The Nuts and Bolts of the New Section 45Q Carbon Oxide Sequestration Credit

Energy and Environmental Taxes Committee
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Panelists:

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- Brian Americus, Deloitte Tax LLP
- Hannah Hawkins, Deputy Tax Legislative Counsel, Treasury Office of Tax Policy

Note: Slides prepared by non-governmental panelists only
Statutory Background and Guidance

- Section 45Q originally added to Code in 2008 by the Energy Improvement and Extension Act
- Bipartisan Budget Act of 2018 (BBA) signed into law on February 9, 2018, greatly expanded section 45Q
- Notice 2009-83, as modified by Notice 2011-25, provided guidance and may still be relied upon by taxpayers
- CCM 20183701F (dated May 3, 2013) concluded that taxpayer’s use of CO2 as a tertiary injectant in certain EOR projects during the year failed to qualify as a disposal in a secure geological storage.
- Notice 2019-32 released on May 2, 2019, requests comments on issues arising under section 45Q with respect to future regulations and other guidance
Section 45Q Overview

Section 45Q generally provides a tax credit for the capture and sequestration of qualified carbon oxide.

“Qualified carbon oxide” must be captured by the taxpayer using “carbon capture equipment” at a “qualified facility” and

<table>
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<tr>
<th>Carbon capture equipment originally PIS at a qualified facility before BBA</th>
<th>Sequestered qualified carbon oxide either (1) used by the taxpayer as a tertiary injectant in a qualified enhanced oil or natural gas recovery project and disposed of by the taxpayer in secure geological storage or (2) utilized by the taxpayer (subsection (f)(5))</th>
<th>Sequestered qualified carbon oxide disposed of by the taxpayer in secure geological storage and not used by the taxpayer for the purposes described in prior column</th>
</tr>
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<tbody>
<tr>
<td>$10 per MT (adjusted for inflation; $11.44 for 2018) available until end of year in which 75M MT of qualified carbon oxide captured after 10/3/08</td>
<td>$20 per MT (adjusted for inflation; $22.87 for 2018) available until end of year in which 75M MT of qualified carbon oxide captured after 10/3/08</td>
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| Carbon capture equipment originally PIS at a qualified facility on or after BBA | For 2017 through 2026: Between $12.83 to $36 increasing by linear interpolation ($17.76 for 2019); after 2026, $35 plus inflation adjustment. For 12 year period beginning on date that the carbon capture equipment is originally placed in service. | For 2017 through 2026: Between $22.66 to $50 increasing by linear interpolation ($28.74 for 2019); after 2026, $50 plus inflation adjustment. For 12 year period beginning on date that the carbon capture equipment is originally placed in service. |
Important Defined Terms - Qualified Facility

Industrial facility or direct air capture facility

- Industrial facility - a facility that produces a CO2 stream from a fuel combustion source, manufacturing process or a fugitive CO2 emission source that absent capture and disposal would be released into the atmosphere. Does not include facility that produces CO2 from CO2 production wells at natural CO2-bearing formations
- Direct air capture facility - facility which uses carbon capture equipment to capture carbon dioxide directly from ambient air (other than a facility that captures carbon dioxide which is deliberately released from naturally occurring subsurface springs or using natural photosynthesis

Construction of such facility begins before 1/1/24 and either (1) construction of the carbon capture equipment begins before such date or (2) the original planning and design of such facility includes installation of carbon capture equipment

Which captures:

- If facility emits not more that’s 500,000 MT of carbon oxide during the year, not less than 25,000 MT must be utilized as described in (f)(5)
- Electric generation facility (not described above), not less than 500,000 MT of qualified carbon oxide during taxable year
- Direct air capture facility or any other facility, not less than 100,000 MET of qualified carbon oxide
Important Defined Terms-
Qualified Carbon Oxide

From an industrial source

- Includes carbon dioxide and, for facilities PIS on or after BBA other carbon oxide
- Must be measured at the source of capture and verified at the point of disposal, injection or utilization
- If not captured, would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release

From a direct air capture facility

- Includes any carbon dioxide that is captured directly from ambient air
- Must be measured at the source of capture and verified at the point of disposal, injection or utilization
Secure Geological Storage

- Must comply with EPA Underground Injection Control (UIC) regulations for Class VI injection wells
  • If not covered by the UIC regulations, taxpayer must follow Intergovernmental Panel on Climate Change Guidelines, which includes:
    • Conducting site characterization
    • Conducting assessment of CO2 leakage risk
    • Monitoring potential leakage pathways according to a suitable plan
- Must use EPA’s GHG Reporting Rule to calculate amount of CO2 measured at the source of capture and report amount of CO2 sequestered
- Must follow any additional EPA or state requirements.
Use as Tertiary Injectant

- Qualified carbon oxide used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project is entitled to the section 45Q credit

- Tertiary injectant means any tertiary injectant that is used as part of a tertiary recovery method described in section 193(b)(3)

- A qualified enhanced oil or natural gas recovery project is any project that:
  • Involves the application of one or more tertiary recovery methods which can reasonably be expected to result in more than an insignificant increase in the amount of crude oil/natural gas which will ultimately be recovered,
  • Is located within the U.S., and
  • With respect to which the first injection of liquids, gases, or other matter commences after 12/31/90
Utilization by the Taxpayer (subsection (f)(5))

- Utilization of qualified carbon oxide: (1) the fixation of such qualified carbon oxide through photosynthesis or chemosynthesis such as though the growing of algae or bacteria; (2) the chemical conversion of such qualified carbon oxide to a material or chemical compound in which such qualified carbon oxide is securely stowed or (3) the use of such qualified carbon oxide for any other purpose for which a commercial market exists (other than use as a tertiary injectant in a qualified enhanced oil or natural gas recovery project), as determined by the secretary.

- Measurement
  - Amount shall be equal to the MT of qualified carbon oxide which the taxpayer demonstrates based upon an analysis of lifecycle greenhouse gas emissions and subject to such requirement as provided by Secretary determines were appropriate were (1) captured and permanently isolated from the atmosphere or (2) displaced from being emitted into the atmosphere.
  - Lifecycle greenhouse gas emissions has same meaning as in Clean Air Act.
Taxpayer Entitled To Credit

- If PIS before BBA: person that captures and physically or contractually ensures the disposal, utilization or use as a tertiary injectant of such qualified carbon oxide

- If PIS on or after BBA: Person that owns the carbon capture equipment and physically or contractually ensures the capture and disposal, utilization or use as a tertiary injectant of such qualified carbon oxide

- May elect to pass through credit to the person that disposes of the qualified carbon oxide, utilizes the qualified carbon oxide or uses the qualified carbon oxide as a tertiary injectant
Other Rules

- If a qualified facility is PIS before BBA, and additional carbon capture equipment is placed in service on or after BBA, then
  • Amount of carbon capture subject to pre-BBA rules is lesser of (a) qualified carbon capture for taxable year or (b) the total amount of carbon dioxide capture capacity of the carbon capture equipment in service at such facility at BBA enactment.
  • Amount of carbon capture subject to post-BBA rules is (a) qualified carbon capture for taxable year less (b) the total amount of carbon dioxide capture capacity of the carbon capture equipment in service at such facility at BBA enactment.

- May elect to have pre-BBA dollar amounts apply in lieu of post-BBA dollar amounts.

- Credit applies only to qualified carbon oxide the capture and disposal, use or utilization is within the US or a possession of the US.

- Recapture: Regulations to cover recapture for any qualified carbon oxide that ceases to be captured, disposed of or used as a tertiary injectant in a manner consistent with the requirements of this section.
Other Rules

- Election to “update” applicable facilities: If an applicable facility captures at least 500,000 metric tons of qualified carbon oxide during a taxable year, the owner of the carbon capture equipment can elect to have the facility and carbon capture equipment at the facility, deemed to be placed in service on 2/9/18.
  - This allows a pre-BBA facility to:
    - Meet the section 45Q(d) beginning of construction requirement
    - Receive post-BBA credit amounts
  - Applicable facility is a qualified facility placed in service before 2/9/18 and for which no taxpayer claimed a section 45Q credit before 2/9/18.
New Section 45Q- Comparison to old Section 45Q

The Bipartisan Budget Act of 2018 (BBA) enacted on February 9, 2018, greatly modified and amplified the tax credit for new facilities or new equipment placed in service on or after the date of enactment.

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<th>Credit Amount: Sequestration (Not Used as a tertiary injectant)</th>
<th>Prior Credit</th>
<th>New Credit</th>
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<tr>
<td>Credit Amount: Enhanced Oil or Natural Gas Recovery (Used as a tertiary injectant)</td>
<td>$22.87/metric ton (2018)</td>
<td>Up to $50/metric ton plus inflation</td>
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<td>2018 - $25.70/metric ton</td>
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<td>2019 - $28.74/metric ton</td>
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<td>(Linear increase of $3.037 annually through 2026)</td>
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<tr>
<td>Qualifying Use</td>
<td>Limited to utilization as a tertiary injectant in EOR Projects</td>
<td>Permitted use for any commercial market which exists</td>
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<tr>
<td>Carbon Capture Threshold Reduced</td>
<td>Required facilities to capture at least 500,000 metric tons of carbon dioxide per taxable year</td>
<td>Allows smaller facilities that capture less than 500,000 metric tons of carbon oxide per taxable year</td>
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<tr>
<td>Program Cap</td>
<td>Subject to overall 75 million metric ton limit</td>
<td>Available for 12 years beginning on date equipment is placed in service</td>
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<tr>
<td>Eligible Taxpayers</td>
<td>Owner of carbon capture equipment</td>
<td>Owner of carbon capture equipment or (1) person that disposes of carbon oxide; (2) person that uses the carbon oxide; or (3) person that uses carbon oxide in EOR</td>
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New Section 45Q Credit
Current and Potential CO2 Uses

On May 2, 2019, the IRS and Treasury released Notice 2019-32, requesting general and specific comments by June 17, 2019, on the following issues:

1. Whether there is technical criteria varying or in addition to those provided in the EPA’s GHGRP or existing guidelines in ISO that may be used to demonstrate secure geological storage?

2. What should the standard be for triggering and measuring recapture for any carbon oxide that ceases to be captured, disposed of or used in a tertiary injectant?

3. Is guidance needed to further clarify terms and definitions, such as carbon capture equipment, qualified carbon oxide, direct air capture facility, qualified facility, tertiary injectant utilization, or lifecycle greenhouse gas emissions?

4. Is guidance required in defining what types of utilization qualify as “fixation of qualified carbon oxide through photosynthesis or chemosynthesis, such as through the growing of algae or bacteria?”

5. Is guidance required to establish the boundaries for lifecycle emissions for carbon oxide utilization to determine the amount of qualified carbon oxide that is “displaced from being emitted into the atmosphere?”
Notice 2019-32 cont.
Request for Comments on Credit for Carbon Oxide Sequestration

6. What type of contractual arrangements do investors anticipate with parties who capture or dispose or utilize qualified CO. What are common terms of contracts ensuring the disposal, utilization, or use of qualified CO as a tertiary injectant? What should result if such terms are determined to be insufficient?

7. What factors should be considered in determining the time and manner of the election to transfer the Section 45Q credit to another taxpayer? If such an election is made, what issues should be considered regarding the transfer of the credit?

8. What constitutes the beginning of construction?

9. Is guidance needed concerning structures in which project developers and participating investors would be respected as partners in a qualifying project and is guidance needed on allocating the credit and recapture of the credit among the partners?

10. What issues may arise when determining the amount of metric tons of qualified carbon oxide utilized by the taxpayer were (i) captured and permanently isolated from the atmosphere, or (ii) displaced from being emitted into the atmosphere, through a secure geological storage?
Questions?