

KEY TAKEAWAYS

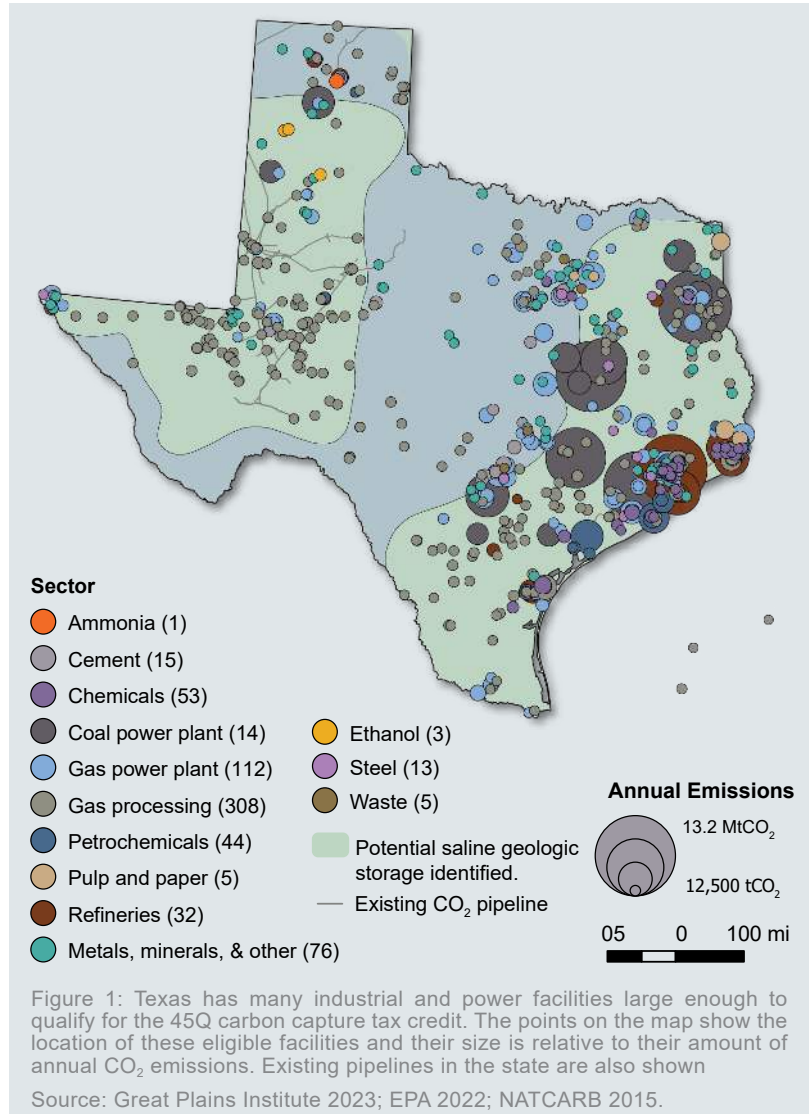
- Texas is a proven leader in [carbon management](#), with large-scale carbon capture facilities in operation and the opportunity to expand carbon capture technologies.
- There are 683 eligible facilities in Texas for the 45Q tax credit, with the potential ability to capture nearly 334 million metric tons of CO₂ annually if retrofitted with carbon capture technology.
- Texas has ideal geology for saline storage, with extensive underground formations and an estimated CO₂ storage capacity between 661 million and 2.4 billion metric tons.
- Texas has been actively shaping legislation since 2009 to encourage and regulate carbon capture technologies, with recent measures in 2022 consolidating the Texas Railroad Commission's oversight of carbon storage wells, reflecting the state's dedication to implementing a robust carbon management framework.

LEGISLATIVE CONTEXT

In Texas, the legislative landscape for carbon management has evolved significantly, driven by the state's history in the oil and gas sector, and the state has enacted legislation related to onshore and offshore storage, long-term risk management of stored CO₂, and tax incentives for CO₂. The table below summarizes the key pieces of legislation that Texas has passed to create regulations for and incentivize the deployment of carbon capture technology.

| Legislation | Summary |
|----------------|---|
| HB 1796 (2009) | Focused on long-term liability and the transfer of ownership for offshore storage sites. It established a storage fund for offshore locations, where the operator bears responsibility for monitoring and verification until the state assumes liability upon well closure. The Texas School Land Board was granted authority to use the newly created Texas Emissions Reduction Plan Fund, particularly for overseeing offshore sites. |
| SB 1387 (2009) | Concentrated on onshore storage sites, creating the anthropogenic carbon dioxide storage trust fund. It directed the Texas Railroad Commission to formulate rules for geologic storage, defining that the project operator owns the CO ₂ until liability is transferred to the state. Mineral rights were established to have primacy in this framework. |
| HB 469 (2009) | Provided tax incentives for specific carbon capture projects. |
| HB 1284 (2022) | Granted the Texas Railroad Commission sole jurisdiction over carbon storage wells and mandated the Commission to seek primacy. Texas is preparing its application while consulting with the Environmental Protection Agency (EPA). The ongoing collaboration with the EPA underscores the state's commitment to align its regulations with federal standards, ensuring a comprehensive and effective framework for carbon capture within the dynamic energy landscape of Texas. |

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CAPTURE AND STORAGE POTENTIAL

As the state with the highest emissions in the nation, Texas has immense potential to build on its established leadership in the carbon capture field and expand its use of carbon management technologies to reduce emissions. Of the 839 industrial and power facilities in Texas, 683 qualify for the federal 45Q tax credit if retrofitted with carbon capture technology. Emissions from these qualifying facilities account for 99.9 percent of total facility emissions in the state and have the potential to capture 334 million metric tons of CO₂ annually.

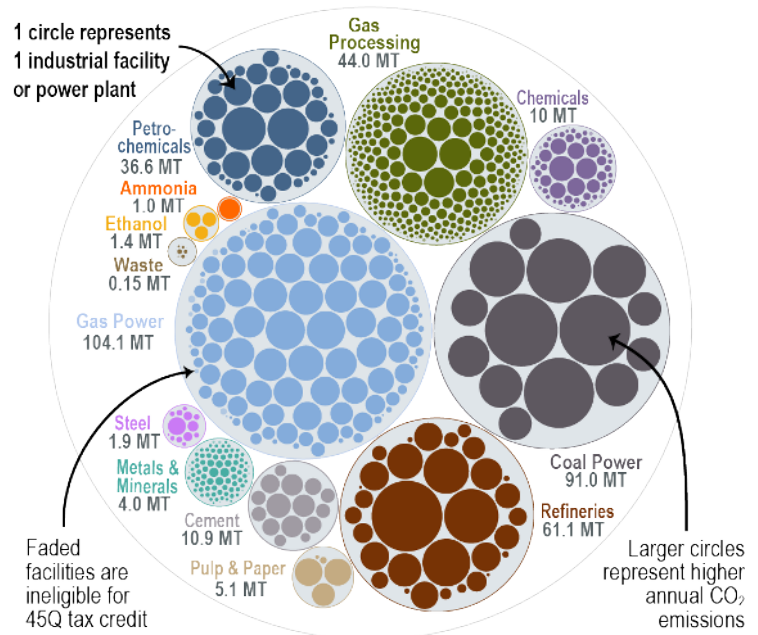
Texas also has ideal geology for the saline storage of CO₂, with extensive underground formations across the state and an estimated CO₂ storage capacity between 661 million and 2.4 billion metric tons. This capacity is primarily split between the Permian Basin in the western part of the state and along the Gulf Coast in the east, positioning Texas as a key location for CO₂ storage projects in the region, with the potential to bring in an estimated \$5 billion annually (assuming a \$20/ton capture cost).

Project developers are capitalizing on the state's potential for carbon management projects and as of January 2024, at least [35 projects have been proposed](#) in the state. These projects, spanning eight different industries and energy sub-sectors, demonstrate Texas's commitment to advancing decarbonization efforts while simultaneously shoring up the most crucial components of the state's economy. Texas is also on track to lead the nation in carbon storage, with [eight projects](#) that have pending Class VI well applications for geologic storage in Texas with the EPA. Additionally, the state is taking action on offshore CO₂ storage, awarding [six leases](#) to projects in 2023 alone.

Multiple carbon storage hubs are planned within the state, with various project developers taking the lead in these initiatives. Among these is the [South Texas DAC hub](#), a direct air capture and storage hub projected to hold up to one billion metric tons of CO₂ safely and securely deep underground. Once complete, the South Texas DAC Hub will be one of the largest direct air capture facilities built in the United States. [Another carbon storage hub](#) in the state is planned to span 10,000 acres across West Texas with a storage capacity of 30 million metric tons.

Given this potential, Texas finds itself poised to remain at the forefront of this growing industry, with the possibility to realize billions of dollars in private investment, thousands of new jobs, and significant advancement toward meeting critical midcentury climate goals. The rapid growth of carbon management technology is made possible by the advancement of key federal legislation, as well as a long-standing commitment to this technology at a state level.

FACILITIES AND EMISSIONS BY INDUSTRY



MT: Million metric tons CO₂

Figure 2: This bubble diagram visualizes the number of facilities and corresponding annual CO₂ emissions for each industry in Texas. The darker large bubbles are eligible for the 45Q carbon capture tax credit, while the faded bubbles are too small to be eligible. The total amount of CO₂ emissions in Texas is listed for each industry.

Source: GPI 2023; EPA 2022; NATCARB 2015.

REGIONAL CAPTURE OPPORTUNITIES

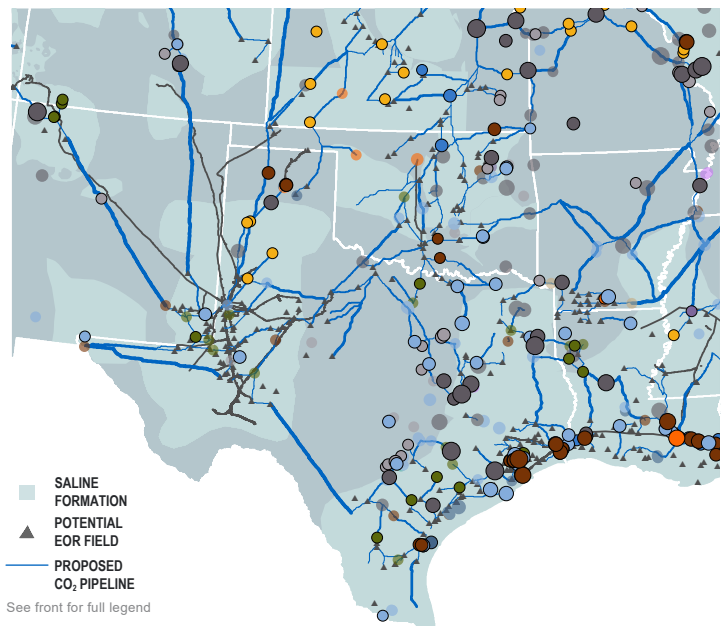


Figure 3: Potential regional CO₂ sources and pipeline corridors for transportation to utilization and storage sites as modeled by the Regional Carbon Capture Deployment Initiative.

Maps and graphics within this document are based on work by the Great Plains Institute (GPI) to help the Regional Carbon Capture Deployment Initiative identify facilities that qualify for the federal 45Q tax credit and are optimal near-term investment opportunities for carbon capture for each state. For more information, visit carboncaptureready.org.

The **Regional Carbon Capture Deployment Initiative** is a network of states that work together to help ensure near-term deployment of carbon capture projects that will benefit domestic energy production, reduce carbon emissions, and protect and create high-wage jobs. The Initiative provides unique and valuable opportunities for governors, state officials, legislators, and stakeholders to engage at the state, regional, and national levels.

The Initiative is staffed by the Great Plains Institute (GPI), a nonpartisan, nonprofit working to transform the energy system to benefit the economy and environment. For more information on this effort, go to carboncaptureready.org or contact Matt Fry at mfray@gpisd.net.