Carbon Sequestration Tax Credits

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History of section 45Q tax credits

- **Section 45Q tax credits have been available since 2008 but could only be claimed on the first 75 million metric tons in total carbon dioxide sequestered nationwide.**
- **In 2018, Congress dropped the cap, increased the credit amount, and allowed tax credits to be claimed for 12 years after the capture equipment is first placed in service.**
- **Treasury published proposed regulations earlier this year. Comments were due August 6. Treasury scheduled a hearing for taxpayers to testify about the proposed regulations for this morning.**

Two broad questions:

What must be done to qualify for the tax credits?

Once qualification is assured, how can the tax credits be converted into current cash in the tax equity market to help pay for the project?

Three things must fall into place to qualify for tax credits.

1. **You must have a qualified facility that is a source of emissions.**
2. **Add capture equipment.**
3. **Dispose of the CO2.***

*The statute refers to “carbon oxide,” which for simplicity is referred here as CO2.

There are deadlines to do certain things.

The tax credit amount and how long the tax credits run depend on when and how these items fall into place.

Three allowed uses of captured CO2:

- Disposal in secure geological storage.
- Use as a tertiary injectant in a qualified enhanced oil or natural gas recovery project followed by disposal in secure geological storage.
- Use it another qualifying manner:
  - Conversion into an organic compound by growing algae or bacteria.
  - Chemical conversion to a material or compound in which the carbon oxide is securely stored.
  - Other purposes as designated by the IRS.

A “qualified facility” is an industrial or direct air capture facility or power pant that -

- Emits up to 500,000 metric tons of CO2 a year and at least 25,000 tons are put to *commercial use*, generally, (but not only) industrial facilities.
- Is a power plant that emits 500,000 metric tons or more of CO2 a year.
- Is any other facility (including a direct air capture facility, which captures directly from ambient air (excluding CO2 that is deliberately released)) that emits at least 100,000 metric tons of CO2 a year.

Rules favor very large projects. Taxpayers’ comments to the proposed regulations request rules allowing different locations to be aggregated in meeting these standards.

The captured carbon emissions must be CO2 that "would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release." (This requirement does not apply to a direct air capture facility.)

An “industrial facility” does not include a facility that produces CO2 from CO2 production wells at “natural carbon dioxide-bearing formations.”

A manufacturing process can be an industrial facility.

- An industrial facility must produce CO2 from a fuel combustion source or fuel cell or a manufacturing process.
- A manufacturing process must involve the manufacture of a product, other than CO2, that is intended to be sold at a profit or used for a commercial purpose.

Start of construction deadline

The industrial facility must be under construction by the end of 2023. The capture equipment must be under construction by the same deadline or be part of the original planning and design for the industrial facility.

“Carbon capture equipment”

The taxpayer must own all components of property used to capture or process CO2 until the CO2 is transported for disposal, injection or use.

Included components:

Property necessary to compress, treat, process, liquefy, pump or perform some other physical action to capture qualified carbon oxide.

- **Including 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 carbon oxide related equipment.**

Excluded components:

The taxpayer does not have to own pipelines, branch lines, or land and marine transport vessels used for transporting captured qualified CO2 for disposal, injection or use.

The person claiming the tax credits must either capture and dispose of the CO2 itself or else contract with someone else to do so. The capture equipment owner can elect to let the person disposing of the CO2 claim the tax credits.

The election is made annually. The owner can choose whatever share of the tax credits that year to transfer. The owner transfers a percentage of the total credits rather than a dollar amount. It can transfer the credits to more than one other person if more than one person will use the CO2.

Tax credit amount: equipment placed in service on or after Feb. 9, 2018

- **$31.77 (with scheduled increases through 2026 ending at $50) a metric ton if not used as a tertiary injectant.**
- **$20.22 (with scheduled increases through 2026 ending at $35) a metric ton if used as a tertiary injectant.**

For this version of the credit, there is a credit period of 12-years from placed in service date.

The construction of the facility must begin before 2024.

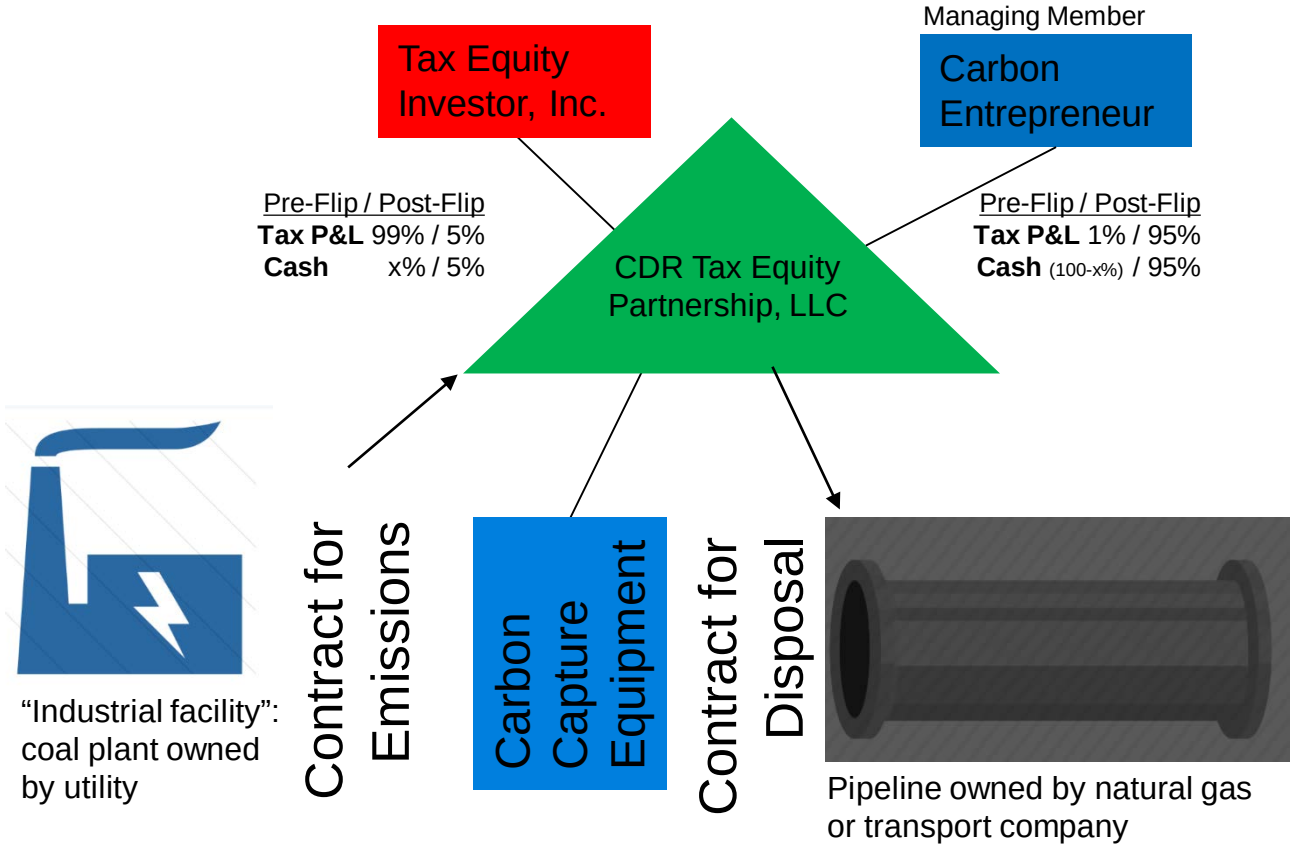
Tax credit example

For CO2 captured from power plants, the minimum capture amount is 500,000 metric tons per year. Assume the CO2 is used as a tertiary injectant, which has the lower tax credit dollar amount.

Year	Tax Credit	Metric Tons of CO2 Captured	Tax Credit Value
2021	$22.68	500,000	$11,340,000
2022	$25.15	500,000	$12,575,000
2023	$27.61	500,000	$13,805,000
2024	$30.07	500,000	$15,035,000
2025	$32.54	500,000	$16,270,000
2026	$35.00	500,000	$17,500,000
2027	$35.00	500,000	$17,500,000
2028	$35.00	500,000	$17,500,000
2029	$35.00	500,000	$17,500,000
2030	$35.00	500,000	$17,500,000
2031	$35.00	500,000	$17,500,000
2032	$35.00	500,000	$17,500,000
2033	$35.00	500,000	$17,500,000
		Total Tax Credit Value	$209,025,000

Tax equity example

There are numerous structuring variations.



CO2 used tertiary injectant for natural gas field owned by gas company

Tax credit example / cash from tax equity investor

- Revenue Procedure 2020-12 requires that no more than 99% of the tax credit be allocated to the tax equity investor.
- Further, no more than 50% of the tax equity investor's capital can be contingent.
- At least 20% must be paid when the tax equity investor acquires its interest.
- The remaining 30% can be deferred but not contingent.

- Total tax credit value $209,025,000 (see prior slide).

- 99% allocated to tax equity investor $206,934,750. So if the tax equity investor provides $1 per dollar of expected tax credit:
  - 20% due at acquisition of partnership interest: $41,386,950
  - 30% deferred but non-contingent: $62,080,425
  - 50% contingent (i.e., payable after meeting thresholds): $103,467,375

  Plus the tax equity investor gets a deduction at some point for $206,934,750 (i.e., the capital it contributed) which at the current corporate tax rate (21%) is worth $43,895,250

Determining the placed in service date

"80/20" retrofit (repower) rule applies in determining placed in service date:

- **80% of fair market value of a facility attributable to equipment added on or after Feb. 9, 2018 then whole facility deemed newly placed in service.**

Certain pre-Feb. 9, 2018 facilities can elect to be treated as placed in service on Feb. 9, 2018:

- **Election only applies to facilities in years at least 500,000 metric tons are captured.**
- **Facility must not have claimed credits before 2018.**

Recapture of the tax credit

The recapture period runs potentially for 17 years (i.e., the 12-year tax credit period plus five years after). Only the net leak in a year is recaptured (i.e., leak after offsetting the CO2 injected into the ground that year). The IRS will look back as many as five years after the year the net leak occurs to recapture tax credits claimed during that period.

More on Recapture

If multiple taxpayers are storing in the same underground reservoir, then they will have to come up with a method to allocate the leaked CO2 among them. Leaks triggered by a volcano or earthquake do not lead to recapture.

Operational risks to earning tax credits

- **Risk that the minimum emissions levels will not be reached.**
- **Risk that a coal plant serving as the industrial facility will shut down before the 12 years have run.**

Audience questions