BITE-SIZED BLUEPRINT:

Carbon Management and Workforce Development

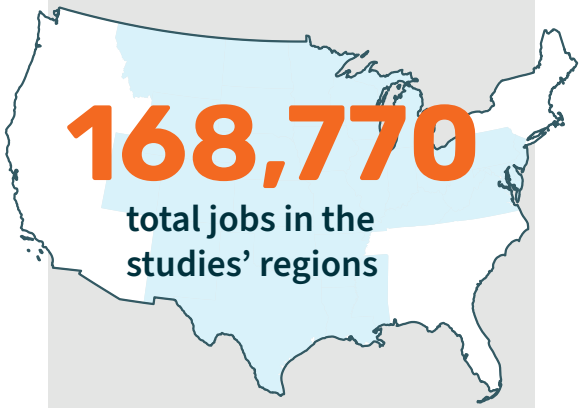
The nationwide deployment of carbon management technologies at industrial, power, and large-scale direct air capture facilities is an essential component of domestic workforce development for the energy, industry, and manufacturing sectors in almost every state in the nation. The workers who build and maintain carbon capture, direct air capture, carbon dioxide (CO_2) pipelines, carbon reuse and storage infrastructure must have a broad range of skill sets. These burgeoning industries can leverage the existing skilled workforce in the oil and gas, energy, and industrial sectors. These sectors support family-sustaining jobs that form the backbone of regional economies across the nation.

Analyses of potential jobs related to the construction of carbon management infrastructure and subsequent daily operation of these facilities confirm this fact. Regional analyses by the Rhodium Group quantify the impact that carbon management project deployment, driven by the section 45Q tax credit, can have on America's workforce.

In one report, Rhodium Group predicts that retrofitting 45Q-eligible industrial and electric power facilities in the study's 21-state Midcontinent region has the potential to create an annual average of 88,320 – 129,300 total jobs over the next 15 years.

A separate Rhodium Group report also found that economywide deployment of carbon capture in the Mid-Atlantic region would result in 26,600–39,470 total jobs related to carbon capture, storage, and transportation over the same 15-year period. In addition to creating new jobs, retrofitting industrial and power facilities with carbon capture equipment allows for their continued operation, avoiding plant closures and preventing the offshoring of American jobs.

129,300
total jobs in the Midcontinent
+
39,470
total jobs in the Mid-Atlantic



168,770
total jobs in the studies' regions

CASE STUDY

Project Cypress, Louisiana

1 million metric tons (MMt)
of annual CO_2 capture capacity

$1 to 1.7 billion investment

840 to 1,500 annual average jobs
over the five-year construction period

240 to 450 ongoing jobs

In addition to the direct air capture facilities, this hub will include CO_2 injection and storage, with an estimated 10 to 15 average annual jobs associated with construction of the storage infrastructure and an additional 8 to 10 operational jobs associated with the storage facility.

CARBON CAPTURE COALITION

The full suite of carbon management technologies is uniquely poised to advance America's economic interests as part of a portfolio of solutions. In addition to bolstering domestic energy and manufacturing, companies and international trading partners are increasingly demanding energy and materials produced with lower carbon footprints. The role that carbon management deployment plays in supporting domestic energy and manufacturing while producing cleaner, affordable energy has not escaped policymakers on either side of the aisle – as evidenced by the ambitious, bipartisan framework currently in place to ensure the nationwide deployment of carbon management technologies. The table below on the right shows five states' job prospects in carbon management.

CASE STUDY

Direct Air Capture Hub, South Texas

1 million metric tons (MMt)
of annual CO_2 capture capacity

$1.3 to 2 billion investment

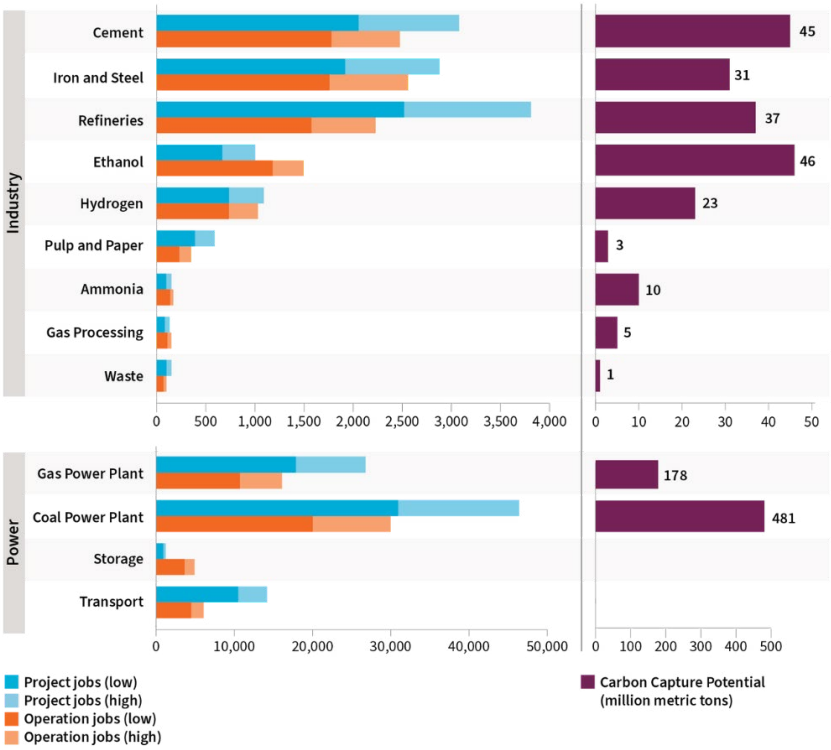
1,180 to 1,830 annual average jobs
over the five-year construction period

260 to 400 ongoing jobs

In addition to the direct air capture facility, this hub will include CO_2 injection and storage, with an estimated 10 to 15 average annual jobs associated with construction of the storage infrastructure and an additional 6 to 9 operational jobs associated with the storage facility.

Since the 45Q tax credit was significantly updated in 2018, there have been more than **270 announced and operational projects, with 145 of these either under construction or in advanced development** – and this number continues to grow each year. Ensuring announced projects proceed to construction and operation will provide economic opportunity and jobs across sectors. These numbers don't lie – **carbon management technologies will drive economic growth in regions and states across the country.**

Near- and meduim-term carbon capture jobs potential per year in the US by sector, 2023 - 2038



State	Annual Jobs Created	Annual Operations Jobs Created	Annual Tons of CO_2 Captured*	Private Investment Generated over 15 Years
CO	2,480	1,575 across 19 facilities	24MMt	$10 billion
LA	4,060	2,500 across 33 facilities	39MMt	$15 billion
ND	975	666 across 8 facilities	18MMt	$7 billion
TX	14,790	9,075 across 93 facilities	158MMt	$62 billion
WY	2,650	1,960 across 10 facilities	31MMt	$11 billion

*in million metric tons

More information on job creation prospects in each of the 21 states can be found in the Rhodium Report from 2023.

To learn more about carbon management and supportive policies, check out the Carbon Capture Coalition's Federal Policy Blueprint.