

JOBS AND ECONOMIC IMPACT OF CARBON CAPTURE DEPLOYMENT Texas

TOTAL JOBS POTENTIAL

Project Jobs	Operations Jobs	Infrastructure Jobs
15,010	9,230	3,340

Texas has the opportunity to create an annual average of up to **18,350 project jobs** over a 15-year period and **9,230 ongoing operations jobs** through the deployment of carbon capture at 95 industrial and power facilities. The retrofit of equipment at these facilities has the potential to capture nearly **161 million metric tons** of carbon dioxide (CO₂) per year. Along with the development of CO₂ transport infrastructure, this would generate up to **\$59.9 billion** in private investment.

CREATING JOBS & CAPTURING CARBON

Carbon capture is essential to meeting mid-century emissions reduction goals while retaining and growing a domestic base of high-wage energy, industrial, and manufacturing jobs. Carbon capture retrofits require facilities to be outfitted with capture technologies such as amine scrubbers to remove CO₂ from exhaust gas and compressors to make the CO₂ transport-ready, that are dependent upon the type of industrial plant and vary across industries and facilities. There are jobs associated with the equipment, materials (e.g., cement and steel), engineering, and labor required to install the capture technology, as well as ongoing jobs to operate and maintain the retrofits. These are referred to as **project jobs** and **operations jobs**.

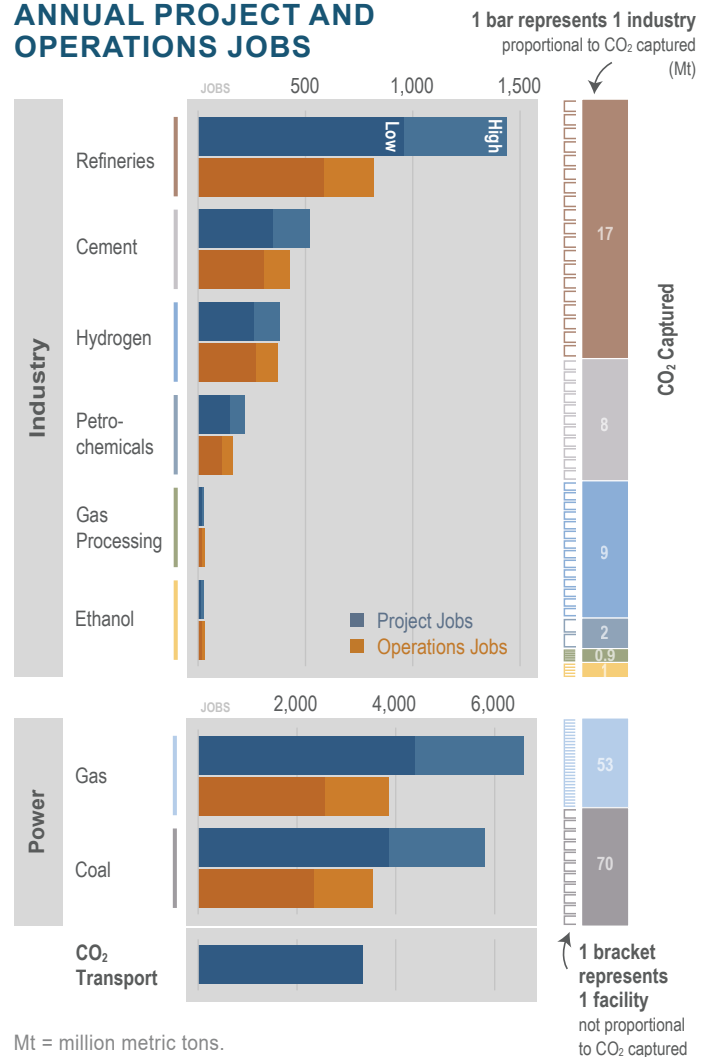
Rhodium Group performed an economic analysis based on the Regional Carbon Capture Deployment Initiative's near- and medium-term capture potential scenario.¹ The Rhodium analysis quantifies the economic impact and employment opportunities of carbon capture retrofit projects by deploying state-specific data in the IMPLAN economic model. The analytical results measure the impact of project investment and operation costs through expected annual jobs. Average annual project jobs were calculated assuming deployment of all projects within the 15-year period from 2021-2035. The jobs reported are in-state jobs, directly associated with carbon capture retrofits. They do not include other jobs at the facilities, nor indirect and induced jobs.

CARBON CAPTURE JOBS AND ECONOMIC IMPACT SUMMARY

Industry	Number of Facilities	Total Capture Target Metric Tons	Private Investment Million Dollars	Annual Average Project Jobs 2021-2035	Annual Operations Jobs
Cement	11	8,000,000	\$1,200 - \$1,800	350 - 520	310 - 430
Coal Power	11	70,000,000	\$14,000 - \$20,000	3,870 - 5,800	2,360 - 3,540
Ethanol	4	1,000,000	\$60 - \$90	15 - 25	20 - 30
Gas Power	28	53,000,000	\$15,000 - \$25,000	4,400 - 6,600	2,570 - 3,850
Gas Processing	6	900,000	\$70 - \$100	20 - 25	20 - 30
Hydrogen	14	9,000,000	\$900 - \$1,300	260 - 380	270 - 370
Petrochemicals	2	2,000,000	\$500 - \$700	150 - 220	110 - 160
Refineries	19	17,000,000	\$2,600 - \$3,900	960 - 1,440	590 - 820
CO ₂ Transport Infrastructure	-	-	\$7,000	3,340	-

¹ Rhodium Group analytical results: rhg.com/research/

ANNUAL PROJECT AND OPERATIONS JOBS



Mt = million metric tons.

This figure depicts the low and high range of estimated annual average project jobs, transport infrastructure jobs, and ongoing operations jobs that could be created through carbon capture retrofits at industrial and power facilities in Texas. The potential amount of CO₂ captured and the number of potential near- or medium-term capture facilities in each industry are shown on the right.

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RESULTS

Texas holds vast potential to create jobs and reduce emissions with the deployment of carbon capture. Much of this potential comes from 28 of the state’s gas power plants, which have the ability to create an annual average of up to 6,600 project jobs and 3,850 operations jobs while capturing 53 million metric tons of CO₂ per year. The coal sector is a close second for quantity of jobs created. Eleven of the state’s coal power plants have the combined ability to create an annual average of up to 5,800 project jobs and 3,540 operations jobs while capturing 70 million metric tons of CO₂ per year. A total of 56 facilities in the cement, ethanol, gas processing, hydrogen, petrochemicals, and refining sectors have the combined potential to create an annual average of up to 2,610 project jobs and 1,840 ongoing operations jobs while capturing nearly 38 million metric tons of CO₂ per year. Furthermore, the development of CO₂ transport infrastructure would create an annual average of 3,340 project jobs.

ABOUT THE ANALYSIS

The first phase of economic and employment analysis conducted by Rhodium Group uses facilities within the Midcontinent region that were identified as near- and medium-term candidates for carbon capture retrofit in the recently published RDI white paper, *Transport Infrastructure for Carbon Capture and Storage: Regional Infrastructure for Midcentury Decarbonization*, and translates project investment and operation costs into employment potential on a state-by-state basis. Forthcoming analysis will explore the economic impacts of carbon capture in the rest of the US lower 48, as well as expanded deployment of carbon capture past 2035 to meet midcentury decarbonization targets nationwide.

For more information on this effort and to view a series of state fact sheets showcasing carbon capture opportunities and economic potential for job creation, go to www.carboncaptureready.org or contact Patrice Lahlum at plahlum@gpisd.net.