



Inflation Reduction Act: A Historic Investment in Climate, Communities, and Jobs

On August 16, 2022 President Biden signed the Inflation Reduction Act (IRA). This landmark legislation makes a historic commitment to climate action that will drive innovation and deployment of clean energy, industrial and manufacturing technologies, and infrastructure to put our nation on track to meet the President’s ambitious goal of achieving net-zero emissions economy-wide by 2050, while investing in communities and American workers.

The IRA features a comprehensive package of clean energy and industrial tax credits, including the most ambitious incentives in the world to date for the deployment of carbon management technologies, such as carbon capture, direct air capture, and the conversion of captured carbon emissions into useful products.

Substantial improvements to the federal 45Q tax credit include increased credit values to \$85 per ton of carbon oxide captured and stored from industrial facilities and power plants and \$180 per ton for direct air capture facilities¹, an extension of the credit to a full ten years, the ability to claim the credit directly as a cash payment, and expanded eligibility for smaller direct air capture, industrial, and power generation facilities.

Potential for Carbon Management and Emission Reductions in New Mexico and the Region

As a major energy producing state, New Mexico’s communities, workforce, and industries have the opportunity to benefit significantly from enhancements to the 45Q credit and other provisions in the IRA. The maps below highlight the large number and diversity of facilities by industry in New Mexico and the broader Southwest and Gulf Coast region that could potentially qualify for the 45Q tax credit, which can be used for carbon capture, carbon conversion, and direct air capture projects.

The maps also show the extensive geologic formations available in New Mexico and the surrounding region for safe and permanent storage of carbon dioxide (CO₂) emissions captured from industry, as well as existing CO₂ pipeline networks that can be expanded upon to deliver CO₂ from industrial facilities, and future direct air capture projects to regional storage sites.

Finally, the table shows the total emissions of industrial facilities and power plants in New Mexico and the region that could potentially qualify for the 45Q tax credit. While carbon capture projects will not be developed at all of these facilities, tax incentives in the IRA, coupled with U.S. Department of Energy funding and financing for technology and infrastructure investments through the Bipartisan Infrastructure Law, have the potential to enable significant reductions in total CO₂ emissions in New Mexico and neighboring states, while leveraging the region’s existing energy and industrial infrastructure, and its significant workforce skill based toward a net-zero economy.

Figure 1: The sites outlined here could potentially qualify for the section 45Q tax credit

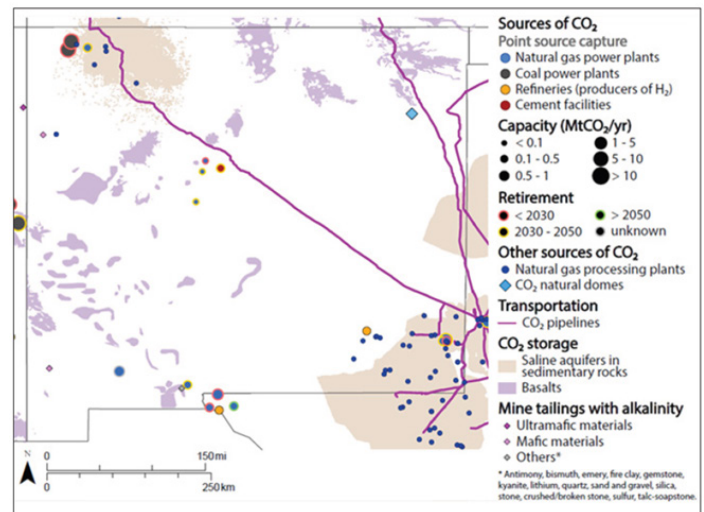
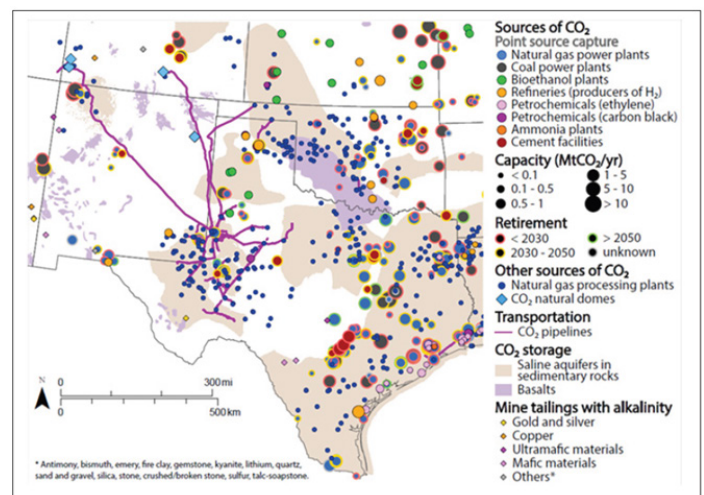


Figure 2: The sites outlined in the broader region could potentially qualify for the section 45Q tax credit



¹ Increased credit values for storage in saline geologic formations

About the Office of Fossil Energy and Carbon Management

The U.S. Department of Energy’s Office of Fossil Energy and Carbon Management funds research, development, demonstration, and deployment projects to decarbonize industrial production and electric power generation, remove carbon dioxide from the atmosphere, and mitigate the environmental impacts of fossil fuel production and use.

Priority areas of technology work include carbon capture, carbon conversion, carbon dioxide removal, carbon dioxide transport and storage, hydrogen production with carbon management, methane emissions reduction, and critical minerals production.

To learn more, visit the FECM website, sign up for FECM news announcements, and visit the NETL website. For press inquiries, email FECMCommunications@hq.doe.gov.

Table 1: The table represents the potential CO₂ capture impacts in New Mexico and the broader region

	Mapped Area		New Mexico	
	# Facilities	CO ₂ emissions (MtCO ₂ eq/yr)	# Facilities	CO ₂ emissions (MtCO ₂ eq/yr)
Coal power plants	42	158.9	2	13.2
Natural Gas power plants	358	108.4	18	4.2
Cement	21	16.1	1	0.3
Natural Gas processing	80*	7.1	8**	1.4
Refining (with onsite H ₂ production)	11	13.3	1	0.6
Bioethanol	12	0.7***	0	0
Ethylene	20	28.2	0	0
Carbon black	7	1.6	0	0
Ammonia	2	0.4	0	0

* Only 80 facilities out of 397 report their emissions to the EPA

** Only 8 facilities out of 32 report their emissions to the EPA

***Emissions reported to the EPA (does not include biogenic emissions)

References:

Enerdata, 2019. Power Plant Tracker. <https://www.enerdata.net>

Hart Energy Publishing, 2014. Carbon dioxide (CO₂) pipelines in the United States.

Homeland Infrastructure Foundation-Level Data (HIFLD), 2020. Natural Gas Processing Plants. U.S. Department of Homeland Security (DHS).

Johansson, L., Zahirovic, S., Müller, R.D., 2018. The Interplay Between the Eruption and Weathering of Large Igneous Provinces and the Deep-Time

Carbon Cycle. Geophys. Res. Lett. 45, 5380–5389.

Pilorgé et al., 2020. Cost Analysis of Carbon Capture and Sequestration of Process Emissions from the U.S. Industrial Sector. Environ. Sci. Technol, 54 (12), 7524-7532.

Psarras et al., 2020. Cost Analysis of Carbon Capture and Sequestration from U.S. Natural Gas-Fired Power Plants. Environ. Sci. Technol, 54 (10), 6272-6280.

U.S. EPA, GHGRP - FLIGHT (2020), <https://ghgdata.epa.gov/ghgp/main.do#>

U.S. Geological Survey (USGS), 2013. National Assessment of Geologic Carbon Dioxide Storage Resources. <https://pubs.usgs.gov/ds/774/>

U.S. Geological Survey (USGS), 2011. Mineral Resources Data System (MRDS). <https://mrdata.usgs.gov/mrds/>

