

# Primer: 45Q Tax Credit for Carbon Capture Projects



## What is the Section 45Q Carbon Capture Tax Credit?

Section 45Q of the US tax code provides a performance-based tax credit for carbon capture projects that can be claimed when an eligible project has:

- securely stored the captured carbon dioxide (CO<sub>2</sub>) in geologic formations, such as oil fields and saline formations; or
- beneficially used captured CO<sub>2</sub> or its precursor carbon monoxide (CO) as a feedstock to produce fuels, chemicals, and products such as concrete in a way that results in emissions reductions as defined by federal requirements.



## Background: Bipartisan FUTURE Act Reforms 45Q

As part of the Bipartisan Budget Act of 2018, Congress passed legislation originally introduced as the FUTURE Act (Furthering carbon capture, Utilization, Technology, Underground storage, and Reduced Emissions) with broad bipartisan support to expand and reform 45Q.

To implement the reformed 45Q, the US Treasury requested public comments in IRS Notice 2019-32 on several key issues. Comments will be due 45 days after the notice is published in the Federal Register.

## Eligibility to Claim the 45Q Tax Credit

**The party eligible to claim the tax credit** is the owner of the capture equipment. That party must physically or contractually ensure the storage or utilization of the CO<sub>2</sub> or CO and may elect to transfer the credit to another party that stores or puts the CO<sub>2</sub> or CO to beneficial use.

**Annual carbon capture thresholds**, as shown below, determine the eligibility of different types of facilities for the credit.

**25,000–500,000  
metric tons of CO<sub>2</sub>/CO**

Beneficial use projects other than enhanced oil recovery (EOR) projects.

**At least 100,000  
metric tons of CO<sub>2</sub>/CO**

All other industrial facilities (other than electric generating units), including direct air capture.

**At least 500,000  
metric tons of CO<sub>2</sub>/CO**

Electric generating units.

**Timing:** Eligible projects that begin construction within six years of the FUTURE Act's enactment (i.e., before January 1, 2024) can claim the credit for up to 12 years after being placed in service.

**Type of carbon:** The type of carbon that can be captured includes all carbon oxides, including CO<sub>2</sub> or CO.

## 45Q Tax Credit Amount: Depends on Project Type

There is a 10-year ramp up to the following dollar per ton amounts, with the value depending on project type as shown below.

**\$35/ton**

for CO<sub>2</sub> stored geologically through EOR.

**\$35/ton**

for other beneficial uses of CO<sub>2</sub> or CO such as converting carbon emissions into fuels, chemicals, or useful products like concrete.

**\$50/ton**

for CO<sub>2</sub> stored in other geologic formations and not used in EOR.





## Why is the 45Q tax credit important?

The revamped federal 45Q tax credit provides a foundational policy for incentivizing carbon capture deployment in multiple industries, much like the role the federal production tax credit and investment tax credit has played in wind and solar development, respectively. To fulfill carbon capture’s full potential for reducing emissions, enhancing domestic energy and industrial production, and protecting and creating high-wage jobs, a suite of federal and state policies is ultimately required to complement 45Q and drive investment, innovation, and cost reductions sufficient to achieve economywide deployment (just as a full portfolio of federal and state policies has accomplished for wind and solar).



## How does 45Q support carbon capture projects?

The expansion and reform of 45Q reduces the cost and risk to private capital of investing in the deployment of carbon capture technology across a range of industries, including electric power generation, ethanol and fertilizer production, natural gas processing, refining, chemicals production, and the manufacture of steel and cement.

## Key Elements of the Reformed 45Q

The expansion and reform of 45Q provided important changes that will attract investment in projects.

Change	Importance for carbon capture projects
Increases credit values.	Helps address the cost gap between carbon capture and transport costs and the amount that companies will pay for captured carbon in projects that store CO <sub>2</sub> through EOR or reduce carbon emissions through other beneficial uses, while also providing an economic value for storage in saline formations.
Expands eligibility to include other beneficial uses of captured carbon (in addition to EOR), projects that capture CO and direct air capture projects.	Expands eligibility to a broader array of industries that can beneficially use captured carbon emissions, for CO capture in industrial applications, and for direct air capture technologies that capture CO <sub>2</sub> from ambient air.
Creates greater financial certainty by lifting the credit cap and providing clear timing for eligibility.	Provides certainty that the credit will be available once the timeline and requirements are met to store and/or utilize the captured carbon. This improvement to the financial certainty of the credit is expected to catalyze significant investment in carbon capture projects.
Expands eligibility to more industries by lowering the annual carbon capture threshold and expanding definitions for qualified facilities and qualified carbon.	Expands eligibility to industries that were previously precluded from using 45Q, such as ethanol production due to the original 500,000-ton annual capture threshold, and supports investment in emerging industries where innovation is needed to reduce costs and achieve increased deployment.
Enables the owner of the capture equipment to transfer the credit to another party that stores or puts the CO <sub>2</sub> or CO to beneficial use.	Provides greater flexibility to determine which entity can use the tax credit, enabling different business models. It allows companies to participate that often cannot take advantage of traditional tax credits, such as tax-exempt cooperatives, municipal utilities, and many project developers. Companies without tax liability or insufficient tax liability to fully monetize the credit will now be able to use 45Q to help finance carbon capture projects.

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