

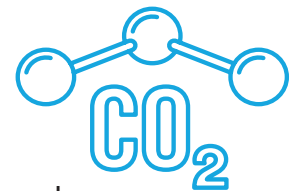
The Inflation Reduction Act (IRA) of 2022

The Inflation Reduction Act of 2022, which was passed on August 12 and signed by President Biden on August 16, includes groundbreaking federal policies needed to realize economywide deployment of carbon management technologies, prioritize industrial decarbonization and scale infrastructure at the rate required to meet midcentury climate goals, foster domestic energy and industrial production, and provide environmental and economic benefits to affected communities. Coupled with the historic investments made in the Bipartisan Infrastructure Law, this package provides the most transformative and far-reaching policy support in the world for the economywide deployment of carbon management technologies, making a critical down payment on the investments in American innovation required to achieve net-zero emissions.

Enhancements to 45Q

Extension of the Commence Construction Window

The package includes a seven-year extension of the current commence construction window, which will allow for additional investment certainty around projects and increase 45Q's efficacy. Moving forward, any carbon capture, direct air capture, or carbon utilization project that commences construction before January 1, 2033, will qualify for 45Q, altered from the January 1, 2026 deadline extended by the [fiscal year 2021 Omnibus](#). This extension establishes a crucially needed investment horizon to give carbon management projects the necessary time to reach a critical mass between now and 2030 to enable industrial, power and CO₂ transport, utilization and storage sectors to make the massive investments necessary to meet midcentury climate goals.



Credit Value Increases

Recent analyses and commercial experience underscore that 45Q credit values established by the 2018 passage of the [FUTURE Act](#) are insufficient to drive the early deployment needed in industry, electric power generation, and direct air capture to bring costs down and reduce commercial risk to carbon management project deployment economywide. The Inflation Reduction Act makes critical increases to the credit values for industry, power and direct air capture projects, which traditionally feature higher costs of capture and greater commercial risk, providing the necessary federal policy support to adequately incentivize private investment in these areas that are critical to decarbonize America's crucial economic sectors. In addition, to receive the full value of the credit, projects must comply with prevailing wage and apprenticeship utilization requirements laid out in the bill for construction of any facility or carbon capture equipment.



Figure 1. 45Q Tax Credit Changes Under the Inflation Reduction Act (IRA)

	45Q Tax Credit Amounts in 2018 FUTURE Act	New 45Q credits in IRA: Industry & Power	New 45Q credits in IRA: Direct Air Capture
For dedicated secure geologic storage of CO₂ in saline or other geologic formations	\$50 per ton	\$85 per ton	\$180 per ton
For carbon utilization projects to convert CO or CO₂ into useful products (e.g., fuels, chemicals, products)	\$35 per ton	\$60 per ton	\$130 per ton
For secure geologic storage of CO₂ in oil and gas fields through enhanced oil recovery	\$35 per ton	\$60 per ton	\$130 per ton

These increases are in line with the Coalition’s [Legislative Priorities for the 117th Congress](#), and represent a major victory for carbon management.

Direct Pay

- For profit entities: Under the Inflation Reduction Act, project developers, for the first time, have the option to access direct pay for the full value of the tax credit for the first five years after the carbon capture equipment has been placed in service. The remaining seven years of the credit must be financed through alternative means.
- Tax-exempt entities: These enhancements are even more expansive for tax-exempt organizations, i.e. nonprofit projects, cooperatives, and municipal utilities, which have the option to access direct pay for the entire twelve years of the credit.

Providing a direct pay option allows project developers to directly access the full value of the tax credits and leverage greater private capital for investment in projects, given that traditional tax equity investors in carbon capture, direct air capture, and other less commercially mature technologies typically require a significant portion of the value of the tax credit. For every dollar expended by the federal government through the 45Q incentive, direct pay will deliver greater value for the American taxpayer by yielding more deployment of carbon capture, removal, and utilization technologies—and thus greater climate, jobs and economic benefits.

Expanded Transferability

As an alternative to direct pay, the bill also expands the transferability of 45Q credits, allowing for owners of carbon capture technology to transfer their tax credit to another taxpaying entity, receiving a cash payment for the transfer, not included in the capture owner’s taxable income. This option provides additional flexibility to make it easier for investors in carbon capture equipment to transfer tax credits to taxpayers with tax liability, in turn, creating a significantly larger market for monetizing the 45Q tax credits. This will further incentivize the deployment of new carbon capture technologies by increasing the universe of potential investors and allow for project developers to fully realize the benefits of the credit.

Lower Capture Thresholds

The Inflation Reduction Act expands the number of projects which are eligible for 45Q tax credits by dramatically lowering the annual per ton capture thresholds required to claim the tax credit. Previous thresholds in statute are a legacy of the original 45Q program from well over a decade ago and hinder the overall technological innovation and emissions reduction potential of the incentive. Based on [2021 data from the EPA](#), approximately 54 percent of power plants and 75 percent of industrial facilities currently fall below eligibility thresholds, and many direct air capture and carbon utilization projects deploying emerging technologies simply lack the scale to meet current requirements. These lower annual capture thresholds will enable more projects to qualify for the 45Q program, significantly expanding the program and its benefit on the implementation of carbon capture technologies.

Figure 2. Changes to Capture Thresholds in the Inflation Reduction Act (IRA)

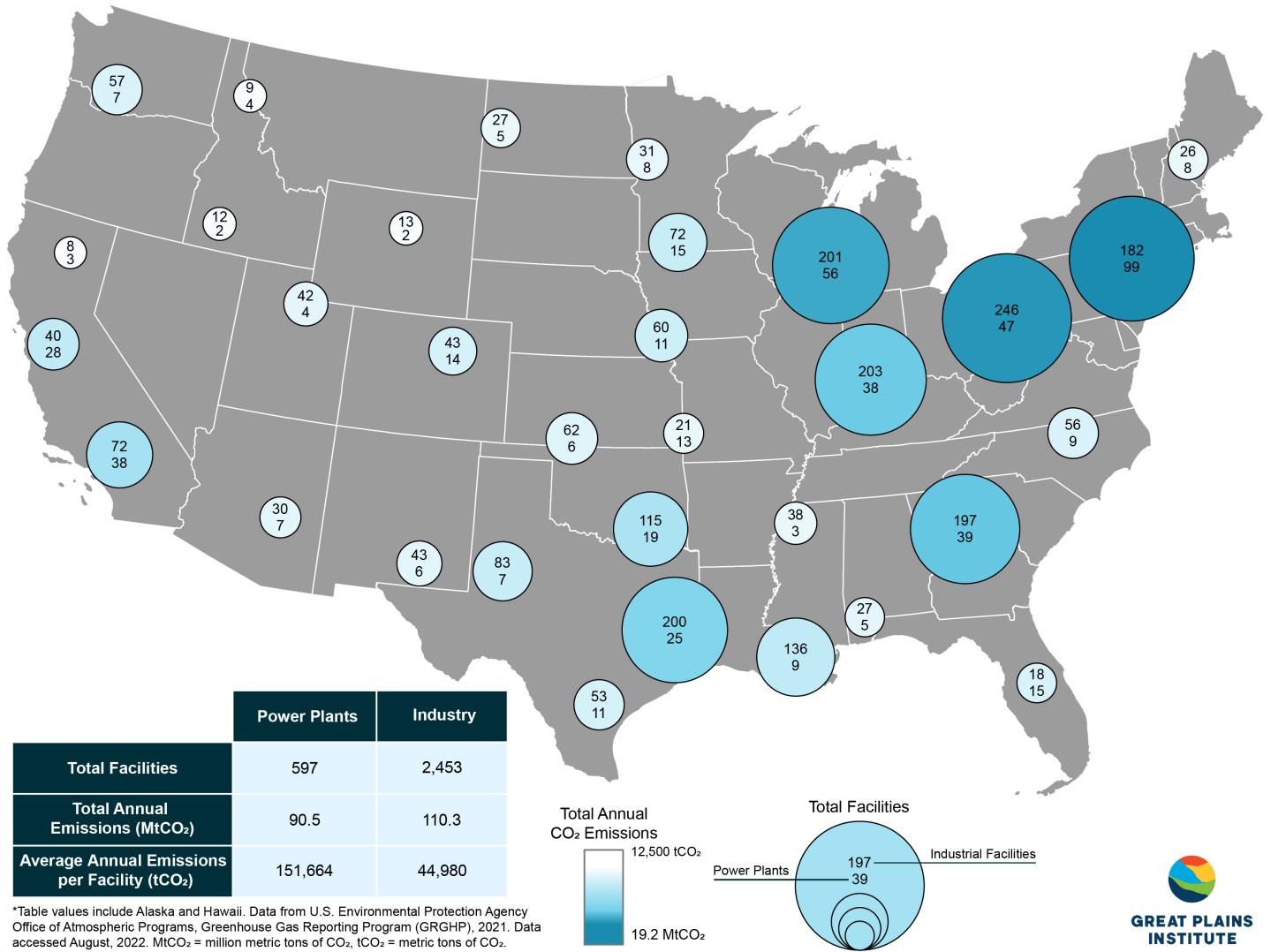
	45Q Annual Carbon Capture Thresholds in the 2018 FUTURE Act in metric tons of CO ₂ /CO per year	New 45Q Annual Carbon Capture Thresholds in IRA in metric tons of CO ₂ /CO per year
Direct air capture facilities	100,000 or more	1,000 or more
Carbon utilization projects	25,000 – 500,000	Carbon utilization projects are subject to the individual project thresholds
Industrial facilities (e.g., ethanol, steel, cement, and chemicals)	100,000 or more	12,500 or more
Electric generating units (e.g., coal, natural gas and biomass-fired powered plants)	500,000 or more	18,750 or more

Conclusion:

The Inflation Reduction Act of 2022 represents the most significant policy support for carbon management technology since the technology's foundational 45Q tax credit was significantly restructured in the 2018 FUTURE Act. In tandem with the historical investments made in the 2021 Bipartisan Infrastructure Law, if properly implemented, the portfolio of complementary policies included in this package will deliver an estimated 13-fold scale-up of carbon management capacity and 210-250 million metric tons in annual emissions reductions by 2035.



Appendix A. 45Q Newly Eligible Facilities in Continental US, by Facility Type



*Table values include Alaska and Hawaii. Data from U.S. Environmental Protection Agency Office of Atmospheric Programs, Greenhouse Gas Reporting Program (GRGHP), 2021. Data accessed August, 2022. MtCO₂ = million metric tons of CO₂, tCO₂ = metric tons of CO₂.

