

IRS provides procedures for Section 45Q carbon capture and utilization lifecycle analysis

August 2, 2024

In brief

What happened?

The IRS on July 24 released Notice 2024-60, which provides procedures relating to lifecycle analysis reports required to claim the Section 45Q credit for carbon capture and utilization.

Why is it relevant?

Section 45Q, first enacted in 2008 and amended by the Inflation Reduction Act of 2022, provides a tax credit of a dollar amount per metric ton of qualified carbon oxide captured and disposed of or utilized by a taxpayer. Regulations finalized in 2021 provide rules for determining the amount of carbon oxide captured and utilized through a lifecycle greenhouse gas analysis (LCA) and reporting the results. Notice 2024-60 provides detailed procedures for completion, submission, and review of LCA reports.

Action to consider

Notice 2024-60 applies to LCA reports submitted on or after the date the notice is published in the Internal Revenue Bulletin, which is expected to be August 19, 2024. A taxpayer may not claim a Section 45Q credit for qualified carbon oxide captured and utilized unless it has submitted an LCA report that the IRS has approved. Taxpayers desiring to claim the Section 45Q credit for qualified carbon oxide captured and utilized must submit LCA reports conforming to the Notice 2024-60 procedures.

In detail

Statutory background

Section 45Q provides a tax credit of a dollar amount per metric ton of qualified carbon oxide captured and disposed of or used by the taxpayer. The amounts are:

- (1) Using carbon capture equipment placed in service at a qualified facility before February 9, 2018,
 - (a) \$20 per metric ton if the carbon oxide is utilized as a tertiary injectant and disposed of in secure geological storage,
 - (b) \$17 per metric ton if the taxpayer utilizes the carbon oxide by fixing it through photosynthesis or chemosynthesis, chemically converting it to securely store it, or for another purpose for which a commercial market exists,
- (2) Using carbon capture equipment placed in service at a qualified facility on or after February 9, 2018, for the 12-year period after the equipment is placed in service:
 - (a) In a tax year beginning in a calendar year after 2016 and before 2027,
 - (i) \$17 per metric ton if the carbon oxide is utilized as a tertiary injectant and disposed of in secure geological storage,
 - (ii) \$12 per metric ton if the taxpayer utilizes the carbon oxide by fixing it through photosynthesis or chemosynthesis, chemically converting it to securely store it, or for another purpose for which a commercial market exists,
 - (b) In a tax year beginning in a calendar year after 2026, \$17 or \$12 multiplied by an inflation adjustment factor.

For direct air capture facilities placed in service after 2022, the amounts \$36 and \$26 are substituted for \$17 and \$12.

“Qualified carbon oxide” is (1) carbon dioxide (CO₂) and any other carbon oxide captured from an industrial source by carbon capture equipment that otherwise would be released or lead to release into the atmosphere as industrial emission of greenhouse gas; measured at the source of capture; and verified at the point of disposal, injection, or utilization or (2) CO₂ captured directly from the ambient air by a direct air capture facility; measured at the source of capture; and verified at the point of disposal, injection, or utilization.

A taxpayer must demonstrate the amount of qualified carbon oxide utilized (except as a tertiary injectant) by performing an LCA.

2021 regulations

The 2021 Section 45Q regulations provide certain requirements for conducting an LCA and submitting the report.

- (1) An LCA must demonstrate that the proposed process results in a net reduction of CO₂ equivalents when compared to a comparison system.
- (2) The report must be prepared in conformity with and contain documentation that conforms with certain International Organization for Standardization (ISO) standards.

(3) The report must be performed or verified by an independent third party and document the qualifications and independence of the third party.

(4) The report is subject to a technical review by the Department of Energy (DOE) and approved by the IRS. The LCA must be approved before the taxpayer may claim the Section 45Q credit.

Notice 2024-60

Notice 2024-60 describes the detailed requirements for submission and approval of an LCA.

(1) A separate LCA is required for each qualified facility.

(2) The LCA must include a cover page that provides certain specified information.

(3) The taxpayer must submit an LCA approval request to the IRS and a duplicate to DOE using specified submission methods. The request must include the LCA report and other identified information and documentation.

(4) The IRS and DOE will accept approval requests on a rolling basis.

(5) The IRS first will review the request for adequacy and completeness, generally within four months. A taxpayer has 45 calendar days after IRS notification of missing information to submit the information to IRS and DOE. The IRS may extend the 45 days and will deny the approval request if the information is not provided.

(6) The IRS will request a DOE technical review of a complete request. The DOE review may be a conformance review if there is independent third-party verification of conformance to ISO standards or an expanded critical review that includes a technical assessment of the LCA model and supporting data.

(7) A taxpayer has 45 calendar days after a DOE request for additional information to submit the information to IRS and DOE. The IRS may extend the 45 days for unusual circumstances and will deny the approval request if the information is not provided.

(8) DOE will notify the IRS if it concurs with the results of the LCA report. The IRS will determine whether to approve the LCA and notify the taxpayer.

(9) A taxpayer may resubmit an approval request that has been denied after correcting the deficiencies in the LCA. A taxpayer may request an administrative review of a denial that was based solely on the IRS review and not due to completeness.

Observation: The notice does not indicate why the IRS may deny approval of an LCA report that DOE has reviewed favorably.

(10) A taxpayer may rely on an approved LCA for the tax year submitted and the following two tax years. However, if the LCA analyzed a period of less than six months, the approval applies for the tax year of submission and the following tax year. A taxpayer may submit a new LCA approval request for any tax year and must submit a new approval request after the two- or three-year approval period ends.

(11) A taxpayer must resubmit an LCA if a material change occurs to the process described in the LCA. A material change reduces the lifecycle displacement factor (a measurement of the amount of carbon dioxide equivalents displaced per unit of carbon dioxide captured and utilized) by more than 0.05 from the value in the tax year of the original LCA approval. A taxpayer must determine if a material change has occurred in each tax year between submissions. The taxpayer must attach to the Form 8933 on which it claims the Section 45Q credit a statement attesting that no material change occurred during the tax year and including certain specified information.

Let's talk

For a deeper discussion of how the Section 45Q tax credit might affect your business, please contact one of the PwC professionals listed below:

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