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Tax Credits for Carbon Capture

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Two broad questions:

What must be done to qualify for section 45Q 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.

- **You must have a qualified industrial facility that is a source of emissions.**
- **Add or already have capture equipment.**
- **Dispose of the 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.

Qualified emissions source

The emissions must be from a factory, refinery, power plant or other fuel combustion source, fuel cell, pipeline or manufacturing process. If CO2 is underground, drawing it out counts as long as the commercial goal is to recover some other gas mixed with it.

The facility that is the source of carbon emissions can already exist or it can be new, but any new facility must be under construction by the end of 2025. It must generally be completed within six years after the year construction starts. Congress may extend the deadline to start construction.

The carbon capture equipment must also already be in place or be under construction by December 2025 or have been part of the original planning and design for the industrial facility.

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."

The volume of CO2 emitted each year must reach certain thresholds.

- A facility can emit up to 500,000 metric tons of CO2 a year, but must put at least 25,000 tons to commercial use.
- A power plant not putting CO2 to commercial use must emit 500,000 metric tons or more of CO2 a year.
- Any other facility must emit at least 100,000 metric tons of CO2 a year.

Permitted uses

One of three things must be done with the captured CO2:

- **Dispose of it in secure geological storage.**
- **Use it as a tertiary injectant in a qualified enhanced oil or natural gas recovery project followed by disposal in secure geological storage.**
- **Put it to a permitted commercial use.**

The permitted commercial uses are the following:

- Affixation of the CO2 to something else through photosynthesis or chemosynthesis, such as growing algae or bacteria.
- Chemical conversion to a material or compound in which the carbon oxide is securely stored.
- Use for some other purpose for which a commercial market exists.

Anyone putting CO2 to commercial use must do a lifecycle analysis. The amount of CO2 considered put to commercial use cannot exceed the CO2 captured at the emissions source. It may be less. Direct and significant indirect emissions during the full product lifecycle from production of raw inputs to delivery of the product to consumers, must be subtracted.

Tax credit amounts

Section 45Q tax credits have been available since 2008, but they could only be claimed on the first 75 million metric tons in total CO2 sequestered nationwide.

In early 2018, Congress rewrote the statute to drop the cap, increase the credit amount, and allow tax credits to be claimed for 12 years after the capture equipment is first placed in service. An election can be made to claim credits on older equipment under the new regime.

Amount – secure geological storage

2021	34.81
2022	37.85
2023	40.89
2024	43.92
2025	46.96
2026	50.00

Amount – other uses

2021	22.68
2022	25.15
2023	27.61
2024	30.07
2025	32.54
2026	35.00

After 2026, the amounts are adjusted for inflation as measured by the GNP implicit price deflator published by the US Department of Commerce.

A separate election can be made to treat older equipment as originally put in service on February 9, 2018 to allow a later start for the 12-year tax credit period, but only at facilities where at least 500,000 tons of CO2 a year are being captured. Tax credits cannot have been claimed by anyone on CO2 captured at the facility before February 9, 2018.

Another way to buy more time is to make such extensive upgrades to the capture equipment that it is considered brand new. This starts a new 12-year period.

The amount spent on improvements must be at least four times the value of the used parts of the capture equipment that remain in use. The cost of a new CO2 pipeline can be counted as part of the improvements if the owner of the capture equipment also owns the pipeline and uses it exclusively to transport CO2 from the capture equipment.

Who owns the tax credits

The tax credits belong to the person who owns the capture equipment and disposes or contracts with someone else to dispose of the CO2.

The owner of the capture equipment can transfer the tax credits to the person who disposes the CO2 underground, uses it as a tertiary injectant or use the CO2 in a commercial use.

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.

The election is made on IRS Form 8933. This is the same form used to claim tax credits and to report the volume of CO2 captured during the year. Where tax credits are assigned to the person disposing of the CO2, both parties must file the form, and the disposer must attach the form filed by the capture equipment owner to its form or it will be denied tax credits.

In cases where the capture equipment owner transfers the tax credits to a company it hires to dispose of the CO2 underground, the tax credits remain with that company even though it hires a subcontractor physically to dispose of the CO2.

Carbon capture equipment

The fact that the tax credits belong to the owner of the capture equipment and that the 12-year period for claiming tax credits can be restarted by making improvements place a premium on figuring out what is the capture equipment.

The IRS says the capture equipment is all of the equipment used to separate or capture, treat, process, dry, liquefy, pump or compress the CO2 up to the point where it is transported for disposal. It includes gathering and distribution lines that collect CO2 before the CO2 is transported, but not the pipeline that transports the CO2.

The IRS suggested in the preamble to the section 45Q regulations that ownership of the capture equipment can be split between two or more companies, but all of the credits belong in that case to the person who is responsible for disposing of the CO2. It is considering whether to make this clear in the regulations. The IRS said that if multiple owners want to split the tax credits, they should form a partnership to own the capture equipment.

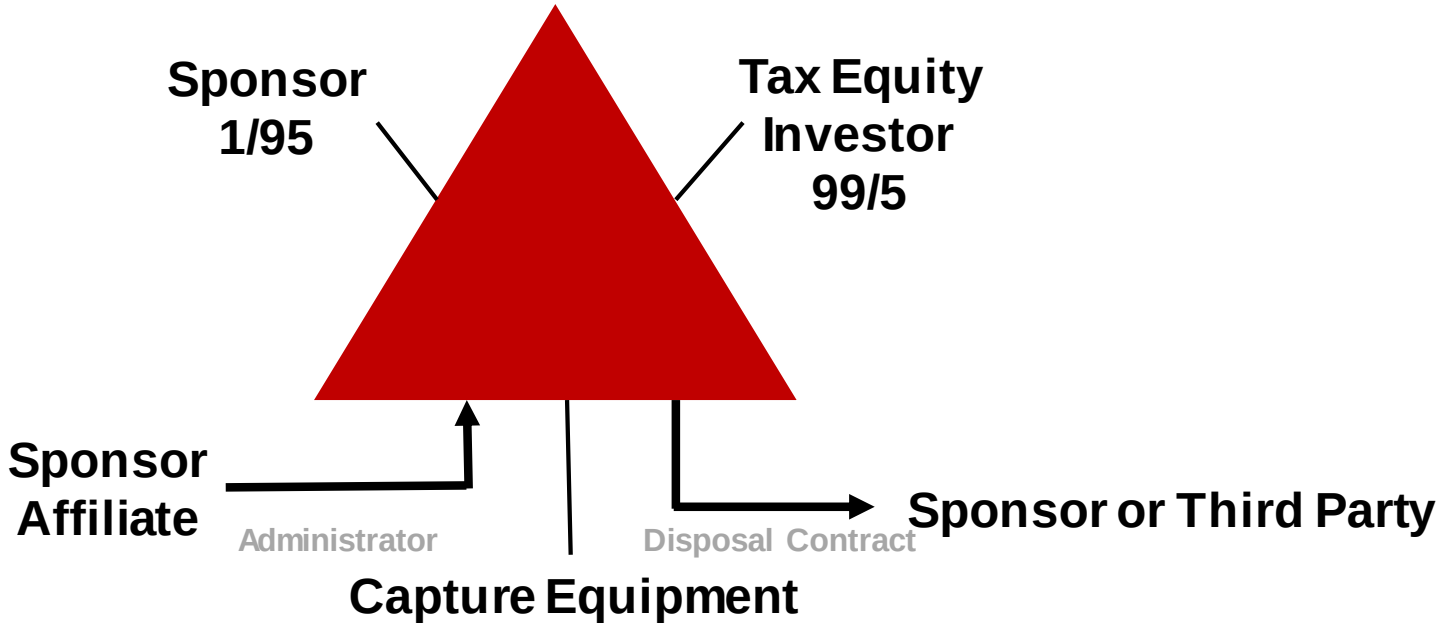
Tax equity structures

There are multiple ways to structure a tax equity deal, but partnership flip transactions are expected to be the most common.

In a partnership flip, the owner of the industrial facility forms a partnership with a tax equity investor to own the capture equipment. Tax credits must be shared by partners in the same ratio they share in income or loss, depending on whether the partnership is expected to generate cash flow.

If the partnership activities will generate gross receipts, then the credits must be shared by partners in the same ratio that partnership income is allocated. Otherwise, they are shared in the same ratio as losses. The tax equity investor starts with 99% of income and loss, falling to 5% after the tax credits expire. There cannot be a call or put option for the investor to exit after the flip.

Basic partnership flip



Up to 50% of the tax equity investment can be made on a "pay-go" basis, meaning over time as tax credits are allocated. The investor must make at least 20% of its total investment when it acquires its partnership interest. Ongoing capital contributions to cover operating costs are not considered part of the tax equity investment.

Tax credits could also be transferred using a sale-leaseback, an outright sale of the capture equipment or disposal contract where the tax equity investor agrees to be responsible for disposing of the CO2 but subcontracts the actual physical disposal to someone else. The investor could also be a partner in a disposal partnership with the disposal company.

If the IRS clarifies the regulations, then other structures include a sale of part of the capture equipment or a tenancy-in-common structure where the industrial facility owner and the tax equity investor each own undivided interests in the capture equipment.

Some tax equity investors are using "tax event" clauses copied from refined coal deals where they will stop making capital contributions after an adverse audit adjustment or change in tax law that reduces tax credits by more than 35%. They are deferring installment payments or contributions in up to a fixed number of quarters when the CO2 captured does not justify the full contribution.

Tax credit recapture

The tax credits claimed will be recaptured, and must be repaid to the US Treasury, to the extent the CO2 leaks from underground storage or ceases to be used as a tertiary injectant.

The period when the tax equity investor remains exposed to some level of recapture runs potentially for 15 years (i.e., the 12-year tax credit period plus three 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 three years to recapture tax credits on account of a net leak.

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, earthquake (not caused by injection activities), pandemic, war or government actions do not lead to recapture.

Other issues

The IRS disallowed more than half the section 45Q credits claimed through 2019. The main reason is taxpayers have not been complying with the US Environmental Protection Agency requirements for monitoring, reporting and verification of the carbon emissions captured.

Carbon capture may not be economic at some facilities with large carbon footprints. For example, capture equipment and compressors require electricity to operate. This increases the parasitic load at a power plant. If the captured CO2 is not relatively clean, large compressors are needed to compress a much larger volume of gas and the capital and operating costs may be prohibitive.

Tax equity investors will not take technology risk where new technologies are involved. They also will not take construction risk. The potential environmental liabilities involved may make tax equity investors unwilling to be on the disposal side of the transaction.

Minimum emissions levels may not be reached to make the deal economic. There is a risk that coal-fired power plants will shut down before the 12 years have run on tax credits.

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