



Carbon Capture, Utilization and Sequestration

BACKGROUND

The cement and concrete industry is reducing the carbon intensity of operations and has committed to carbon neutrality across the cement and concrete value chain by 2050. However, the industry faces unique challenges in reaching the goal due to the energy-intensive nature of its operations and the significant carbon emissions resulting from the chemistry of converting limestone and other minerals into cement, the main ingredient in concrete.

While the industry expects to make great strides in reducing carbon emissions through measures like using lower carbon fuel/heating technologies and low-carbon/carbon-free raw materials, the full elimination of carbon dioxide (CO₂) generated from limestone during pyro-processing is impossible. Given this chemical fact of life, adopting carbon capture, utilization, and storage (CCUS) technologies is vital to achieving decarbonization in the cement industry.

STATUS

The cement industry is pursuing various technologies because each cement plant and cement kiln is different. No single off-the-shelf CCUS commercial design or technology will work for every cement plant, and many plants will likely require a combination of capture technologies. The cost of CCUS equipment is likely to be hundreds of millions of dollars per facility.

Federal permitting under the Clean Air Act (CAA) is an obstacle to the planning, construction, and installation of carbon capture technologies. The CAA's New Source Review (NSR) Program makes installing CCUS and energy efficiency projects go through an extended and costly permitting process.

In addition, the associated pipeline and energy infrastructure must be in place so CO₂ can be captured, transported, and ultimately utilized or sequestered. Without pipelines, there is no economically feasible method to transport the captured CO₂. Construction of this carbon infrastructure faces lengthy permitting and community resistance, requiring greater federal involvement and permit streamlining. Likewise, the energy needed to operate a CCUS system is almost equivalent to that which is required to operate a cement plant. Therefore, national power grids must be able to handle significant increases in energy usage by CCUS systems. Without CO₂ pipelines, federal policy should consider policies further encouraging research, development, and deployment of utilization technologies.

A key tax tool for manufacturers to pay for installing CCUS equipment is the carbon sequestration tax credit (45Q), which provides a credit of \$85/metric ton (MT) for underground sequestration and \$60/MT for utilization. Bipartisan and bicameral legislation -The Captured Carbon Utilization (CCU) Parity Act - would create equality between the credit value for utilization and sequestration in the 45Q carbon capture tax credit. The CCU Parity Act would increase the tax credit for CCU to \$85/MT for industrial and power generation facilities seeking to reuse captured carbon in the manufacturing of low- and zero-carbon products, including fuels, chemicals, building products, advanced materials, and other products of economic value.

ASKS

- Support language for a GAO study on permitting barriers in the Fiscal Year 2025 Interior & Environment Bill.
- Support the CCU Parity Act ([H.R. 1262](#), Rep. Schweikert (R-AZ) and Rep. Sewell (D-AL)/ [S.542](#), Sen. Whitehouse (D-RI) and Sen. Cassidy (R-LA)).
- Support legislation by Senator Cassidy (R-LA) and Representative Morgan Griffith (R-VA) reforming the Clean Air Act (S. 3826/H.R. 165).
- Coordinate and reform federal permitting for CO₂ sequestration and pipeline construction.