BITE-SIZED BLUEPRINT:

CARBON CAPTURE COALITION

Carbon Management and Communities

Deploying the full value chain of carbon management technologies must be centered on engagement with and consideration of local communities, landowners, and Tribal Nations. Doing so ensures that benefits—in jobs, economic development, and potential co-benefits from project development—flow to the people and workers who will host, build, and operate these diverse projects.

What are co-benefits?

In addition to capturing CO_2, carbon capture systems can **co-capture other pollutants at emitting facilities**. These pollutants decrease air quality and have negave health impacts on local communities. The amounf of co-benefits depends on several factors.

CARBON MANAGEMENT AND LOCAL WORKFORCE DEVELOPMENT:

Carbon management offers a pragmatic solution to address carbon dioxide emissions (CO_2) and harmful co-pollutants, while preserving facilities that form the backbone of regional economies nationwide. Deploying the full suite of carbon management technologies safeguards and creates jobs that require a broad range of skillsets. As such, the construction and operation of carbon management facilities and associated infrastructure will primarily draw upon existing pools of skilled laborers in construction, oil and gas, mining, and other key industrial and manufacturing sectors. Retrofitting industrial and power facilities with carbon capture equipment allows them to continue operating, avoiding plant closures and preventing the offshoring of these jobs.

For more detailed information about the carbon management workforce, please see our Bite-Sized Blueprint: Carbon Management and Workforce Development.

CARBON MANAGEMENT AND LOCAL BENEFITS PLANNING:

Opportunities in carbon management exist in every region of the country, and project developers cannot take a one-size-fits-all approach to community engagement. Project proponents must promote transparency and open dialogue by actively engaging stakeholders early in the project development process. Doing so fosters trust with communities, leading to better designs that mitigate project impacts and address local needs.

One avenue for successful community engagement is local benefits planning through informal planning and conversations with developers or through formal mechanisms such as Community Benefits Agreements (CBAs). CBAs are legally binding contracts with defined processes for partnering with local and Tribal governments and community organizations. Both informal and formal processes lead to projects better tailored to the needs and values of host communities.

CASE STUDY

Tallgrass Trailblazer CO_2 Pipeline

Nebraska

Communities along the pipeline have entered into a legally-binding Community Benefit Agreement with the developer, which provides funding to nonprofits located in communities along the pipeline route.

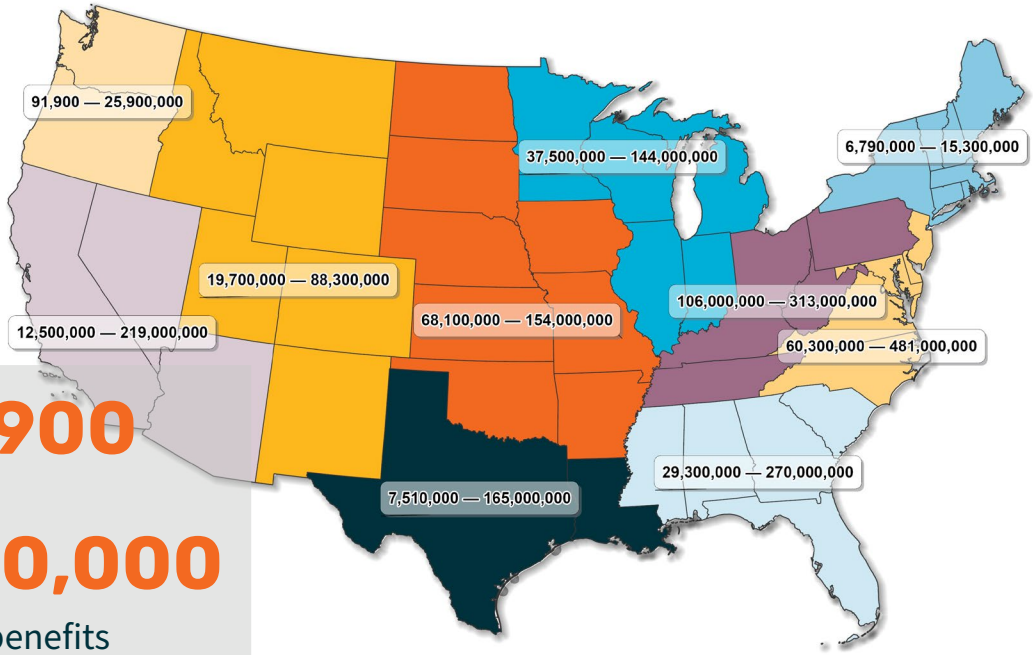
CARBON MANAGEMENT PROJECTS AND CO-BENEFITS:

In addition to capturing CO_2, another potential benefit of installing carbon capture technologies at emitting facilities is reducing other kinds of air pollutants that have local impacts. Often, host communities have lived near facilities that emit criteria air pollutants that have contributed to decades of adverse health impacts.

Carbon capture retrofits of industrial and power facilities may provide additional air quality benefits by significantly reducing pollutants contributing to respiratory and heart diseases in nearby communities. Before CO_2 separation and capture, emissions from a facility must undergo pretreatment to remove additional criteria air pollutants, which are regulated by the EPA and include sulfur oxides, particulate matter, and nitrogen dioxide. Additionally, the reuse of pre-combustion industrial gases, including using them to produce building materials, fuels, and chemicals, removes criteria pollutants as part of the conversion process, as it avoids those gases being flared or combusted.

The impact of individual carbon capture retrofits on the amounts of air pollutants in each region will vary depending on the emissions and carbon capture technologies deployed at individual cement, refining, iron and steel, and power plants, as seen in the map below. These impacts are quantified in terms of increased productivity and avoided healthcare costs in each region.

Projected annual health benefits (in millions) for individual regions after installing carbon capture retrofits and pretreatment at emitting facilities.



$347,791,900
to
$1,875,500,000
total economic health benefits

Modeling in the study Carbon Capture Co-Benefits, commissioned by the Great Plains Institute, suggests that the economic health benefits of economywide carbon capture deployment in different regions could range from $347 million to $1,875 million per year, translating to improved health outcomes for individuals and communities.

Communities are at the heart of achieving nationwide deployment of carbon management technologies. If these technologies are to fulfill their potential as part of a broader set of solutions for furthering innovation, maintaining American global competitiveness, and providing reliable supplies of clean, domestic energy, community engagement and local benefits planning is paramount. It is critical that project proponents, governments, and stakeholders work together to ensure that benefits associated with project deployment flow to the communities that host them and the workers with a range of skill sets that build and operate them.

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