Bloomberg Tax

Tax Management Memorandum™

No Carbon Copy: Six New Planning Considerations for Investors and Tax Counsels in Section 45Q Carbon Capture Deals in Light of the Inflation Reduction Act

By Judy Kwok, Adam Kobos, and Anne Loomis[*]
Troutman Pepper
New York, NY, Portland, OR, Richmond, VA

As the long-anticipated tax equity market for carbon capture projects heats up, fueled by an extended, richer §45Q[1] credit with lower carbon capture thresholds under the recently-passed Inflation Reduction Act of 2022 (Inflation Reduction Act),[2] veteran tax equity investors may understandably feel a sense of *déjà vu* from the early days of the §45 production tax credit (PTC). Like the PTC, the §45Q credit is ''production''-based, in that it is based on the annual metric tonnage of carbon oxide captured by a qualifying facility and subsequently sequestered or utilized. The §45Q guidance issued by the IRS[3] (the ''§45Q Guidance'') is highly similar, though not identical, to the PTC guidance issued by the IRS in Rev. Proc. 2007-65 and Notice 2013-29 *et seq.*, respectively (the ''PTC Guidance''). However, the similarities may be superficial: from an economic and tax structuring perspective, carbon capture deals are turning out to be very different. This article summarizes several unique tax planning topics for tax equity investors to consider as they embark on the carbon capture journey.

CONSIDERATION #1: THE RISE OF THE ZERO-CASH PARTNERSHIP

To qualify for a §45Q credit, the captured carbon oxide must either be (i) used in enhanced oil recovery (EOR), (ii) sequestered, or (iii) utilized outside of EOR. With non-EOR utilization technologies some years away from being feasible on a large-scale basis, the two principal paths towards a §45Q credit for a large carbon capture facility are sequestration and use in EOR. Projects in the United States typically are not paid by federal or state governments for sequestration activity. And while oil companies do pay for carbon oxide, the revenue from carbon oxide supply may be relatively small in relation to the §45Q credit. In other words, it is not unusual for a tax equity partnership owning a carbon capture facility to generate relatively low amounts of cash — or none at all.

There is a strong indication in the §45Q Guidance that the IRS intended to bless zero-cash deals by

---

[*] Judy Kwok is a partner in Troutman Pepper's tax practice group, focusing on all federal income tax aspects of investing in onshore and offshore wind, solar, and other types of renewable energy, as well as general M&A tax issues for the energy industry. Kwok has deep technical and commercial knowledge of the complex tax issues arising from renewable energy investments and experience advising clients on international tax.

Adam Kobos is a partner in Troutman Pepper's tax practice group, handling a wide array of tax matters for energy industry clients, including utilities, tax equity investors, and project developers and sponsors. Kobos regularly represents clients who develop, acquire, or invest in renewable energy projects, energy storage facilities, electric vehicle charging, and other alternative fuel refueling facilities.

Anne Loomis is a CPA and partner in Troutman Pepper's tax practice group, with many years of experience in the energy industry. Having previously served as tax counsel for a Fortune 500 corporation specializing in electric generation and distribution and gas transmission, Loomis regularly advises clients on structuring investments that produce federal and state tax benefits, with an emphasis on energy tax credits.

This article may be cited as Judy Kwok, Adam Kobos, Anne Loomis, *No Carbon Copy: Six New Planning Considerations for Investors and Tax Counsels in Section 45Q Carbon Capture Deals in Light of the Inflation Reduction Act*, 63 Tax Mgmt. Memo. No. 19 (Sept. 12, 2022).

[1] All section references are to the Internal Revenue Code (the Code) or the Treasury regulations promulgated thereunder, under otherwise indicated.

[2] *See* Pub. L. No. 117-169 at §13104.

[3] Rev. Proc. 2020-12 (providing a safe harbor whereby investors in partnership flip structures are treated as partners, and their §45Q credit allocations respected) and Notice 2020-12 (providing a safe harbor whereby projects are treated as having ''begun construction'' for purposes of the deadlines in the statute).

counting renewable tax credits in the pre-tax profit analysis, a position that is fully consistent with historic IRS authorities[4] and case law.[5] A key difference between the §45Q Guidance and the PTC Guidance is that whereas the PTC Guidance defines the tax equity investors as partners whose return is reasonably anticipated to be derived from both PTCs ''and participation in operating cash flow,'' such language — which would be potentially problematic in a zero-cash deal — is absent from the §45Q Guidance, suggesting that zero-cash deals are permitted under the §45Q Guidance. The §45Q Guidance also explicitly contemplates zero-cash deals, stating that ''[i]f the Project Company does not receive payments for its activities relating to carbon oxide sequestration,'' then the allocation of the credit in accordance with the allocation of the expenses associated with capture and disposal or utilization of the carbon oxide (as applicable) will be treated as being in accordance with the partners' interests in the partnership.[6] Yet the §45Q Guidance also 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*.''[7] Clarification of the last dangling clause in this ambiguous sentence would eliminate confusion and would be consistent with the evident intent of the §45Q Guidance.

CONSIDERATION #2: WHEN A POWER PLANT FAILS TO MEET POLLUTION EXPECTATIONS

As large-scale direct air capture, which is theoretically a means of qualifying for the §45Q credit, is not yet considered to be in the realm of possibility, currently the prevalent way to capture a large amount of carbon is to install a carbon capture facility at a carbon-emitting industrial facility (e.g., a power plant), potentially in exchange for compensation to the emitter. Moreover, in order for the §45Q credit to be available at all through sequestration or EOR in connection with carbon oxide from a power plant, at least 18,750 metric tons of carbon oxide must be captured in the relevant taxable year.[8] The economics of the carbon capture project are thus deeply dependent on the emitter providing a reliable supply of carbon oxide, creating a strange new fear to keep tax equity investors up at night — the sinister specter of an emitting facility that fails to pollute enough.

The §45Q Guidance is silent as to whether under-emission is a risk that a sponsor can take off a tax equity investor's plate. It is arguable, based on the fact that sponsor guarantees of wind resource availability are not permitted by the PTC Guidance, that sponsor guarantees of carbon oxide availability might not be permitted by the §45Q Guidance either. If such were the case, one solution is to put the risk on the emitter, as the §45Q Guidance is clear that an arms-length carbon oxide purchase agreement between project company and emitter is not considered a guarantee, even if it contains ''supply-or-pay'' provisions or the parties are related.[9] Even if the emitter is willing, such a backstop by the emitter is naturally only useful to the extent that the emitter itself is creditworthy; the §45Q Guidance does not address other assurances that the sponsor can give, such as a guarantee of the emitter's creditworthiness, a back-to-back arrangement where the sponsor purchases carbon from the emitter and sells to the project company, or a more restricted guarantee in the event that the carbon supply agreement is terminated due to a default by the emitter. Moreover, emitters may be unwilling to take the risk, and for a power plant emitter that is subject to rate regulation, acceptance of the risk may not be permitted by the emitter's regulators. Indeed, even if the tax equity investors are comfortable as to the emitter's creditworthiness and the emitter is willing and able to accept the risk of under-emission, the prospect of an entirely static source of carbon supply may impact the debt-equity analysis. Is an investment with no material volatility still unquestionably an equity investment? Wind projects have so-called ''P-factors'' denoting the key upside and downside cases in an investment. Are there similar metrics by which volatility in carbon supply can be measured, so as to strengthen the equity characterization of a tax equity investment? And if they do not already exist, would we need to invent them?

---

[4] *See, e.g.,* AM 2018-002; TAM 201729020; PLR 200620004, PLR 200609002, PLR 200609001.

[5] *See, e.g., Sacks v. Commissioner*, 69 F.3d 982, 991 (9th Cir. 1995); *Cross Refined Coal, LLC v. Commissioner*, No. 19502-17 (T.C. Bench Aug. 29, 2019), *aff'd*, 2022 BL 272696 (D.C. Cir. Aug. 5, 2022).

[6] Rev. Proc. 2020-12 at §4.09.

[7] Rev. Proc. 2020-12 at §4.02(2)(b) (emphasis added).

[8] §45Q(d)(2). We note that the Inflation Reduction Act significantly reduces the emissions thresholds for all types of facilities, but adds a requirement that carbon capture equipment at an electric generating unit have a capture design capacity of not less than 75% of the unit's baseline carbon oxide emissions.

[9] Rev. Proc. 2020-12 at §4.08(2).

ISSN 0148-8295

CONSIDERATION #3: CREDIT RECAPTURE WHEN CARBON OXIDE LEAKS FROM SEQUESTRATION FACILITY

The recapture analysis for sequestration-based carbon capture projects is relatively straightforward. Recapture applies to a leak of the sequestered carbon oxide only if such leak results from actions related to ''selection, operation, or maintenance'' of the storage facility.[10] In contrast to the recapture rules[11] for §48 investment tax credits (ITCs), most notably in the solar space, §45Q recapture specifically does not apply to volcanic activity or terrorist attacks, implying that force majeure generally does not lead to recapture of the §45Q credit.[12] Thus, it would appear that most recapture risks can be guaranteed by the sponsor under the §45Q Guidance, which covers ''guarantees for the avoidance of any act (or omissions) that would cause the Project Company to fail to qualify for the §45Q Credit or that would result in a recapture of the §45Q credit.''[13] If a sponsor guarantee is not enough to set investors' minds at rest, tax insurance for recapture events arising from sequestration-based carbon capture deals is permitted under the §45Q Guidance,[14] and there is an active market of insurance companies interested in providing it.

Meaningful questions still remain. In Rev. Proc. 2014-12, a safe harbor for partnership allocations of the rehabilitation credit that is widely seen as providing guidance for partnership allocations of ITCs, the IRS specifically excludes any funded sponsor guarantee — i.e., a guarantee where money or property is set aside to fund the guarantee, or where the sponsor agrees to maintain a minimum net worth in connection with the guarantee.[15] Does a similar restriction apply to funded sponsor guarantees against recapture? Perhaps not, if — like much of the renewables tax bar—you believe that the principles of Rev. Proc. 2014-12 only apply to the ITC. Second, where does one demarcate the line between exceptional events (e.g., earthquakes) that do not cause recapture, and actions relating to ''selection'' of a storage facility (e.g., sequestration in an area that has a material likelihood of earthquakes) that do cause recapture? To address that point, a taxpayer might consider contemporaneous documentation demonstrating that catastrophic events are not reasonably foreseen at the inception of the project. Even if a project is protected by tax insurance in the event of recapture, payouts may be difficult to obtain in a timely manner if the insurance company's interpretation of the rules differs from the tax equity partnership's view.

CONSIDERATION #4: MANAGING DEFICIT RESTORATION OBLIGATIONS

For tax equity investors in wind and solar, wrestling with deficit restoration obligations (DROs) — the maximum amount that the investor pledges to contribute upon partnership liquidation to eliminate a negative §704(b) capital account, and beyond which losses (and thus production-based credits, including the §45Q credit) will be reallocated to the sponsor[16] — is par for the course during the financial modeling process. However, carbon capture projects come with disconcerting DRO considerations in a class of their own.

Whereas most DRO concerns in the PTC and ITC space arise from downsides where the project underperforms (sometimes egregiously so), a projected DRO problem in a sequestration-based carbon capture project, which will never earn material operating income, is virtually inevitable. The same may be said for many EOR projects where the income stream from EOR is relatively low, and for projects where the carbon capture projections are relatively static. The problem is that the key tool for eliminating negative capital accounts — income allocations — is simply unavailable.

Second, most of the traditional DRO-maintenance strategies that are available in the PTC and ITC space — e.g., reallocation of the §734 step-up through a special allocation of capital gain and reallocating losses from a hedging instrument — generally are not available in a carbon capture project that generates little or no income. Moreover, the easiest way to relieve an investor of DRO pressure, electing alternative depreciation under §168(g), is not effective where the sponsor, not the investor, is carrying the DRO (a common problem in carbon capture projects, where the sponsor's principal source of economic return is through distributions of cash from tax equity fundings).

---

[10] Reg. §1.45Q-5(i) (''A recapture event is not triggered in the event of a loss of containment of qualified carbon oxide resulting from actions not related to the selection, operation, or maintenance of the storage facility, such as volcanic activity or terrorist attack.''). *See also* §45Q(f)(4) (''Secretary shall, by regulations, provide for recapturing the benefit of any credit allowable under subsection (a) 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 this section.'').

[11] §50(a).

[12] See Note 10, above.

[13] Rev. Proc. 2020-12 at §4.08(2).

[14] Rev. Proc. 2020-12 at §4.08(1).

[15] Rev. Proc. 2014-12 at §4.05(1).

[16] *See* Reg. §1.704-1(b)(4)(ii).

ISSN 0148-8295

CONSIDERATION #5: DEPRECIATION OF THE CARBON CAPTURE FACILITY

While a standalone carbon capture facility is generally expected to be depreciable under the seven-year MACRS schedule for property without a class life,[17] the assets used in the production of electricity for sale are generally depreciated under 15-year MACRS for combustion-powered turbine systems or 20-year MACRS for steam-powered or combined-cycle turbine systems,[18] or perhaps—e.g., in the case of a biomass facility[19] — under a five-year MACRS schedule. In certain situations, particularly where the carbon capture facility is physically and logistically integrated with a power plant in significant ways, it may be difficult to discern whether the carbon capture facility is considered to be part of the power plant for purposes of determining the carbon capture facility's depreciation schedule. Rev. Rul. 2021-13, where the original placed-in-service date for a ''single process train'' for purposes of §45Q is confirmed to be distinct from the placed-in-service date for an existing acid gas removal unit for depreciation purposes, arguably implies that a carbon capture facility may potentially be viewed as part of a power plant for depreciation purposes (even if not for §45Q purposes). Such ambiguity may cause additional complexities in the modeling of a tax equity investment, particularly where there are DRO concerns. Moreover, given that Reg. §1.45Q-2(e) defines ''electricity generating facility'' purely by reference to depreciation class, the ambiguity may create additional uncertainty regarding the minimum amount of carbon that must be captured in a year in order for a facility to be eligible for the §45Q credit.[20]

CONSIDERATION #6: IMPACT OF DIRECT PAY

The Inflation Reduction Act has significantly scaled back the direct pay provisions introduced in the Build Back Better Act of 2021, such that taxpaying entities will now be able to claim direct payments for only a handful of credits — the clean hydrogen production credit, the advanced manufacturing production credit, and the §45Q credit.[21] Tax equity investors in the carbon capture area must thus consider how a direct pay regime affects the manner in which sponsors choose to obtain financing. Integral to the analysis is the still cloudy question of when, after filing its tax return, a sponsor without tax equity financing can reasonably expect to receive its direct payment under §6417. The impact of §6418, pursuant to which the §45Q credit may also be transferable to an unrelated party in exchange for cash, on the relative attractiveness of direct pay and tax equity, also remains to be seen.[22]

With the tax equity market for carbon capture projects in its early stages, tax planning questions of first impression — some of them fundamental to the economics of the investment — will continue to arise. Sponsors and investors should remain vigilant for these new potential pitfalls and opportunities.

---

[17] §168(e)(3)(C)(v).

[18] Rev. Proc. 87-56.

[19] §168(e)(3)(B)(vi)(III).

[20] Under current law as revised by the Inflation Reduction Act, §13104, to qualify for §45Q credits, carbon capture equipment at an electricity generating facility must capture at least 18,750 metric tons of qualified carbon oxide during the taxable year and have a capture design capacity of at least 75% of the unit's baseline carbon oxide emissions, a direct air capture facility must capture at least 1,000 metric tons of qualified carbon oxide during the taxable year, and carbon capture equipment at any other facility must capture at least 12,500 metric tons of qualified carbon oxide during the taxable year. §45Q(d)(2)(A)-§45Q(d)(2)(C).

[21] *See* Inflation Reduction Act at §13801(a).

[22] *See* Inflation Reduction Act at §13801(b).

ISSN 0148-8295