



IBEW POLICY BRIEF

Chapter 10: Carbon Capture Technologies

The IBEW supports proposals to develop emerging technologies in carbon capture utilization and storage (CCUS). In particular, the IBEW supports technologies that can achieve carbon reductions at utility and industrial plants while highlighting American engineering and manufacturing and creating tens of thousands of new jobs.

Domestic energy sources like natural gas and coal are baseload (24/7) sources of electricity production in an industry that provides workers, particularly in rural communities, with a reliable livelihood. The United States has retired some 88,700 megawatts of coal capacity since 2011, mainly due to lower natural gas prices. The U.S. Energy Information Administration (EIA) projects an additional loss of 12,600 megawatts by the end of 2022. Coal and natural gas significantly contribute to the total U.S. power generation mix. The EIA predicts natural gas will provide over 30 percent of the entire U.S. generation in 2050.

The consensus is that CCUS is essential in reducing carbon emissions. The broad deployment of CCUS is key to avoiding the worst effects of climate change. Implementation of CCUS technology can support energy security, protect existing energy infrastructure, and create high-quality family-supporting jobs.

The IBEW's position is that CCUS adoption is essential to safeguarding energy careers critical to working families and communities across the U.S. IBEW members have worked countless hours installing and maintaining pollution control equipment in coal-fired powerhouses, steel mills, automobile manufacturing facilities, oil refineries, and other industrial facilities.

What Does Carbon Capture Technology Provide?

Effective CO₂ Control

To reach near-zero or equivalent emission targets, CCUS in retrofit applications can work with both coal and natural gas in retrofit applications. For example, for utilities, a coal plant

with 90 percent effective CO₂ removal has an emission rate of about 200 pounds of CO₂ per megawatt-hour, compared with 800 pounds for uncontrolled new natural gas combined-cycle units. In addition, for many industrial sources, like refineries, steel, chemicals, paper, and cement, CCUS may be the only effective CO₂ control option.

Fuel for the Economy and Energy Independence

The deployment of advanced coal technology and CCUS will provide the United States with a path to enhanced oil recovery, energy independence, and greenhouse gas emission reductions. The commercialization of CCUS would also offer the United States a critical technology it could export to other countries. In addition, by leading the CCUS market, the United States can target countries that are significant consumers of fossil fuels, like China and India.

Recent Developments

The Energy Act of 2020

The Energy Act of 2020 passed with strong bipartisan support and created several research and pilot programs to support the development of carbon capture and direct air capture technologies. Among the new programs developed are:

- A general research and development program for carbon capture technologies authorized at \$230 million annually and gradually decrease to \$150 million by 2025
- A large-scale carbon capture pilot project program that Congress authorized at \$225 million for 2021 and 2022, \$200 million for 2023 and 2024, and \$150 million for 2025
- A new program for demonstration programs – two focused on capture at natural gas facilities, two at coal facilities, and two for emissions at other industrial facilities with funding for \$400 million annually through 2024 and \$600 million annually in 2025
- A new research, development, and demonstration program to examine methods, technologies, and strategies for large-scale carbon dioxide removal from the atmosphere

The Bipartisan Infrastructure Law (BIL)

The BIL creates several new programs to support the research, demonstration, and commercialization of carbon capture technologies; these include:

- \$3.5 billion for Regional Direct Air Capture Hubs, which would create four direct air capture hubs (facility, technology, or system that uses carbon capture equipment to capture carbon dioxide directly from the air)
- \$2.5 billion for Carbon Storage Validation and Testing for the development of new or expanded commercial large-scale carbon sequestration projects and associated carbon dioxide transport infrastructure, including funding for the feasibility, site characterization, permitting, and construction stages of project development
- \$2.1 billion for Carbon Dioxide Transportation Infrastructure Finance and Innovation Program to establish and carry out a large-capacity, common carrier infrastructure with associated projects in all significant carbon-dioxide emitting regions of the United States
- \$355 million for energy storage demonstration projects, including carbon capture technologies and direct air capture technologies

Employers will pay all construction and maintenance workers prevailing wages on projects funded by carbon capture and direct air capture programs created under the BIL.

The Inflation Reduction Act (IRA)

The Inflation Reduction Act included an extension and modification of the credit for carbon sequestration. Often referred to as 45Q, this is the legal statute for credit. Direct air capture (DAC) facility construction projects must start before December 31, 2032. Benefits vary. Requirements and benefits are:

- Facilities must capture at least 1,000 metric tons of carbon oxide.
 - If the facilities utilize the captured carbon, DAC facilities can receive a base credit of \$26 per ton, with an additional
 - \$36 per ton if sequestered with an extra
 - Increase to \$130 per ton and \$180 per ton if the project adheres to labor standards
- Electricity-generating facilities must capture at least 18,750 metric tons of carbon oxide.
 - If the facilities utilize the captured carbon, it can receive a base credit of \$12 per ton or \$17 per ton if sequestered, with an additional
 - If the project adheres to labor standards, the facility is eligible for \$60 per ton to \$85 per ton, respectively.
- The credit period is 12 years.

IBEW and other stakeholders expect that the IRA reforms to the 45Q tax credit will significantly boost the building of carbon capture facilities around the country.

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