

Plains CO₂ Reduction (PCOR) Partnership

U.S. Incentives to Capture and Store CO₂

Fact Sheet

Practical, Environmentally Sound CO₂ Sequestration

Section 45Q of the U.S. Internal Revenue Code was first introduced in 2008 as part of the Energy Improvement and Extension Act. This section, referred to as the 45Q tax credit, incentivizes investment and development in carbon capture, utilization, and storage (CCUS) projects. Since 2008, the code has been updated and expanded, allowing more projects to qualify for the tax credit.

2008 Energy Improvement and Extension

Act offered \$20 per tonne of stored CO₂ for dedicated geologic storage projects and \$10 per tonne for CO₂ utilization projects with associated storage. Dedicated storage projects include injection into a saline aquifer or acid gas disposal. Associated storage projects most often reference enhanced oil/gas recovery operations.

2018 Bipartisan Budget Act (BBA) expanded Section 45Q to provide \$50 per tonne of stored CO₂ (CO_x, the Internal Revenue Code uses carbon oxide, which includes CO₂) for dedicated storage and \$35 per tonne for associated storage. The BBA removed the 75-million-tonne CO₂ storage cap from the 2008 act but specified that the 45Q tax credit must be claimed over a 12-year period and that construction or operation must begin prior to 2026.

2022 Inflation Reduction Act (IRA) expanded on the BBA and raised the credit available to \$85 per tonne of carbon oxide stored for dedicated storage and \$60 per tonne for associated storage. The IRA also implemented a direct-pay option for qualifying facilities, reduced the carbon capture threshold requirements for eligible projects, and extended the deadline to begin construction by January 1, 2033. The major enhancements to 45Q in the IRA are summarized in Table 1 (<https://www.irs.gov/credits-and-deductions-under-the-inflation-reduction-act-of-2022>).

Table 1. 45Q Tax Credit Enhancements Through the IRA of 2022

	Annual Carbon Capture Threshold by Facility Type, tonnes			Tax Credit, \$/tonne CO _x	
Storage Method	Power facility	Industrial facility	Direct air capture facility	Capture and storage or utilization	Direct air capture
Dedicated Storage	18,750	12,500	1000	85	180
Associated Storage				60	130

The PCOR Partnership, funded by the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL), the North Dakota Industrial Commission's Oil and Gas Research Program and Lignite Research Program, along with nearly 260 public and private partners, is accelerating the deployment of CCUS technology. The PCOR Partnership is focused on a region comprising ten U.S. states and four Canadian provinces in the upper Great Plains and northwestern regions of North America. It is led by the University of North Dakota Energy & Environmental Research Center (EERC), with support from the University of Wyoming and the University of Alaska Fairbanks.

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Visit the PCOR Partnership Web site at www.undeerc.org/PCOR. New members are welcome.

What Is the Tax Credit?

Under the IRA of 2022, the value of the 45Q tax credit, which is based on where the CO_x is sourced and how it is stored, is as follows:

- \$85/tonne for dedicated storage from carbon capture on power or industrial facilities.
- \$60/tonne for associated storage from carbon capture on power or industrial facilities.
- \$180/tonne for dedicated storage from direct air capture.
- \$130/tonne for associated storage from direct air capture.

When Is the Tax Credit Available?

Qualified projects that have entered the construction phase by January 1, 2033, may access the 45Q tax credit. The credit may be claimed by a qualified facility for up to 12 years" to "over a 12-year period" to match with what was said in the 2018 BBA section.

Who May Receive the Tax Credit?

Operators must report stored CO_x volumes under the U.S. Environmental Protection Agency (EPA) Greenhouse Gas Reporting Program (GHGRP) Subparts RR or UU. Subpart RR reporting is required for Operators with dedicated storage projects who may self-certify stored CO_x volumes through an EPA-approved monitoring, reporting, and verification (MRV) plan (<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98/subpart-RR>).

Operators with associated storage projects can choose to either report under Subpart RR or UU. Operators who report under Subpart RR are allowed to self-certify stored CO_x volumes through an approved MRV plan. Under Subpart UU, Operators must use ISO 27916_2019, which includes a third-party review process, to certify the stored CO_x volumes in the taxable year.

Who Receives the Tax Credit?

The 45Q tax credit is granted to the taxpayer (generally the operator) that owns the capture equipment and physically or contractually ensures secure geologic storage of the CO_x. After the first five years of receiving the tax credit under direct pay, taxpayers may transfer the credits to an unrelated party in exchange for only cash.



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