REGIONAL CARBON CAPTURE DEPLOYMENT INITIATIVE

JOBS AND ECONOMIC IMPACT OF CARBON CAPTURE DEPLOYMENT
Ohio

TOTAL JOBS POTENTIAL

Project Jobs	Operations Jobs	Infrastructure Jobs
5,680	**3,910**	**780**

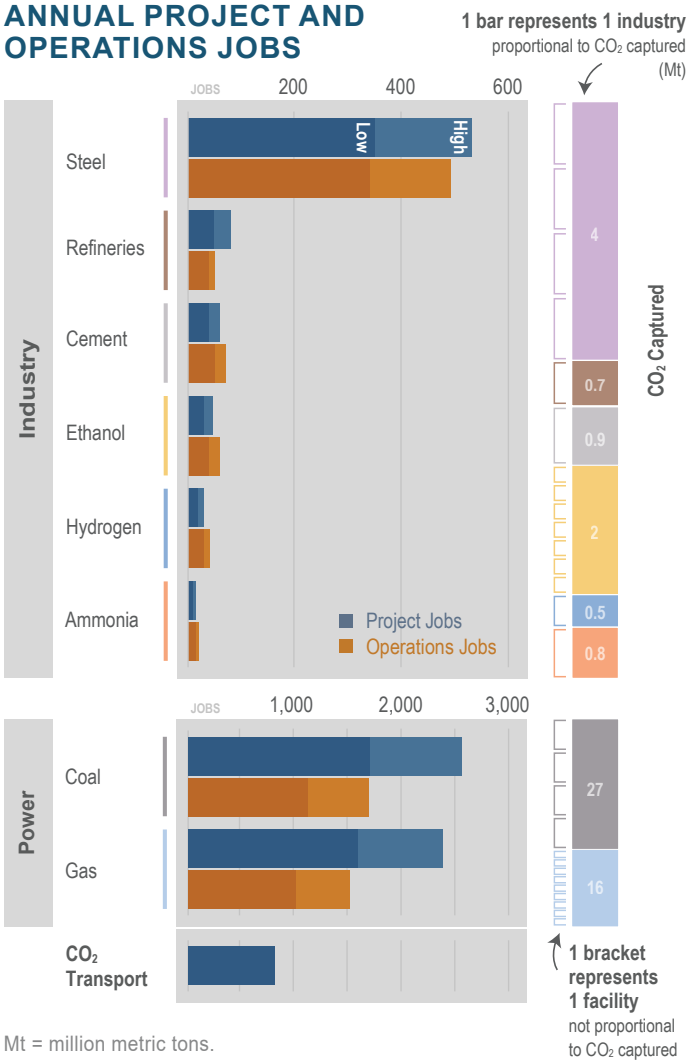
Ohio has the opportunity to create an annual average of up to **6,460 project jobs** over a 15- year period and **780 ongoing operations jobs** through the deployment of carbon capture at 26 industrial and power facilities. The retrofit of equipment at these facilities would capture **51.9 million metric tons** of carbon dioxide (CO_2) per year. Along with the development of CO_2 transport infrastructure, this would generate up to **$20 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 CO_2 from exhaust gas and compressors to make the CO_2 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.

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 Ohio. The potential amount of CO_2 captured and the number of potential near- or medium-term capture facilities in each industry are shown on the right.

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**
Ammonia	1	800,000	$30 - $50	10 - 15	15 - 20
Cement	1	900,000	$120 - $180	40 - 60	50 - 70
Coal Power Plant	4	27,000,000	$5,600 - $8,400	1,700 - 2,550	1,120 - 1,680
Ethanol	7	2,000,000	$100 - $150	30 - 45	40 - 60
Gas Power Plant	9	16,000,000	$5,000 - $7,500	1,580 - 2,370	1,000 - 1,500
Hydrogen	1	500,000	$60 - $80	20 - 30	30 - 40
Refineries	1	700,000	$130 - $190	50 - 80	40 - 50
Steel	2	4,000,000	$1,120 - $1,680	350 - 530	340 - 490
CO_2 Transport Infrastructure	-	-	$1,800	780	-

[1] Rhodium Group analytical results: **rhg.com/research/**

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RESULTS

Ohio is the eighth-largest ethanol-producing state in the nation and holds immense potential for carbon capture deployment in the ethanol industry. Seven of the state's ethanol facilities have the potential to create an annual average of up to 45 project jobs and 60 ongoing operations jobs while capturing two million metric tons of CO_2 per year Nine of the state's steel facilities have the combined ability to create an annual average of up to 530 project jobs and 490 ongoing operations jobs while capturing four million metric tons of CO_2 annually. In the power sector, four of the state's coal plants and nine gas plants can create an annual average of up to 4,920 project jobs and 3,180 ongoing operations jobs while capturing 43 million metric tons of CO_2 per year. Additionally, the development of CO_2 transport infrastructure would create an annual average of 780 project jobs in the state.

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.

[1] Rhodium Group analytical results: **rhg.com/research/**