Ready, Set, Sequester?
An updated guide to the Section 45Q Carbon Capture and Sequestration Credit Guidance

Updated as of June 29, 2020
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Section 45Q, as amended by the Bipartisan Budget Act of 2018 (BBA), provides a substantial tax credit for the capture and sequestration of carbon dioxide and other carbon oxides. Taxpayers have been awaiting guidance from the Department of the Treasury (Treasury) and the Internal Revenue Service (IRS) since that statutory change. In late 2019, it became clear that the guidance would be issued in three parts. The first two parts were issued on February 19, 2020, in Notice 2020-12 and Revenue Procedure 2020-12. Treasury and the IRS recently issued the third part on May 29, 2020, as a notice of proposed rulemaking, also known as Proposed Regulations (Proposed Regulations).

I. Background

Congress originally enacted section 45Q in 2008 to provide a tax credit to taxpayers that capture and sequester carbon dioxide. However, due to certain shortcomings in the statute, the credit as originally enacted did not have the anticipated effect of spurring substantial investment in CCS projects. Significant amendments were made by the BBA to address many of the shortcomings of section 45Q, including:

- increasing the credit amount;
- attributing the credit to the owner of the carbon capture equipment;
- providing for transferability of credits;
- expanding the credit to include not only carbon dioxide, but also other carbon oxides;
- decreasing the minimum carbon capture thresholds to qualify for the credit;
- permitting the credit for a 12-year credit period, and replacing an industry-wide cap on the credit, and
- allowing the credit for a broader range of sequestration methods.

As amended, section 45Q generally provides a tax credit to taxpayers that capture qualified carbon oxide using carbon capture equipment at a qualified facility, and that (i) dispose of it in secure geological storage, (ii) use it as a tertiary injectant in a qualified enhanced oil or natural gas recovery project and dispose of it in secure geological storage, or (iii) utilize it for certain other purposes as permitted by statute or regulation.

To qualify for the credit, before January 1, 2024, either (i) construction of the carbon capture equipment must begin, or (ii) construction must begin of a qualified facility (i.e., an industrial facility or direct air capture facility) that has as part of its original planning and design the installation of carbon capture equipment.
In light of the many gaps in the statutory provisions of the revised section 45Q, guidance from Treasury and the IRS was needed. On May 2, 2019, the IRS released Notice 2019-32, requesting comments on forthcoming section 45Q guidance. The IRS received 116 comment letters in response to Notice 2019-32. Eversheds Sutherland Observation: The large number of comments filed in response to Notice 2019-32 indicates great interest in the revised section 45Q, mirroring our own experience with client interest since Congress enacted the 2018 updates.

The post-BBA guidance was highly anticipated by taxpayers, given that there is a limited statutory window to qualify for tax credits under section 45Q before January 1, 2024. Due to this limited window, there is significant demand by the emerging CCS industry to begin construction on projects that will qualify for tax credits. There are currently at least ten large-scale CCS projects located in the United States. In addition, there are a number of additional CCS projects in various stages of development and significantly more at the conceptual stage. Eversheds Sutherland Observation: Section 45Q was amended in February 2018, and that amendment included a December 31, 2023, deadline for beginning construction. Due to significant gaps in the statutory language, taxpayers have been awaiting guidance from Treasury and the IRS. However, the statutory changes to section 45Q were enacted less than two months after enactment of the Tax Cuts and Jobs Act, which made substantive changes to the Internal Revenue Code and also required Treasury and the IRS to issue guidance, much of which took precedence over section 45Q guidance. In light of the resulting delay in the issuance of section 45Q guidance needed by taxpayers to utilize the revised section 45Q, there have been numerous calls to extend the section 45Q beginning of construction deadline.

II. The Section 45Q Guidance

Discussed below is the post-BBA section 45Q guidance issued to date, including Notice 2020-12, Revenue Procedure 2020-12 and the Proposed Regulations.

A. Notice 2020-12: beginning of construction guidance

Although section 45Q includes a December 31, 2023 deadline for beginning construction for entitlement to the section 45Q credit, Congress did not define when construction would be treated as having begun, instead leaving that to the IRS to define. Notice 2020-12 provides that guidance. Highlights of Notice 2020-12 include the following:

- Provides two alternative methods for taxpayers to establish the beginning of construction: (1) starting physical work of a significant nature, or (2) paying or incurring five percent or more of the total project cost.
- Includes a continuity requirement (also referred to as a continuous construction or continuous efforts requirement). Unlike guidance for wind and solar energy property, there is a six-year safe harbor; beyond six years, a facts and circumstances analysis must be undertaken.
- Provides specific examples of physical work that may be used to satisfy the physical work test for qualified facilities or carbon capture equipment.
- Includes rules for transferring section 45Q CCS credit-eligible facilities for which the beginning of construction requirement had been satisfied.
- States that no private letter rulings will be issued regarding the Notice or the beginning of construction requirement.


Two methods for establishing beginning of construction

Notice 2020-12 provides two methods to establish that construction of a qualified facility or carbon capture equipment has begun for section 45Q purposes – starting physical work of a significant nature (Physical Work Test) or paying or incurring five percent or more of the total cost of the qualified facility or carbon capture equipment (five percent Safe Harbor). Construction will be deemed to begin on the first date that either method is satisfied, and both methods require continuous progress towards completion of construction (Continuity Requirement).

Physical work test

The Notice states that construction has begun when the taxpayer begins physical work of a significant nature. The determination of whether physical work of a significant nature has begun is a facts and circumstances analysis. The Physical Work Test focuses on the nature of the work performed rather than the amount of work or the cost thereof, and the Notice confirms that there is “no fixed minimum amount of work or monetary or percentage threshold required to satisfy the Physical Work Test.” Physical work can either be performed by the taxpayer directly or by other persons under a binding, written contract, and the work may be performed on-site or off-site.

The Notice provides as examples of off-site work of a significant nature the manufacture of:
– mounting equipment and support structures such as racks, skids and rails;
– components necessary for carbon capture processes such as membranes, sorbent vessels, adsorbers, compressors, engines, motors, power generators and regenerators, reboilers, turbines, pressure vessels and other vessels, piping and pipelines, pumps, heat exchangers, solvent pumps, filters, recycling units, electrostatic filtration, water wash equipment, lube oil systems, dehydration systems, glycol contractors, specially designed flue gas ducts, conditioners, cooling towers, absorber units, and other types of gas separation, liquefaction, or processing equipment;
– components necessary for disposal of qualified carbon oxide in secure geological storage such as valves, specialized casing, or other components of a wellhead or well, and
– equipment necessary for disposal of qualified carbon oxide in secure geological storage such as wellhead equipment, booster compressors and monitoring equipment for a storage site.

The Notice also provides the following examples of on-site physical work of a significant nature:

– the excavation for and installation of foundations (for the project as well as for buildings to house equipment necessary to the project) including the setting of anchor bolts into the ground and the pouring of the concrete pads of the foundation;
– the installation of a system of gathering lines necessary to connect the industrial facility to the carbon capture equipment or other equipment necessary to the qualified facility before transportation away from the qualified facility for disposal, utilization or use as a tertiary injectant;
– the installation of components necessary for carbon capture processes such as membranes, sorbent vessels, adsorbers, compressors, engines, motors, power generators and regenerators, reboilers, turbines, pressure vessels and other vessels, piping and pipelines, pumps, heat exchangers, solvent pumps, filters, recycling units, electrostatic filtration, water wash equipment, lube oil systems, dehydration systems, glycol contractors, specially designed flue gas ducts, conditioners, cooling towers, absorber units, and other types of gas separation, liquefaction or processing equipment, and
– the installation of equipment and other work necessary for the disposal of qualified carbon oxide in secure geological storage at the geological storage site, which may be at a different location than the qualified facility or carbon capture equipment.

Notice 2020-12 identifies two categories of activities that do not qualify as physical work of a significant nature: preliminary activities and inventory activities. The guidance provides examples of preliminary activities that would not qualify, including securing financing, exploring, researching, obtaining permits and licenses, conducting test drilling to determine soil condition (including to test the strength of a foundation), excavating to change the contour of land, clearing a site and removing existing foundations or any components that will not be used in the project. The guidance also states that physical work of a significant nature does not include work performed, either by the taxpayer or by another person under contract, to produce components of a qualified facility or carbon capture equipment that are in existing inventory or are normally held in inventory.

**Eversheds Sutherland Observation:** In both Notice 2020-12 and the analogous renewable energy guidance, preliminary activities do not qualify as physical work of a significant nature. However, the list of preliminary activities in the two notices are different -- the renewable energy guidance includes planning or designing, conducting mapping or modeling to assess a resource, conducting geophysical, gravity, magnetic, seismic and resistivity surveys, and conducting environmental and engineering studies as preliminary activities, while these activities are not listed as preliminary activities in Notice 2020-12. Although both the section 45Q and the renewables notices state that the respective lists of preliminary activities are not exhaustive, it would be helpful to understand from the IRS whether the differences are intended to signal that the excluded items (which generally are more significant in CCS projects as compared to many renewable energy projects) would be treated differently under the Physical Work Test.

**Five percent Safe Harbor**
Construction of a qualified facility or carbon capture equipment will be considered to have begun if the taxpayer pays or incurs (depending on the taxpayer’s method of accounting) five percent or more of the total cost of the qualified facility or carbon capture equipment. The total cost of the qualified facility or carbon capture equipment includes all costs included in the depreciable basis of the qualified facility or carbon capture equipment. Costs associated with Front-End Engineering and Design (FEED) activities or other approaches for front-end planning may be considered to determine whether the five percent Safe Harbor has been met. A taxpayer may look through to costs paid or incurred by another person with whom the taxpayer has entered into a binding, written contract with respect to the project construction.

Notice 2020-12 provides clarity on how cost overruns shall be treated for the purposes of the five percent Safe Harbor. For a single project comprised of multiple qualified facilities or units of carbon capture equipment, if the total cost exceeds the anticipated cost such that the amount a taxpayer paid or incurred is less than five percent of the actual total cost of the project when placed in service, the five percent Safe Harbor can be satisfied with respect to some, but not all, of the qualified facilities or units of carbon capture equipment comprising the project, as long as the total aggregate cost of those qualified facilities or units of carbon
capture equipment is not more than 20 times greater than the amount paid or incurred. For a single qualified facility or unit of carbon capture equipment that cannot be separated into multiple properties, however, if the amount paid or incurred in a given year ultimately is less than five percent of the total cost when the qualified facility or unit of carbon capture equipment is placed in service, the five percent Safe Harbor will not be satisfied.

**Eversheds Sutherland Observation:** The inclusion of front-end planning costs in meeting the five percent Safe Harbor reflects the expectation of increased activity and expense that will be necessary in the planning and design stages of construction of a qualified facility or carbon capture equipment. However, these expenses alone are unlikely to meet the five percent threshold.

### Continuity requirement

Both the Physical Work Test and the five percent Safe Harbor have a Continuity Requirement. The Continuity Requirement is deemed satisfied if a taxpayer places a qualified facility or carbon capture equipment in service by the end of the calendar year that is no more than six calendar years after the calendar year during which construction of the qualified facility or carbon capture equipment began (Continuity Safe Harbor Deadline). A taxpayer will be treated as having begun construction no earlier than 2020. If the qualified facility or carbon capture equipment is not placed in service before the Continuity Safe Harbor Deadline, whether the Continuity Requirement of either the Physical Work Test or the five percent Safe Harbor is satisfied will be determined based on the facts and circumstances.

**Eversheds Sutherland Observation:** The inclusion of a six-year period for the Continuity Safe Harbor, rather than the four-year period generally provided for the renewable energy industry, has been well received by the carbon capture industry, particularly those that will be seeking tax equity financing, which generally requires that the Continuity Requirement be satisfied through the Continuity Safe Harbor rather than through a facts and circumstances analysis.

If a facts and circumstances analysis, rather than the Continuity Safe Harbor is used, the guidance lists certain facts and circumstances that indicate continuous efforts, including:

- paying or incurring additional amounts included in the total cost of qualified facility or carbon capture equipment,
- entering into binding written contracts for manufacture of components of the qualified facility or carbon capture equipment or for future work to construct the qualified facility or carbon capture equipment,
- obtaining necessary permits, and
- performing physical work of a significant nature.

Notice 2020-12 provides a non-exclusive list of certain excusable disruptions that will not be considered as indicating a taxpayer has failed to satisfy the Continuity Requirement under a facts and circumstances analysis. That list includes:

- severe weather delays,
- delays due to natural disasters,
- delays in obtaining governmental permits or licenses,
- delays at the request of a governmental entity for public safety, security or similar concerns,
- interconnection-related delays (such as delays relating to the completion of construction on a new carbon dioxide pipeline or necessary upgrades to resolve capacity or congestion issues associated with a project’s planned interconnection),
- delays in the manufacture of custom components,
- delays due to labor stoppages,
- delays due to the inability to obtain specialized equipment of limited availability,
- delays due to the presence of endangered species,
- financing delays, and
- delays due to supply shortages.

For a single project with a single qualified facility or carbon capture equipment, whether an excusable disruption has occurred is determined in the calendar year when the qualified facility or carbon capture equipment is placed in service. For a single project comprising multiple qualified facilities or units of carbon capture equipment, whether an excusable disruption has occurred is determined in the calendar year when the last qualified facility or unit of carbon capture equipment is placed in service.

### Transfer of qualified facility or carbon capture equipment

There is no statutory requirement that the taxpayer that places a qualified facility in service also be the taxpayer that begins construction on the facility. As such, a transfer of a fully- or partially-developed facility does not necessarily disqualify the facility under the Physical Work Test or the five percent Safe Harbor. However, a transfer solely consisting of tangible personal property between unrelated parties does disqualify the property such that any work performed or amounts paid or incurred by the transferor with respect to the transferred property will not be taken into account in determining whether the transferee meets the Physical Work Test or the five percent Safe Harbor.

### B. Revenue procedure 2020-12: partnership allocation guidance

Section 45Q provides that the credit generally is available to the person that owns the carbon capture equipment and physically or contractually ensures the capture and disposal, utilization or use of the qualified carbon oxide. Revenue Procedure 2020-12 provides a safe harbor under which an investor will be respected as a partner/owner in (rather than a lender to) a partnership that owns carbon capture equipment and thus will be entitled to an allocation of available section 45Q tax credits. The section 45Q credit also may be transferred to the person that disposes of the qualified carbon oxide.
Under Revenue Procedure 2020-12, an investor, together with the developer, will be respected as a partner of a project company partnership that owns the carbon capture equipment if all of the requirements described below are satisfied:

**Project developer’s minimum partnership interest**
The developer must have a minimum one percent interest in each material item of partnership income, gain, loss, deduction and credit at all times during the existence of the partnership.

**Investor’s partnership interest**
Each investor must have an interest in each material item of partnership income, gain, loss, deduction and credit at all times that is at least five percent of its largest interest percentage. In addition, the investor’s partnership interest in the partnership must be a “bona fide equity investment.”

With regard to the bona fide equity investment requirement, the Revenue Procedure states:

> The Investor’s Partnership Interest must constitute a bona fide equity investment with a reasonably anticipated value commensurate with the Investor’s overall percentage interest in the Project Company, separate from any federal, state, and local tax deductions, allowances, credits, and other tax attributes to be allocated by the Project Company to the Investor. An Investor’s Partnership Interest is a bona fide equity investment only if that reasonably anticipated value is contingent upon the Project Company’s net income, gain, and loss, and is not substantially fixed in amount. Likewise, the Investor must not be substantially protected from losses from the Project Company’s activities. The Investor’s return from its investment in the Project Company must not be limited in a manner comparable to a preferred return representing a payment for capital. The investor also may not receive payments in the form of fees that are unreasonable and that would result in a reduction of the value of the investor’s investment in the partnership.

**Eversheds Sutherland Observation:** Further clarification may be required regarding how the bona fide equity requirement applies in the context of a CCS project that does not generate sequestration or disposal revenue. There is no analog to this requirement in Revenue Procedure 2007-65.

**Investor’s minimum unconditional investment**
At all times, an investor’s minimum investment must be at least 20% of the fixed capital investment plus any reasonably anticipated contingent investment required to be made by the investor. The investment amount may be reduced through cash distributions from the operation of the project. The investor must not be protected from loss of the minimum investment by the developer, other investors or certain other persons.

**Contingent consideration**
More than 50% of an investor’s investment must be fixed and determinable, meaning that contingent consideration is limited to 50% of an investor’s investment. For this purpose, contributions for ongoing project expenses will not be treated as contingent payments by the investor.

**Eversheds Sutherland Observation:** As compared to the 25% contingent contribution limit in Revenue Procedure 2007-65, this guidance provides a higher 50% contingent contribution limit and carves-out ongoing project expenses. Such differences are needed due to the differences in the technologies involved in these two revenue procedures.

**Purchase rights**
Neither project developers nor investors may have a call option to purchase the carbon capture equipment or a partnership interest at a future date.

**Sale rights**
An investor may not hold a put option to require any person to purchase the partner’s partnership interest at a future date at a price that is more than its fair market value.

**Eversheds Sutherland Observation:** This guidance varies from the guidance in Revenue Procedure 2007-65 which allows call options, but not put options. From a tax equity investor perspective, a put option is preferable to allow it more control over the exercise of the option.

**Guarantees and loans**
No party involved in the project company may directly or indirectly guarantee the investor’s ability to claim section 45Q tax credits or...
The section 45Q regulations apply to taxable years beginning on or after the date final regulations are published in the Federal Register. However, taxpayers may choose to apply the final regulations for taxable years beginning on or after February 9, 2018, the effective date of the BBA amendments to section 45Q. Alternatively, taxpayers may rely on the Proposed Regulations for taxable years beginning on or after February 9, 2018, and before the date final regulations are published, provided such taxpayers follow the Proposed Regulations in their entirety and in a consistent manner.

### 1. General credit provisions

#### Amount of credit

The section 45Q credit is available for the capture and injection, utilization or disposal of qualified carbon oxide, all within the United States or a possession of the United States.

- "Disposal" generally refers to disposal of qualified carbon oxide in a secure geological storage without using it as a tertiary injectant in a qualified enhanced oil or natural gas recovery project.
- "Injection" generally refers to using qualified carbon oxide as a tertiary injectant in a qualified enhanced oil or natural gas recovery project and disposing of it in secure geological storage.
- "Utilization" generally refers to using qualified carbon oxide in a manner described in section 45Q(f)(5) (described further below).

The credit is generally available to the person that captures and physically or contractually ensures the disposal, injection or utilization of qualified carbon oxide. The per metric ton amount of the credit is generally as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Injection and utilization</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>$12.83</td>
<td>$22.66</td>
</tr>
<tr>
<td>2018</td>
<td>$15.29</td>
<td>$25.70</td>
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<tr>
<td>2019</td>
<td>$17.76</td>
<td>$28.74</td>
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<tr>
<td>2020</td>
<td>$20.22</td>
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</tr>
<tr>
<td>2022</td>
<td>$25.15</td>
<td>$37.85</td>
</tr>
<tr>
<td>2023</td>
<td>$27.61</td>
<td>$40.89</td>
</tr>
<tr>
<td>2024</td>
<td>$30.07</td>
<td>$43.92</td>
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</tr>
<tr>
<td>2026</td>
<td>$35.00</td>
<td>$50.00</td>
</tr>
</tbody>
</table>

For taxable years after 2026, the 2026 amounts will be adjusted annually for inflation. The credit is available for the 12-year period beginning on the date that the carbon capture equipment is originally placed in service.
Eversheds Sutherland Observation: The substantial interest in section 45Q arises in part from the amount of available tax credit. For example, a taxpayer that placed carbon capture equipment in service in 2020 and captured and securely disposed of one million metric tons of qualified carbon oxide would be entitled to about $520M of credits. However, we also note that the interest in section 45Q guidance has been of great interest not only due to the amount of available tax credits, but also due to the substantial capital investment required for many CCS facilities.

Person generally entitled to credit and credit claim procedures
Section 45Q entitles the taxpayer that owns carbon capture equipment to capture and physically or contractually ensure the disposal, injection or utilization of qualified carbon oxide to be entitled to the section 45Q credit.

In order to claim the credit, the claimant must file a Form 8933, Qualified Carbon Oxide Sequestration Credit, with its federal income tax return for the taxable year of the claim. The Form will require, among other information, the name and location of the facility at which the qualified carbon oxide was captured.

Contractually ensuring disposal, injection or utilization
As noted above, the owner of the carbon capture equipment may “contractually ensure” the disposal, injection or utilization of qualified carbon oxide. The Proposed Regulations provide a framework for the types of contracts, terms and reporting requirements that will demonstrate the contractual assurance. A contract must be a binding written contract. For a contract to be a binding written contract, it must be enforceable under state law against both parties and not limit damages to a specified amount. A taxpayer may enter into multiple binding written contracts to ensure the disposal, injection or utilization of qualified carbon oxide. The Proposed Regulations provide the following rules regarding the provisions of such contracts:

- must include commercially reasonable terms and provide for enforcement of the obligations under the contract;
- may include long-term liability, indemnity, penalty and liquidated damages provisions;
- may include specific information regarding the amount of qualified carbon oxide involved in the agreement;
- may include minimum quantities, and
- in the case of qualified carbon oxide intended to be disposed of or injected, must obligate the disposing party to satisfy the requirements for secure geological storage or injection and promptly inform the capturer of all pertinent recapture-related information, such as location of leak, quantity of qualified carbon oxide leaked and dollar value of section 45q credit attributable to leaked qualified carbon oxide.
- in the case of qualified carbon oxide intended to be utilized, must obligate the utilizing party to satisfy the requirements for utilization.

Eversheds Sutherland Observation: Although the Proposed Regulations provide that to be a binding written contract, the contract must not limit damages to a specified amount, it also provides that the contract may include a liquidated damages provision. That seeming conflict may be explained by the same rule applying here as in other contexts that allows a contract with liquidated damages of five percent or more of the contract price to be treated as a binding written contract. Notice 2020–12 suggests this result; however, confirmation of that explanation in the final regulations would be helpful.

Reporting of contract
The Proposed Regulations require the existence of each contract for the disposal, injection or utilization of qualified carbon oxide to be annually reported by each party to the IRS on Form 8933. The information required to be reported includes:

- the name and taxpayer identification number of the taxpayer to whom the credit is attributable;
- the name and taxpayer identification number of each party with whom the taxpayer has entered into a contract to ensure the disposal, injection or utilization of qualified carbon oxide;
- the number of metric tons of qualified carbon oxide each contracting party disposes of, injects or utilizes on behalf of the contracting taxpayer each taxable year for reporting to the IRS, and
- for contracts for the disposal or injection of qualified carbon oxide, the name of the operator, the field, unit, and reservoir, location by county and state and identification number assigned to the facility by the EPA’s electronic greenhouse gas reporting tool (e-GGRT ID number) for submission of the facility’s 40 CFR part 98 annual reports.

Election to allow section 45Q credit to another taxpayer
Under section 45Q, the owner of the carbon capture equipment (electing taxpayer) may elect to pass the credit to the person that disposes of, utilizes or injects the qualified carbon oxide (credit claimant). The Proposed Regulations provide that an electing taxpayer can allow the credit to be claimed by one or multiple allowable credit claimants, but if an electing taxpayer allows multiple credit claimants to claim section 45Q credits, the maximum amount of credits allowable to each claimant is in proportion to the amount of qualified carbon oxide disposed of, utilized or injected by the credit claimant. Elections to allow the section 45Q credit to another taxpayer must be filed annually with the electing taxpayer’s original tax return (including extensions). Both the electing taxpayer and credit claimant must file Form 8933 with their tax return, and the credit claimant must also attach the Form 8933 of the electing taxpayer. In addition to the information required on Form 8933, the electing taxpayer must provide the following information:

- the electing taxpayer’s name, address, taxpayer identification number, location and e-GGRT ID number(s) (if available) of each qualified facility where qualified carbon oxide was captured;
the full amount of credit attributable to the taxpayer prior to
the election;

- the name, address, and taxpayer identification number of
each credit claimant and the location and e-ggrt id number(s)
(if available) of each secure geological storage facility where
the qualified carbon oxide is disposed of or injected;

- the dollar amount of section 45q credits the taxpayer is
allowing each credit claimant to claim and the corresponding
metric tons of qualified carbon oxide, and

- the dollar amount of section 45q credits retained by the
electing taxpayer and the corresponding metric tons of
qualified carbon oxide.

For the election to be valid, the credit claimant must provide the
following information on Form 8933:

- the name, address and taxpayer identification number of the
credit claimant;

- the name, address and taxpayer identification number of each
taxpayer making an election under section 45q(f)(3)(b) to allow
the credit to the credit claimant;

- the location and e-ggrt id number(s) (if available) of each
qualified facility where qualified carbon oxide was captured;

- the location and e-ggrt id number(s) (if available) of each
secure geological storage facility where the qualified carbon
oxide is disposed of or injected;

- the full dollar amount of section 45q credits attributable
to each electing taxpayer prior to the election and the
corresponding metric tons of qualified carbon oxide;

- the dollar amount of section 45q credits that each electing
taxpayer is allowing the credit claimant to claim and the
corresponding metric tons of qualified carbon oxide, and

- a copy of the electing taxpayer’s form 8933 (or successor
forms, or pursuant to instructions and other guidance).

Eversheds Sutherland Observation: The requirement that
credits allowed to a credit claimant must be in proportion to
the amount of qualified carbon oxide disposed of, utilized or
injected by the credit claimant, but only if the electing taxpayer
allows multiple credit claimants to claim the credit, may require
additional clarification for situations in which an electing
taxpayer allows a single credit claimant to claim the credit
but has multiple potential credit claimants.

2. Definitions
The Proposed Regulations provide definitions for key terms used
in section 45Q.

Qualified carbon oxide
Section 45 allows the credit with respect to the capture and
sequestration of qualified carbon oxide. Section 45Q(c) provides
that qualified carbon oxide means (A) any carbon dioxide or other
qualified carbon oxide which is captured from an industrial source
by carbon capture equipment; (ii) would otherwise be released
into the atmosphere as industrial emission of greenhouse gas or
lead to such release, and (iii) is measured at the source of capture
and verified at the point of disposal, injection or utilization, or (B) in
the case of a direct air capture facility, any carbon dioxide, which
(i) is captured directly from ambient air, and (ii) is measured at the
source of capture and verified at the point of disposal, injection or
utilization.

The Proposed Regulations generally conform to the statutory
definition of qualified carbon oxide, including that only qualified
carbon oxide captured and disposed of, injected or utilized within
the United States or a possession of the United States is taken into
account for the section 45Q credit. While qualified carbon oxide
includes the initial deposit of captured qualified carbon oxide used
as a tertiary injectant, section 45Q(c)(2) provides that the term
does not include qualified carbon oxide that is recaptured,
recycled and re-injected as part of the qualified enhanced oil
or natural gas recovery process.

Carbon capture equipment
Section 45Q does not define carbon capture equipment. The
Proposed Regulations define carbon capture equipment in terms
of its functionality, and provide examples of components that
qualify and do not qualify. Under the Proposed Regulations,
carbon capture equipment includes all components of property
that are used to capture or process qualified carbon oxide until
the qualified carbon oxide is transported for disposal, injection
or utilization, including equipment used for the purpose of:

- separating, purifying, drying and/or capturing qualified carbon
oxide that would otherwise be released into the atmosphere
from an industrial facility;

- removing qualified carbon oxide from the atmosphere via
direct air capture. or

- compressing or otherwise increasing the pressure of qualified
carbon oxide.

Components of property related to the function of capturing
qualified carbon oxides, such as components of property
necessary to compress, treat, process, liquefy or pump qualified
carbon oxides, are included within the definition of carbon
capture equipment. The Proposed Regulations provide the
following lengthy, but non-exhaustive, list of specific examples:

- absorbers, compressors, conditioners, cooling towers,
dehydration equipment, dehydration systems,
electrostatic filtration, engines, filters, fixtures, glycol
contractors, heat exchangers, liquefaction equipment,
lube oil systems, machinery, materials, membranes,
meters, monitoring equipment, motors, mounting
equipment, pipes, power generators and regenerators,
pressure vessels and other vessels, processing equipment,
processing plants, processing units, pumps, reboilers,
recycling units, scrubbers, separation vessels, solvent
pumps, sorbent vessels, specially designed flue gas
ducts, support structures, tracking equipment, treating
equipment, turbines, water wash equipment and other
qualified carbon oxide related equipment.
The Proposed Regulations also provide a short list of property related to transporting qualified carbon oxides that are not included in the general definition: pipelines, branch lines, or land and marine transport vessels. Included within the definition of carbon capture equipment, however, is a gathering and distribution system that collects qualified carbon oxide from one or more qualified facilities that constitute a single project to transport the qualified carbon oxide away from the qualified facility or project to a pipeline used by multiple taxpayers.

**Eversheds Sutherland Observation:** While a broad definition of carbon capture equipment is helpful to taxpayers in some contexts, there is concern that such a broad definition as provided in the Proposed Regulations could unintentionally cause multiple taxpayers to be treated as owning the carbon capture equipment and, accordingly, unintentionally be entitled to portions of the section 45Q credit for the CCS project. A safe harbor allowing the credit solely to the taxpayer that owns certain critical pieces of this equipment may be helpful to alleviate this concern.

**Qualified facility**
Section 45Q(d)(1) provides that “qualified facility” means any industrial facility or direct air capture facility, the construction of which begins before January 1, 2024, and (i) the construction of carbon capture equipment begins before such date or (ii) the original planning and design for such facility includes installation of carbon capture equipment.

In addition, section 45Q(d)(2) provides that qualified facilities must meet annual capture thresholds of qualified carbon oxide:

- in the case of a facility which emits not more than 500,000 metric tons of qualified carbon oxide into the atmosphere during the taxable year, not less than 25,000 metric tons of qualified carbon oxide during the taxable year which is utilized in a manner described in section 45Q(f)(5);
- in the case of an electricity generating facility which is not described above, a not less than 500,000 metric tons of qualified carbon oxide during the taxable year; or
- in the case of a direct air capture facility or any facility which is not described above, not less than 100,000 metric tons of qualified carbon oxide during the taxable year.

The Proposed Regulations provide for an annualization of qualified carbon oxide emission and capture amounts in the year that carbon capture equipment is placed in service at a qualified facility.

**Eversheds Sutherland Observation:** The annualization in the initial year of operations is a welcomed rule that allows the threshold requirements to be met, and taxpayers to claim section 45Q credits, in the year carbon capture equipment is placed in service.

**Industrial facility**
Section 45Q does not define industrial facility. The Proposed Regulations adopt the definition of industrial facility provided in section 3.03 of Notice 2020-12, such that an industrial facility is a facility that produces a qualified carbon oxide stream from a fuel combustion source or fuel cell, a manufacturing process or a fugitive qualified 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. An industrial facility does not include a facility that produces carbon dioxide from carbon dioxide production wells at natural carbon dioxide-bearing formations or a naturally occurring subsurface spring. The Proposed Regulations elaborate and detail that whether a well is producing from a natural carbon dioxide-bearing formation is generally based on the facts and circumstances, except that a deposit of natural gas that contains less than ten percent carbon dioxide by volume is not a natural carbon dioxide-bearing formation. The Proposed Regulations also define a manufacturing process as a process involving the manufacture of products, other than qualified carbon oxide, that are intended to be sold at a profit, or are used for a commercial purpose – a facts and circumstances analysis.

**Electricity generating facility**
Section 45Q does not define electricity generating facility. The Proposed Regulations define an electricity generating facility as a facility that is subject to depreciation under MACRS Asset Class 49.11 (Electric Utility Hydraulic Production Plant), 49.12 (Electric Utility Nuclear Production Plant), 49.13 (Electric Utility Steam Production Plant) or 49.15 (Electric Utility Combustion Turbine Production Plant).

**Direct air capture facility**
Section 45Q(e)(1) provides that the term “direct air capture facility” means any facility which uses carbon capture equipment to capture carbon dioxide directly from the ambient air, except the term does not include any facility which captures carbon dioxide that is deliberately released from naturally occurring subsurface springs or using natural photosynthesis. The Proposed Regulations do not alter this definition.

**Applicable facility election**
Section 45Q(f)(6)(A) provides that with respect to an applicable facility that captures at least 500,000 metric tons of qualified carbon oxide during a taxable year, the owner of the carbon capture equipment may elect to have the section 45Q credit deemed as having been placed in service on February 9, 2018. Section 45Q(f)(6)(B) defines applicable facility as a qualified facility (i) which was placed in service before February 9, 2018, and (ii) for which no taxpayer claimed a credit under section 45Q in regard to such facility for any taxable year ending before February 9, 2018.

The Proposed Regulations provide that a taxpayer may make the section 45Q(f)(6) election by filing a statement of election with the taxpayer’s income tax return, in accordance with Form 8933, for each taxable year in which the credit arises. Taxpayers are not permitted to file amended federal income tax returns to revoke prior claims of section 45Q credits to qualify to make the section 45Q(f)(6) election.
80/20 rule
The Proposed Regulations provide for an 80/20 rule such that a qualified facility or carbon capture equipment may qualify as originally placed in service even though it contains some used components of property, provided the fair market value of the used components of property is not more than 20 percent of the qualified facility or carbon capture equipment’s total value (the cost of the new components of property plus the value of the used components of property) (80/20 Rule). For these purposes, the cost of a new qualified facility or carbon capture equipment includes all properly capitalized costs of the new qualified facility or carbon capture equipment. For purposes of the 80/20 Rule only, properly capitalized costs may, at the option of the taxpayer, include the cost of new equipment for a pipeline owned and used exclusively by that taxpayer to transport qualified carbon oxides captured from that taxpayer’s qualified facility that would otherwise be emitted into the atmosphere.

Eversheds Sutherland Observation: The 80/20 rule provided in the Proposed Regulations is similar to the rule often used for the repowering of renewable energy projects. This rule requires careful analysis and documentation of the value of the used equipment retained in the project.

Qualified enhanced oil or natural gas recovery project
Section 45Q(e)(2) provides that the term qualified enhanced oil or natural gas recovery project has the same meaning as given to “qualified enhanced oil recovery project” in section 43(c)(2), but with substitution of “crude oil or natural gas” for “crude oil” in section 43(c)(2)(A)(i).

The Proposed Regulations provide additional detail to the definition, stating that qualified enhanced oil or natural gas recovery project also has the meaning as qualified enhanced oil recovery project in Treas. Reg. §§ 1.43-2 and 1.43-3 with substitution of “crude oil or natural gas” for “crude oil.” The Proposed Regulations expand on the certification requirements of Treas. Reg. §1.43-3, such that:

- the petroleum engineer’s and operator’s continued certifications must include an additional statement that the certification is for purposes of the section 45q credit;
- the petroleum engineer’s certification must be attached to form 8933 and filed with the operator’s or designated owner’s tax return for the first taxable year qualified carbon oxide is injected, and
- the operator’s continued certification must be attached to form 8933 and filed with the operator’s or designated owner’s tax return for the taxable years after the petroleum engineer’s certification is filed, but not after taxable years in which injection activity ceases and all injection wells are plugged and abandoned.

The Proposed Regulations add that qualified carbon oxide that is injected into an oil reservoir that is not a qualified enhanced oil recovery project under section 43(c)(2) due to circumstances such as the first injection of a tertiary injectant occurring before 1991, or because a petroleum engineer’s certification was not timely filed, cannot be treated as qualified carbon oxide, disposed of in secure geological storage or utilized. Such an injection will be treated as secure geological storage, however, if the reservoir has permanently ceased oil production; the operator has obtained an EPA UIC Class VI permit, and the operator complies with 40 CFR Part 98 subpart RR.

3. Secure geological storage requirement
Section 45Q(a)(4)(B) provides a tax credit based on the amount of qualified carbon oxide which is used by the taxpayer as a tertiary injectant in a qualified enhanced oil or natural gas project and disposed of by the taxpayer in secure geological storage, or utilized by the taxpayer as described in section 45Q(f)(5). Section 45Q(a)(3)(B) provides a tax credit based on the amount of qualified carbon oxide disposed of by the taxpayer in secure geological storage and not otherwise used by the taxpayer.

Section 45Q(f)(2) provides that the Treasury Secretary, in consultation with the Administrator of the EPA, the Secretary of Energy and the Secretary of the Interior, shall establish regulations for determining adequate security measures for the geological storage of qualified carbon oxide under section 45Q(a) such that the qualified carbon oxide does not escape into the atmosphere. Such term shall include storage at deep saline formations, oil and gas reservoirs and unminable coal seams under such conditions as the Treasury Secretary may determine under such regulations.

In Notice 2009–83, the IRS provided interim procedures for a taxpayer to determine adequate security measures for secure geological storage of carbon dioxide until regulations were promulgated. In Notice 2019–32, the IRS specifically requested comments on the secure geological storage requirement.

The Proposed Regulations for secure geological storage largely piggyback on EPA regulations. Based on this approach, different rules apply depending on whether qualified carbon oxide is being disposed of in secure geological storage and not otherwise used, or is being used as an injectant in connection with a qualified enhanced oil or natural gas project and then disposed of by the taxpayer.

Under EPA regulations, injection of qualified carbon oxide for geological sequestration beneath the lowermost formation containing an underground source of water requires a UIC Class VI permit. Operators that inject qualified carbon oxide underground are also subject to the EPA’s Greenhouse Gas Reporting Program (GHGRP) requirements in 40 CFR Part 98 subpart RR (colloquially known as subpart RR). Under subpart RR, operators of UIC Class VI wells are required to report basic information on carbon dioxide received for injection, and to develop and implement an EPA-approved site-specific Monitoring, Reporting, and Verification Plan (MRV Plan).

An MRV Plan is a reporting document used by the EPA to maintain an inventory of US carbon emissions under the EPA GHGRP. An MRV Plan does not impose additional safeguards in additional to subpart RR. For non-tax purposes, under EPA regulations, an MRV Plan is not required before injection operations begin. However, under the Proposed Regulations, it appear that there is a requirement that the MRV Plan must be developed and implemented before qualifying for tax credits may be claimed.
Because an MRV Plan typically takes 12 to 18 months to develop and implement, and requires EPA approval, this requirement, if it exists, could significantly delay the development of CCS projects. Under EPA regulations, injection of carbon dioxide in connection with enhanced oil recovery or natural gas recovery requires a UIC Class II permit. Operators that inject carbon dioxide for these purposes are subject to the EPA’s GHGRP requirements in 40 CFR Part 98 subpart UU (colloquially known as subpart UU). Under subpart UU, operators of UIC Class II wells are required to report basic information on carbon dioxide received for injection. Development and implementation of an MRV Plan is not required for operators of UIC Class II wells under subpart UU. The requirements of subpart RR, including the MRV Plan requirement, generally do not apply to the injection of qualified carbon oxide in connection with enhanced oil recovery or natural gas recovery, which are covered by subpart UU requirements. However, if an operator of a UIC Class II well holds a UIC Class VI permit for the well or wells used for enhanced oil recovery, the operator may be subject to reporting under subpart RR. While tax credits are available if injectors of qualified carbon oxide in connection with enhanced oil recovery or natural gas recovery report under subpart RR, the Proposed Regulations provide that to claim tax credits, as an alternative to reporting under subpart RR, the operator may elect to report under a standard adopted by the International Organization of Standardization: CSA/ANSI ISO 27916:19 (Carbon Dioxide Capture, Transportation and Geological Storage - Carbon Dioxide Storage using Enhanced Oil Recovery (CO2-EOR)). Reporting under the alternative ISO standards provides relief for UIC Class II operators from the requirement to develop and implement an MRV Plan under subpart RR. However, a consideration in applying the alternative standard under ISO is that if the ISO standard is applied, the taxpayer must prepare and provide documentation to an independent engineer or geologist, who then must certify that the documentation, including the mass balance calculations as well as information regarding monitoring and containment assurance, is accurate and complete. By contrast, self-certification is permitted for taxpayers that report in compliance with subpart RR. Unlike the alternative rule for UIC Class II operators to report under ISO standards, there is no such alternative rule for UIC Class VI operators to report under the ISO standard instead of subpart RR.

**Eversheds Sutherland Observation:** Commenters requested alternatives to MRV Plan reporting for operators with a valid UIC Class VI permit. Proposed alternatives would eliminate anticipated delays and redundancies associated with MRV Plan reporting for taxpayers that dispose of qualified carbon oxide in secure geological storage and do not otherwise use such qualified carbon oxide. However, the IRS did not adopt these comments in the Proposed Regulations.

### 4. Utilization of qualified carbon oxide

Section 45Q(f)(5) provides that “utilization of qualified carbon oxide” means (i) the fixation of such qualified carbon oxide through photosynthesis or chemosynthesis, such as through the growing of algae or bacteria; (ii) the chemical conversion of such qualified carbon oxide to a material or chemical compound in which such qualified carbon oxide is securely stored, or (iii) the use of such qualified carbon oxide for any other purpose for which a commercial market exists (with the exception of use as a tertiary injectant in a qualified enhanced oil or natural gas recovery project), as determined by the Secretary. The Proposed Regulations do not alter this definition.

Section 45Q(f)(5) further provides a methodology to determine the amount of qualified carbon oxide utilized by the taxpayer. Such amount is equal to the metric tons of qualified carbon oxide which the taxpayer demonstrates, based upon an analysis of lifecycle greenhouse gas emissions (LCA) and subject to such requirements as the Secretary, in consultation with the Secretary of Energy and the Administrator of the EPA, determines appropriate, were (i) captured and permanently isolated from the atmosphere, or (ii) displaced from being emitted into the atmosphere, through use of a process described in section 45Q(f)(5).

Section 45Q(f)(5) defines lifecycle greenhouse gas emissions as having the same meaning as under subparagraph (H) of section 211(o)(1) of the Clean Air Act (42 U.S.C. 7545(o)(1)(H)), as in effect on February 9, 2018, except that “product” is substituted for “fuel” each place it appears in such subparagraph. Thus, the term lifecycle greenhouse gas emissions means the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes) related to the full product lifecycle, including all stages of product and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished product to the ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential. The Proposed Regulations provide additional context to the definition by referencing Table A-1 of 40 CFR Part 98 subpart A as to where greenhouse gas relative global warming potential is listed.

Based on consultation with the EPA and Department of Energy (DOE), the Proposed Regulations provide that the LCA must be in writing and either performed by a professionally licensed third-party that uses generally accepted standard practices of quantifying the greenhouse gas emissions of a product or process and comparing that to a baseline. The LCA must contain certain documents consistent with ISO 14044:2006, “Environmental Management- Life cycle assessment- Requirements and Guidelines” as well as a statement documenting the qualifications of the third-party. The Proposed Regulations also require that the LCA is required to be submitted to and approved by the DOE and IRS.

The Proposed Regulations reserve on defining commercial markets and providing for standards adequate of lifecycle analysis.
5. Tax credit recapture

Section 45Q(f)(4) directs the Treasury Secretary to provide regulations for recapturing the benefit of any section 45Q credit allowable with respect to any qualified carbon oxide which ceases to be captured, disposed of or used as a tertiary injectant in a manner consistent with the requirements of section 45Q.

**Eversheds Sutherland Observation:** The rules for when tax credits may be recaptured are among the most significant provisions in the Proposed Regulations because of their potential impact on the willingness of tax equity investors to finance CCS projects and, therefore, on the ability of taxpayers to develop CCS projects. Recapture rules that are unclear or too onerous could inadvertently deter the construction of CCS projects, frustrating the intent of Congress.

Under the Proposed Regulations, the recapture period, which is the open period during which a recapture event may occur, begins on the date of the first injection of qualified carbon oxide for disposal in secure geological storage or use as a tertiary injectant and ends the earlier of five years after the last taxable year in which the taxpayer claimed a section 45Q credit or the date monitoring ends under subpart RR or the alternative ISO standard. Because tax credits can be claimed for a period of 12 years under section 45Q(a), the proposed rule could extend the recapture period to as long as 17 years.

The proposed rules are more complicated if a recapture event occurs with respect to a secure geological storage location in which the stored qualified carbon oxide had been captured from more than one unit of carbon capture equipment that was not under common ownership. In such a case, the recapture amount must be allocated among the taxpayers that own the multiple units of carbon capture equipment pro rata on the basis of the amount of qualified carbon oxide captured from each of the multiple units of carbon capture equipment. Similarly, a pro rata approach to the recapture of tax credits applies in the event of a capture event where the leaked amount of qualified carbon oxide is deemed attributable to qualified carbon oxide with respect to which multiple taxpayers claimed tax credits.

A limited exception to recapture applies in the event of a leakage of qualified carbon oxide resulting from actions not related to the selection, operation or maintenance of the storage facility, such as volcanic activity or a terrorist attack. As provided in Rev. Proc. 2020-12, a taxpayer may obtain recapture insurance to protect against recapture.

**Eversheds Sutherland Observation:** This is an important provision for understanding the potential scope of recapture liability. We urge Treasury and the IRS to provide additional examples and clarification regarding this exception.

The amount of leakage is first applied and offset against the amount of qualified carbon oxide captured and sequestered during which the IRS recapture tax credits after a leakage event. The proposed allocation of tax credits among multiple parties raises numerous questions including how the IRS would recover tax credits in the event of a secure geologic storage location that has been used for multiple carbon capture units over a long period of time, some of which units were operational only for certain periods of time; and in the case of insolvency of one or more, but not all, of the owners of the carbon capture units how the credits would be recaptured.

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