic eligibility requirements for claiming the Section 45Q credit and the use of certain defined terms. In addition, the Proposed Regulations describe a method for measuring and calculating the amount of CO leakage subject to recapture, the method for calculating recapture, and the lookback period during which a recapture event may occur. Finally, the Proposed Regulations provide certain standards for ensuring secure geological storage and related monitoring, as well as a framework for demonstrating contractual assurance that CO will be properly captured and stored. Each of these topics is discussed in more detail below.

A. Eligibility Requirements and Use of Certain Defined Terms

The Proposed Regulations restate certain statutory definitions and clarify the use of other defined terms appearing in Section 45Q. For example, the Proposed Regulations define "industrial facility" to mean "any facility that produces a carbon oxide stream from a fuel combustion source or fuel cell, a manufacturing process, or a fugitive carbon oxide emission source that, absent capture and disposal, would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release." Specifically excluded from the definition of "industrial facility," however, is any facility that "produces carbon dioxide from carbon dioxide production wells at natural carbon dioxide-bearing formations or a naturally occurring subsurface spring," but specifies that "[a] deposit of natural gas that contains less than 10 percent carbon dioxide by volume is not a natural carbon dioxide-bearing formation."

Some taxpayers that placed carbon capture equipment in service prior to February 9, 2018 may retrofit facilities on or after February 9, 2018, by making physical modifications to such equipment or installing additional carbon capture equipment. Under an "80/20 Rule," the Proposed Regulations provide that carbon capture equipment placed in service on or after February 9, 2018, may qualify as originally placed in service on or after February 9, 2018, even if it contains some used components of property that were previously placed into service, provided the fair market value of the used components is not more than 20 percent of the equipment's total value. For purposes of the 80/20 Rule, the cost of new carbon capture equipment includes all properly capitalized costs of the new carbon capture equipment, plus the cost of new equipment for a pipeline owned and used exclusively by the taxpayer to transport CO captured from that taxpayer's qualified facility.

In contrast, the Proposed Regulations provide that any facility placed in service prior to February 9, 2018 that is retrofitted on or after February 9, 2018, in a manner that does not satisfy the 80/20 Rule, will be subject to bifurcation. That is, a taxpayer must determine the amount of CO captured using equipment placed in service prior to February 9, 2018 and claim credits with respect to such equipment under Section 45Q(a)(1)(A) or Section 45Q(a)(2)(A), subject to the old 75,000,000 metric ton limitation. If the new equipment installed on or after February 9, 2018 results in an increase in the CO capture capacity of the existing equipment and the facility actually captures additional CO during the taxable year using such increased capacity, the taxpayer may claim additional credits with respect to the capture of additional CO using such increased capacity under Section 45Q(a)(3)(A) or Section 45Q(a)(4)(A).

The Proposed Regulations also provide guidance where carbon capture equipment was placed in service prior to February 9, 2018 but no taxpayer has claimed any Section 45Q credits for any taxable year ending before February 9, 2018. In such circumstances, the taxpayer may elect on an annual basis to treat the facility and any carbon capture equipment placed in service

at such facility as having been placed in service on February 9, 2018, provided that the facility must capture not less than 500,000 metric tons of CO for the year for which the election is made. The Proposed Regulations describe the time and manner for making this election.

B. Recapture Requirements

Treasury was directed to provide regulations for recapturing the benefit of any Section 45Q credit attributable to CO leakage at a secure geological storage facility. How Treasury would define recapture was a key concern for developers and industry advocates, with many submitting comments outlining various proposals to limit unreasonable downside risk for investors.

In response to those comments, the IRS and Treasury adopted an approach under the Proposed Regulations that should limit any potential recapture to a five-year lookback period. If a leak is discovered, the recapture amount will be accounted for in the taxable year in which the leakage is identified and reported. If the leaked amount does not exceed the CO captured and stored in the year in which the leakage is reported, there is no recapture amount and no further adjustments to prior taxable years will be required. But if the leaked amount exceeds the CO captured and stored in the taxable year in which the leakage is reported, the excess must be recaptured by multiplying the metric tons of excess CO by the appropriate statutory credit rate on a last-in-first-out basis, such that Section 45Q credits claimed in prior years are recaptured in reverse order up to a maximum of the fifth preceding year. Recapture adjustments attributable to the five-year lookback period are added to the amount of tax due in the taxable year in which the recapture event occurs.

C. Secure Geological Storage

The Proposed Regulations provide certain standards under Section 45Q for secure geological storage, whether for purposes of disposal through sequestration or in connection with EOR. To meet the requirements for disposal through sequestration, a taxpayer must dispose of and store the CO in compliance with applicable requirements under 40 CFR Part 98 subpart RR ("Subpart RR"). Subpart RR requires that the disposal site owner obtain EPA or qualifying state approval for a monitoring, reporting, and verification plan ("MRV"), but taxpayers who obtain approval for an MRV may self-certify the amount of CO being stored.

In the case of CO being used for EOR, the taxpayer must either comply with Subpart RR or, alternatively, report under the International Organization for Standardization (ISO) standard for quantifying safe long-term storage of CO in association with enhanced oil recovery provided in CSA/ANSI ISO 27916:19 (the "ISO Process"). Taxpayers using the ISO Process for EOR must obtain independent third-party verification annually from a qualified engineer or geologist certifying the amount of CO being stored.

D. Contractually Ensuring Capture and Disposal, Injection or Utilization of CO

The Proposed Regulations clarify that a taxpayer is not required to physically carry out the disposal, injection, or utilization of CO to claim Section 45Q credits if the taxpayer contractually ensures that the party who physically carries out the disposal, injection, or utilization of the CO does so in a manner required under Section 45Q and final regulations. For this purpose, contracts ensuring the disposal, injection, or utilization of CO must: (1) include commercially reasonable terms providing for enforcement of the obligation to perform (without limiting damages to a specified amount); (2) in the case of permanent sequestration unrelated to

EOR, obligate the disposing party to comply with secure geological storage requirements, including Subpart RR, and to promptly report recapture events such as leaks; (3) in the case of EOR, obligate the disposing party to comply with secure geological storage requirements, including Subpart RR or the ISO Process, and to promptly report all recapture events; and (4) in the case of the utilization of CO in commercial applications under Section 45Q(f)(5), obligate the utilizing party to comply with Prop. Treas. Reg. § 1.45Q-4. The Proposed Regulations specify that the existence of each contract and the parties involved must be reported to the IRS annually on IRS Form 8933, Carbon Oxide Sequestration Credit (or applicable successor form), by each party to the contract, regardless of the party claiming the credit.

The Proposed Regulations were published in the Federal Register on June 2, 2020. On June 29, 2020, the IRS published corrections to the preamble to the Proposed Regulations and other typographical and semantic changes. Written or electronic comments on the Proposed Regulations were due by August 3, 2020. But, until final regulations are published, taxpayers may rely on the Proposed Regulations for taxable years beginning on or after February 9, 2018.

If the broader energy transition is to meaningfully include carbon capture, it will be increasingly important for the industry to become familiar with—and to take advantage of—Section 45Q. To that end, recently issued Notice 2020-12, Revenue Procedure 2020-12, and the Proposed Regulations offer welcome guidance.