



Earth Track Policy Brief – July 2026

## **Surging Subsidies for Enhanced Oil Recovery: High Taxpayer Cost, No Climate Benefit**

Carbon Capture, Utilization and Storage (CCUS) is frequently presented as a climate solution. In reality, the technology is heavily subsidized and to date has almost always been used for Enhanced Oil Recovery (EOR) to extract additional oil from declining wells. Subsidizing EOR is a climate negative.<sup>1</sup> The 45Q tax credit is the main subsidy to CCUS and heavily supports the fossil fuel sector -- more than 90% of CO<sub>2</sub> supply through 2050 according to US Energy Information Administration.<sup>2</sup> **The US Treasury's projected revenue losses from 45Q are growing rapidly, with an estimated cost of \$67.9 billion over the 2026-2035 period.**<sup>3</sup> This greatly exceeds the projected cost of other tax breaks to oil and gas for the 2026-2035 period, even when the total 45Q value is pro-rated to exclude carbon oxides not from fossil fuel extraction or power production.<sup>4</sup> The use of this subsidy to support increasing oil production raises concerns that it is undermining broader climate goals. Ending 45Q eligibility for enhanced oil recovery would stem wasteful use of public resources that does little to address long-term decarbonization challenges.

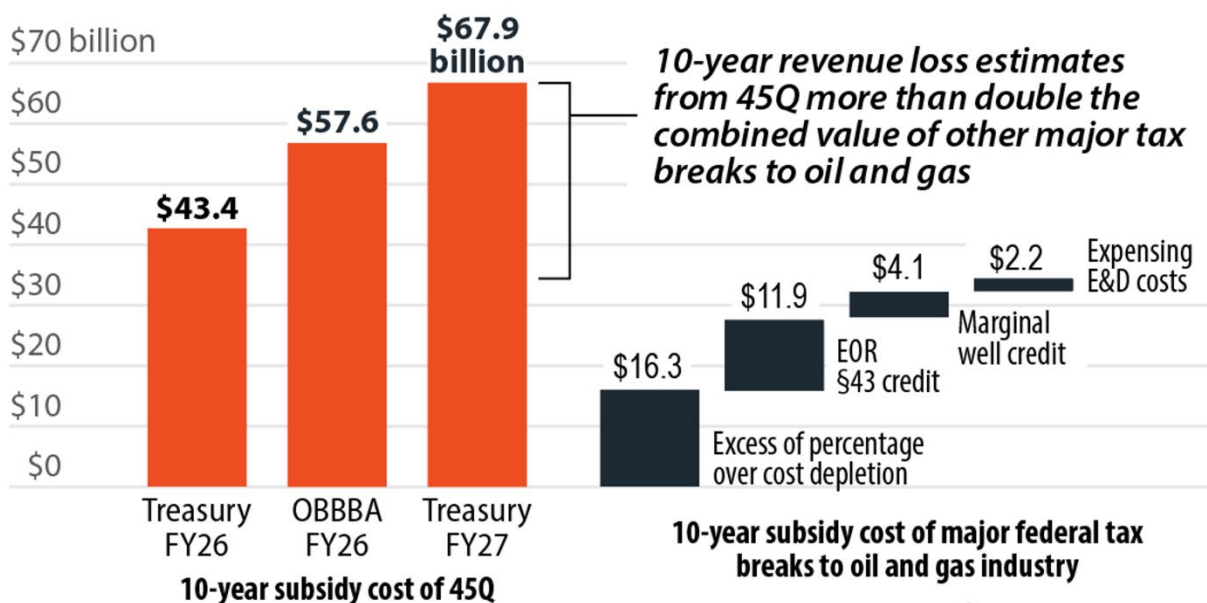
**Rapidly rising taxpayer costs.** Section 45Q of the Internal Revenue Code provides large subsidies to CCUS, contributing to higher budget deficits. Structured as a tax credit, 45Q provides the most valuable type of tax subsidy because it reduces taxes owed dollar-for-dollar. Insufficient tax liability to use the credit? 45Q allows the credit to be sold to investors who can use it, or in many cases to receive a rebate directly from the government. The US Treasury estimates that more than 40% of the tax subsidy will come through this rebate method, referred to as “direct pay.”<sup>5</sup>

While many energy-related subsidies were pared back or eliminated under the One Big Beautiful Bill Act (OBBBA) last year, 45Q sharply *increased*. Subsidy costs are now projected to exceed \$10 billion/year by the mid-2030s. The US Treasury's ten-year subsidy estimates on 45Q jumped from \$43.4 billion to \$67.9 billion between the FY2026 and FY2027 budgets.<sup>6</sup> This increase of nearly \$25 billion (56%) is \$10 billion higher even than the estimated growth in the subsidy at the time of OBBBA's passage.<sup>7</sup>

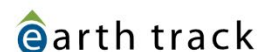
The surging projected losses to taxpayers in the Treasury estimate appear to be driven by large increases in subsidy rates for carbon oxides used for EOR, as this was the major modification of impact in the OBBBA legislation. Increased subsidy rates were also implemented for utilization, but current reuse markets are relatively small.<sup>8</sup> Historically, 45Q had tiered subsidy rates reflecting the complexity of the capture process and its importance in building long-term capabilities to reduce drivers of climate change. EOR and carbon oxide utilization (which in many applications delays release by very little) had the lowest subsidies; secure storage in the middle; and due to its technical complexity, direct air capture (DAC) was put at the top of the credit range. OBBBA

increased the subsidy rates for utilization and EOR to match those for secure storage. This encourages the use of carbon oxides for enhanced oil recovery because the technology is already well-tested and oil producers can gain both the higher 45Q tax credits and profits from the sale of produced oil. In contrast, sequestration of carbon oxides receives only tax credits. Industry analyst Enverus noted that the higher subsidies to EOR greatly improved the economics of implementing EOR at US wells.<sup>9</sup>

## 45Q Tax Subsidies Surge, Effectively Underwriting Enhanced Oil Recovery (EOR)



Sources: Treasury (2024 and 2025); Joint Committee on Taxation (2025)



**Just another subsidy for oil and gas.** Arguments that we must subsidize CCUS to decarbonize challenging heavy industries such as steel and cement belies the reality that the vast majority of 45Q funds flow to fossil-intensive industries such as coal and natural gas power plants, natural gas processing facilities, and hydrogen production from natural gas. Further, EIA data indicate that more than 90% of captured CO<sub>2</sub> was used for EOR in 2025. While EIA projects this share will decline relative to carbon storage in saline formations in future decades, their analysts acknowledged by email that this projection is significantly influenced by limitations in their existing ability to model new EOR projects. They are working on improved modeling for this area and expect that more realistic assessments will show EOR continuing to out-compete carbon storage for CO<sub>2</sub> flows in many circumstances.<sup>10</sup> Thus far, 45Q has been little more than another production subsidy to the oil and gas industries masquerading as climate change mitigation. Because of subsidy growth under OBBBA, its longstanding role as a fossil fuel subsidy will not only continue but will likely expand.

**Poorly targeted and expensive.** Policy design problems undermine any potential climate benefits of 45Q as a cost-effective subsidy. The subsidy is paid based on gross carbon oxide

capture rates. CCUS for EOR, the main historical and current beneficiary of the credit, results in incremental oil production. The combustion of this produced oil, mostly in vehicles, releases carbon that offsets most or all the captured carbon for which the 45Q subsidy was paid. Recent reviews of life cycle assessments evaluating the CCUS for EOR pathway found that on average the EOR projects *increased* carbon emissions rather than decreasing them.<sup>11</sup> Payments for DAC are similarly conditioned on captured amounts, regardless of how much carbon is emitted to produce the energy needed to operate capture facilities. Further, a primary justification for 45Q was its supposed role in transitioning hard-to-decarbonize industries. However, EIA modeling projects carbon oxide capture rates never exceeding 11 percent of gross emissions from the industry and power sectors between now and 2050. This includes EIA’s high electricity demand scenario where tech-driven power demand should be accelerating power sector innovation.<sup>12</sup>

**Increased subsidies to oil and gas through 45Q for EOR exceed the 10-year total estimates for other key tax subsidies to oil and gas.**<sup>13</sup> Between Treasury’s FY26 and FY27 budgets, the 10-year revenue loss estimates for 45Q rose by \$24.7 billion (of the total of \$67.9 billion) due to OBBBA. This *increase* alone exceeds the *total* 10-year revenue losses from each of the other major federal tax subsidies to oil and gas (expensing of oil and gas exploration and development costs, \$2.2 billion; excess of percentage over cost depletion, \$16.3 billion; enhanced oil recovery credit, \$11.9 billion, and the marginal well credit, \$4.1 billion). Indeed, with the boost from OBBBA, 45Q’s role as a key subsidy to fossil fuel producers becomes eminently clear, with the total revenue loss well above the cost of the other tax breaks to oil and gas *combined*.<sup>14</sup>

**Time to end 45Q for EOR.** There is little fiscal or environmental justification to continue subsidizing carbon capture for EOR, and the ability to claim 45Q tax credits for EOR should be eliminated.

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<sup>1</sup> For example, a review of more than 200 scientific papers on CCUS concluded that “[n]either of the two principal industrial carbon removal (ICR) methods being promoted and subsidized by governments meets the collective biophysical need of atmospheric CO<sub>2</sub> reduction, and both are net CO<sub>2</sub> additive as presently practiced. These are *point-source capture* in which the captured carbon is used for oil production, and *direct air capture when wholly fossil fuel powered* and all emissions produced by the process are accounted for.” See Sekera and Lichtenberger, “[Assessing Carbon Capture: Public Policy, Science, and Societal Need: A Review of the Literature on Industrial Carbon Removal](#),” *Biophysical Economics and Sustainability* (2020) 5:14, page 14. Jabbar et al. (2025) found that “[a]ll the industrial CO<sub>2</sub> sources result in a 4 to 11% increase in GHG emission factors relative to the global average emission factor of crude oil...” (“[Toward consistent evaluation of CO<sub>2</sub>-EOR: A meta-analysis of life cycle assessments](#),” *International Journal of Greenhouse Gas Control*, V. 145, p. 10). A literature review and analysis by Campos (2026) found that CCUS for EOR projects *increased* carbon emissions on average by 5 to 6.7% (“[Carbon Capture in the Era of Clean Energy Policy: Lifecycle Analysis of Capture Efficiency of CCUS Projects in the US](#),” thesis, Public Policy Honors Program, Stanford University, 29 April 2026, p. 42). An earlier review illustrated that fields most benefiting from EOR are often more carbon-intensive, and that assuming EOR-produced barrels will simply replace other oil that would have been burned anyway are misguided (Oil Change International, [Expanding Subsidies for CO<sub>2</sub>-Enhanced Oil Recovery: A Net Loss for Communities, Taxpayers, and the Climate](#),” October 2017).

<sup>2</sup> The US Energy Information Administration models anthropogenic CO<sub>2</sub> supply to support projections in its *Annual Energy Outlook* publication. The most recent edition shows that on a weighted average basis, just under 63% of total CO<sub>2</sub> supply from 2025-2030 is from the fossil fuel sector (coal and natural gas powerplants, natural gas processing facilities, and hydrogen produced from natural gas using steam

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reformation). Comparable shares for the periods 2025-2040 and 2025-2050 are much higher, at 89% and 92% respectively. These figures exclude natural CO<sub>2</sub> resources, as only anthropogenic CO<sub>2</sub> is eligible for the 45Q tax credit. Values are calculated from EIA's counterfactual baseline scenario (the reference case). See EIA (2026), ["Table 72. Carbon Capture and Carbon Flows," Annual Energy Outlook, 2026](#), accessed 10 April 2026.

<sup>3</sup> See Treasury (2025), U.S. Treasury, Office of Tax Analysis, ["Tax Expenditures Fiscal Year 2027."](#)

<sup>4</sup> Non-fossil sources are primarily capture from the ethanol, biomass, and heavy industry sectors.

<sup>5</sup> The direct pay portion of tax expenditures is reported in Treasury (2025), "Table 5, Estimates of Outlay Tax Expenditures for Fiscal Years 2025-2035," page 37.

<sup>6</sup> Treasury (2024), US Treasury, Office of Tax Analysis, ["Tax Expenditures Fiscal Year 2026,"](#) 27 November; and Treasury (2025).

<sup>7</sup> JCT (2025), US Joint Committee on Taxation, ["Estimated Revenue Effects Relative to a Current Policy Baseline of Tax Provisions Contained in a A Senate Substitute To Provide Reconciliation Of The Fiscal Year 2025 Budget, Fiscal Years 2025 - 2034,"](#) June 21, 2025, JCX-29-25.

<sup>8</sup> While not a full census of CO<sub>2</sub> supply and use, EPA's Greenhouse Gas Reporting Program (GHGRP) subpart PP (Supplier of CO<sub>2</sub>) found that EOR absorbed 78 to 84% of CO<sub>2</sub> from natural and industrial sources between 2016 and 2023 (the most recent year with reported data); and for Subpart UU (Injection of CO<sub>2</sub>), the range to EOR was 97 to nearly 100 percent. See US Environmental Protection Agency, ["Supply, Underground Injection, and Geologic Sequestration of Carbon Dioxide,"](#) GHGRP, data as of 16 August 2024; page accessed 16 June 2026. As of the end of 2024 when the IRS issued guidance on how to qualify for 45Q utilization credits, there were no commercial, scalable utilization projects in operation (Taxpayer for Common Sense, ["IRS Issues Life Cycle Analysis Guidance for CCS Utilization,"](#) 21 August 2024). The US EIA does not presently model utilization other than EOR in its CCATs module (US EIA, [Carbon Capture, Allocation, Transportation, and Sequestration \(CCATS\) Module of the National Energy Modeling System: Model Documentation 2025,](#) July 2025, page 5).

<sup>9</sup> Enverus, ["Making enhanced oil recovery great again: OBBA 45Q tax credit shift cuts E&P costs by 40%,"](#) 19 July 2025.

<sup>10</sup> EIA (2026) indicates that carbon oxides used for EOR are presently from three main sources: hydrogen from steam reformation (about 95% of which is sourced from natural gas); natural gas processing; and ethanol (which receives multiple layers of subsidies to feedstocks and its fuel, in addition to 45Q). Carbon capture from coal and natural gas plants rises starting in the early 2030s per EIA's models. Nonetheless, EIA projections even to 2050 do not show material CCUS from the most challenging industries and consistently show a drop-off in all CCUS as 45Q eligibility periods end. The policy implications are that 45Q won't decarbonize the most challenging industries, despite this being a primary justification for its implementation; that CCUS will not be viable without subsidies at anything close to the scale needed; and that despite a statutory 12-year limit for claiming 45Q credits on eligible CCUS projects, there were tremendous political pressure to extend the eligibility period.

<sup>11</sup> Sekera and Lichtenberger; Jabbar et al.; and Campos all supra note 1.

<sup>12</sup> Calculated from Table 72 in EIA (2026). Low capture shares even in the power sector reflect flexibility in rules that allow many plants to continue operating with no controls.

<sup>13</sup> US Treasury (2025), page 24.

<sup>14</sup> These provisions are described in more detail in the Treasury's tax expenditure budget (Treasury 2025). Briefly: (1) The expensing of exploration and development costs allow for faster write-off of multi-year costs from taxable income than under baseline rules, financially benefitting the taxpayer. (2) While all capital investments can be deducted from taxable income over their service lives via depreciation or amortization, percentage depletion allows for those deductions to exceed the actual invested capital, providing a subsidy to eligible oil and gas producers. (3) The enhanced oil recovery credit noted here is under §43 of the tax code and provides a credit equal to 15 percent of the taxpayers cost for enhanced oil recovery on US projects. It is in addition to the section §45Q credit which is earned based on tons of carbon oxide captured. The two credits can be used on the same wells, though the §43 credit phases out as oil prices rise. (4) The marginal well credit provides a tax credit for production from lower-output (marginal) oil or gas wells; the subsidy also phases down as oil and gas prices rise.