FEDERAL POLICY BLUEPRINT

CARBON CAPTURE COALITION

Policymaker Summary

APRIL 2023

Carbon management technologies are a critical tool in **reducing greenhouse gas emissions** and **preserving and creating highly-skilled jobs** that pay family-sustaining wages. These projects, if deployed in a responsible and timely manner, can also **provide environmental and economic benefits** to host communities and regional economies across the nation, while **bolstering American energy, industry and manufacturing leadership**.

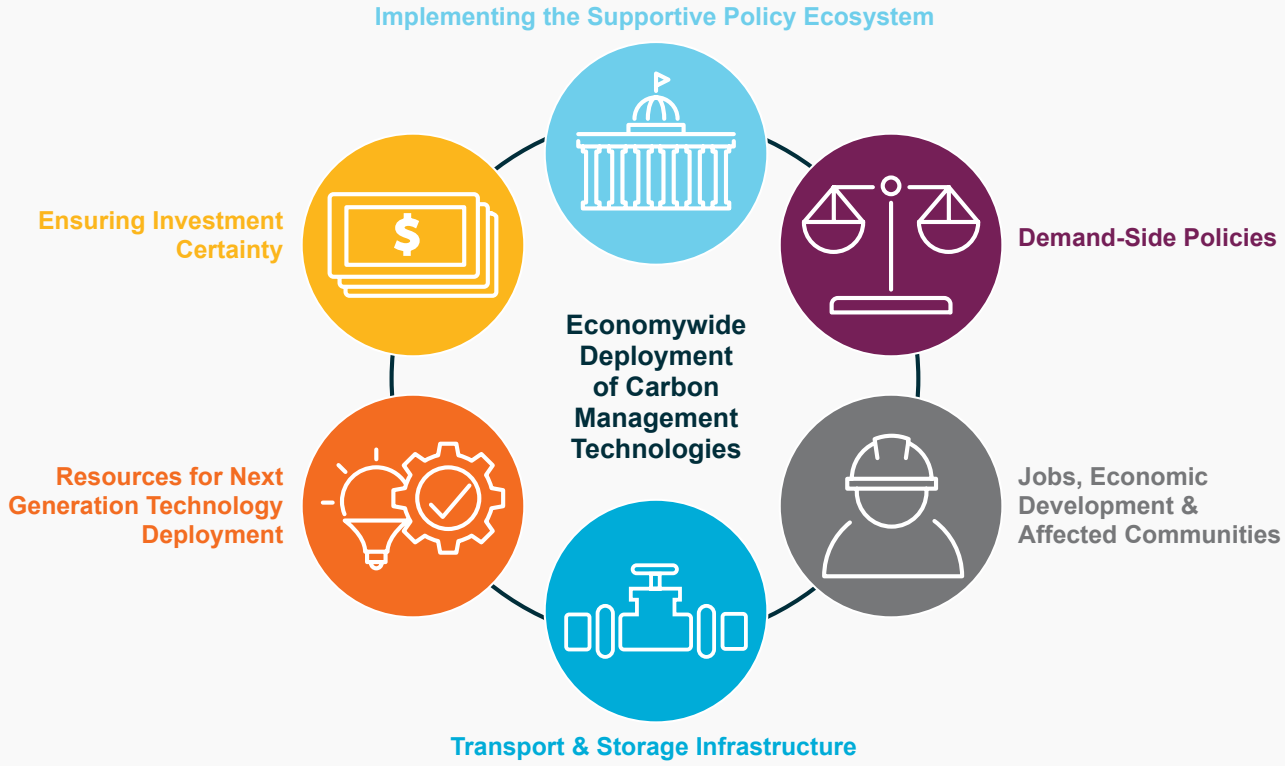
Time and again, Congress has reinforced the important and dynamic role carbon management technologies will play in America's domestic energy and climate policy agenda. The 117th Congress alone provided the single largest investment in carbon management technologies to date, as well as the enactment of essential, bipartisan policies to strengthen the U.S.' leadership in deploying these technologies economywide. The Carbon Capture Coalition's 2023 Federal Policy Blueprint aims to build upon these policy successes by providing a roadmap of targeted, pragmatic recommendations for the 118th Congress, to underpin and grow the role of American leadership in the development and deployment of these technologies throughout the remainder of this decade and beyond.

Near-term Legislative Priorities

Resources for Next Generation Technology Deployment

The 2021 historic investments for carbon management authorized in the Energy Act of 2020 and appropriated by the Bipartisan Infrastructure Law, coupled with regular year-over-year increases to annual RDD&D funding for relevant activities at DOE have laid the groundwork for the commercialization and deployment

Figure 1: Coalition Vision for Economywide Deployment of Carbon Management Technologies



of carbon management technologies. However, these investments should not be viewed as a high-water mark for funding for these technologies but instead, be seen as providing the building blocks for establishing an even more ambitious level of federal support that is necessary to commercialize a sufficiently broad portfolio of emission reduction technologies.

Sustained federal investment in less commercially mature and transformational carbon capture, removal, reuse, and storage technologies and processes will provide needed continuity in federal programming and remains a critical component of driving down costs. Examples of these types of investments include:

- Increased funding for demonstration of industrial carbon capture activities authorized by the 2020 Energy Act.
- Appropriations for relevant carbon management authorizations enacted by the CHIPS and Science Act.
- Further buildout of federal funding and support for earlier scale carbon dioxide removal technologies.
- Increased federal support for the development of robust monitoring, reporting, and verification protocols for the full suite of carbon management and carbon dioxide removal technology pathways.

Ensure Investment Certainty by Closing the Cost Gap

Recent enhancements to the 45Q tax credit will help to close the cost gap between levels of financing available for project deployment and necessary financing needed to develop first-of-a-kind projects or less commercially mature technologies in several sectors. However, further small-scale adjustments to the tax credit will be necessary to ensure investment certainty and business model flexibility. Combined with additional guidance expected in 2023 from the U.S. Department of Treasury and the Internal Revenue Service on the updates made to the 45Q program, the further adjustments outlined below would serve to maximize the number of sectors able to access the credit and provide the greatest possible amount of greenhouse gas emissions reductions, as Congress intended.

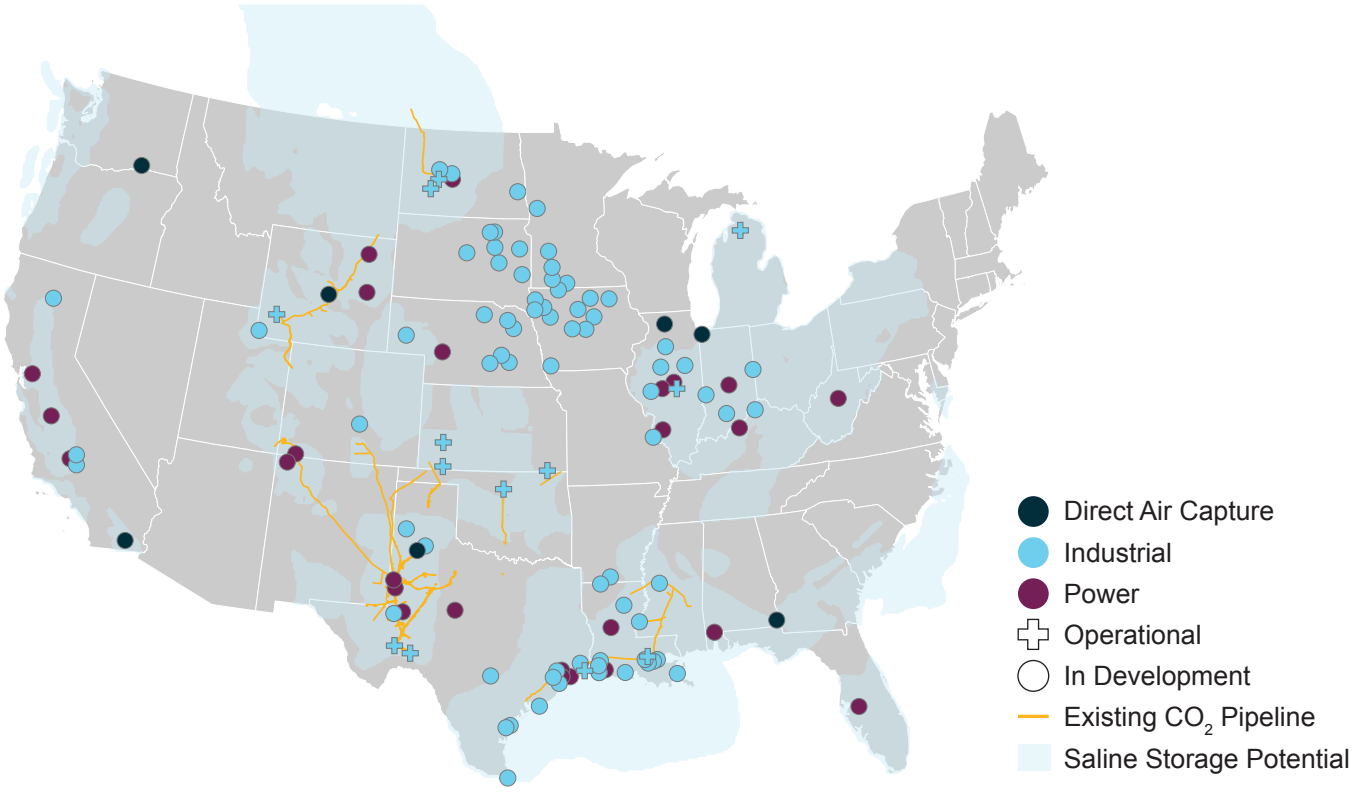
Index 45Q for Inflation: Increased credit values provided to projects developed in the industry, power and direct air capture sectors are the cornerstone of the recent enhancements made to the 45Q program in 2022. However, unlike other low- and zero-emissions technology tax credits recently reformed or created under the 117th Congress, the 45Q tax credit value is

not adjusted for inflation until 2026. Already, much of the value increase realized in recent 45Q enhancements have been eroded due to significant inflation in both capital goods costs and energy price increases. To prevent further reduction of the credit value in today's dollars, 45Q should be adjusted for inflation much sooner than the statute allows.

Create Parity Between Carbon Utilization Credit Levels and Those Associated with Geologic Storage: Increased credit levels for the nascent carbon reuse sector, which is the conversion of carbon oxides to produce commercial products like low- and zero-emissions fuels, building materials and other products that reduce greenhouse gas emissions, is necessary to realize commercial viability for this portfolio of technologies. Increasingly, carbon reuse is seen as an important complement to large-scale carbon storage, as it provides value-added markets and carbon reuse opportunities for carbon capture operations, while also creating long-term, circular supply chains. Carbon reuse can also address sources of emissions that are too small to be economically captured and transported, or too far removed from appropriate storage sites. While legislative action by the 117th Congress increased 45Q credit values across the board, the credit is bifurcated between permanent storage of captured CO_2 and the utilization of CO_2 for reuse to produce commercially valuable products, or for the production of additional oil from depleted oil and gas wells. However, reusing carbon to produce products is not yet cost competitive with incumbent technologies. Making the credit values for carbon reuse consistent with those provided for the geologic storage of CO_2 is a necessary and important step to providing commercial certainty to this nascent but growing sector and to support full decarbonization of the economy.

Extend the Impact of a Direct Pay Mechanism to Cover Lifetime of 45Q Credit: The recently enacted direct pay mechanism for carbon management project developers is poised to deliver the significant jobs, economic and greenhouse gas reduction benefits initially sought by Congress in the landmark, bipartisan reform and expansion of the 45Q tax credit in 2018, and subsequent enhancement of the program in the 117th Congress. The current direct pay mechanism allows for-profit entities to receive the full value of the tax credit at no extra cost to the American taxpayer for the first five years of the credit and non-profit entities to receive

Figure 2: Publicly Announced Carbon Management Projects.
These projects span the development cycle from early stages of development to project construction.



direct pay for the full 12-years. However, for-profit entities utilizing the financing mechanism for the first five years of the credit would create tremendous fiscal uncertainty to finance the remaining years of the credit. Providing a permanent direct pay mechanism will unlock broader financial markets and leverage greater private capital for investment in projects, thereby accelerating the deployment of existing technologies. Extending the impact of the existing voluntary direct pay mechanism to cover the lifetime of the credit would provide greater investment certainty to project developers and deliver the jobs, economic and emission reduction benefits of the 45Q program in a more cost-effective manner.

Prioritize CO_2 Transport and Storage Infrastructure

Commercial-scale deployment of carbon management technologies requires the robust and responsible buildout of an interconnected, nationwide network of carbon dioxide transport and storage infrastructure. However, there are various challenges carbon management projects face as this sector prepares to deploy these technologies economywide, including lengthy permitting timelines and the need for additional guidance for varying CO_2 transport and storage projects, among others. This buildout is multifaceted and requires a targeted agenda of coordinated policy and regulatory actions across the federal government, including from Congress and the administration, to ensure this infrastructure can scale rapidly and responsibly to meet demand.

Provide Clarity for CO_2 Storage Projects on Federal Lands: Federal lands are an important national resource and agencies must carefully balance often competing demands for maximizing their potential. If properly cited and done in a manner that protects public access and benefit, all while minimizing surface disturbance, the geologic storage of CO_2 beneath federal lands offers a significant opportunity to catalyze a domestic carbon management industry that will reduce greenhouse gas emissions while creating and maintaining high-paying jobs. According to the U.S. Government Accountability Office, the U.S. federal government owns and manages approximately 30 percent of the total surface area of U.S. land, with the United States Geologic Survey estimating that roughly 130 million acres of potentially suitable storage capacity are overlayed by federal lands. However, until Congress and the Bureau of Land Management (BLM) provides clarity to CO_2 storage developers for projects on federal lands, it is unlikely that the U.S. will meet CO_2 storage volumes that are in line with 2050 greenhouse gas emissions reductions targets. While BLM issued new policy authorizing the use of federal lands for CO_2 geologic storage, significant uncertainty remains, including questions surrounding pore space ownership, land use plans, and interaction with other agency regulations. With historic levels of policy support provided for carbon management projects in the 117th Congress, project deployment is expected to increase significantly, raising interest in the development of CO_2 storage projects on federal lands.

Provide appropriate regulatory clarity for interstate construction of CO_2 transport projects: There is clear regulatory authority given to the Pipeline and Hazardous Materials Safety Administration (PHMSA) over the safety of CO_2 pipelines. However, the authority to regulate siting, construction and operation activities is currently handled on state-by-state basis which could make it difficult to build CO_2 transport systems necessary to scale the industry. Clarity surrounding the interstate construction process for CO_2 pipelines could provide critical certainty for project developers and aid in the near-term goal of building carbon transport and storage infrastructure needed to meet the anticipated demand provided by recent enhancements to the 45Q tax credit. Importantly, any clarifications should “do no harm” and not hinder existing processes and timelines. What remains clear, additional policy development and engagement with developers and communities will be needed to identify any potential long-term solutions for regulatory authority over CO_2 transport as the industry continues to scale.