

Carbon Capture Coalition Statement for the Record

United States House of Representatives Natural Resources Committee Subcommittee on Energy and Mineral Resources Hearing on “The Opportunities and Risks of Offshore Carbon Storage in the Gulf of Mexico”

April 28, 2022

The Carbon Capture Coalition appreciates the opportunity to submit this statement for the record for the House of Representatives Natural Resource Committee’s Subcommittee on Energy and Mineral Resources hearing on offshore carbon storage. Carbon management technologies are essential tools to achieving the nation’s midcentury climate goals, while preserving and creating middle class jobs that pay family-sustaining wages, providing environmental and other benefits to communities, and supporting regional economies across the country.

The Carbon Capture Coalition is a nonpartisan collaboration of more than 100 companies, unions, conservation and environmental policy organizations, dedicated to building federal policy support to enable economywide commercial scale deployment of the full suite of carbon management technologies, which includes carbon capture, removal, transport, utilization, and storage. Widespread adoption of carbon capture at existing industrial facilities, power plants and future direct air capture facilities is critical to **achieving net-zero emissions to meet midcentury climate goals, strengthening and decarbonizing domestic energy, industrial production and manufacturing, and retaining and expanding a high-wage jobs base**. Convened by the [Great Plains Institute](#), Coalition membership includes industry, energy, and technology companies; energy and industrial labor unions; and conservation, environmental, and clean energy policy organizations.

This statement outlines the safety and effectiveness of secure geologic storage of captured carbon dioxide (CO₂) and its critical importance in realizing essential emissions reductions targets by midcentury. Carbon capture, transport and storage technologies have been proven at commercial scale in the United States for decades and industry has more than 50 years’ experience safely transporting and permanently storing CO₂. Increased interest in using offshore resources in the U.S. among members of Congress and key stakeholders to enable a clean energy economy, along with recent federal investments in carbon management and industrial decarbonization through the [Infrastructure Investment and Jobs Act](#), have provided a very near-term opportunity to scale commercial carbon capture, direct air capture and clean hydrogen projects, associated infrastructure, and geologic storage in the offshore environment.

Commercial interest in carbon management technologies and projects is growing rapidly, with nearly [90 publicly announced projects](#) throughout the United States. More than 70 percent of these announced projects intend to store captured CO₂ deep underground safely and permanently in saline geologic formations. The potential for saline geologic storage is enormous and represents a long-term, scalable climate solution. While carbon capture and storage is only one piece of the climate solution, estimates of domestic saline storage capacity represent over 1,000 years’ worth of U.S. CO₂ emissions.

What remains clear is that large-scale carbon management must play a central role in meeting midcentury global temperature targets, including through carbon capture at industrial facilities

and power plants, and direct air capture facilities. In its' most recent WGIII [Climate Change 2022: Mitigation of Climate Change](#) report, the [Intergovernmental Panel on Climate Change \(IPCC\)](#) estimates that carbon capture, removal and storage technologies will account for up to 12 gigatons of CO₂ captured and stored annually by midcentury – further underscoring the urgent need to scale up carbon management technologies to capture and store CO₂ at scale by midcentury. Additionally, of the seven pathways that IPCC uses to reflect different decarbonization strategies, only one excludes deployment of carbon capture and removal technologies. This same scenario estimates that global energy demand will be cut in half over the next 30 years, which is unrealistic and unachievable in world where billions of people seek improved standards of living.

Safe and permanent injection and storage of CO₂ in deep geologic formations represent a well-understood and commercial practice in the U.S. and worldwide. In the U.S., EPA regulates and permits geologic storage projects using the Underground Injection Control Programs' Class II and Class VI wells. Through these programs, EPA and established state primacy programs maintain a robust system of monitoring, reporting and verification to validate secure geologic storage to claim the 45Q tax credit, the cornerstone policy enabling the scale up of carbon management projects. Furthermore, 45Q is a performance-based tax credit, meaning that projects must demonstrate that the captured carbon oxide (CO₂ or it's precursor, CO) is permanently stored or utilized to receive the credit. No other energy technology must prove carbon dioxide mitigation to receive a tax credit – wind, solar and other technologies receive federal tax credits based on production -- regardless of total CO₂ emissions reduced.

While commercially practiced today, scaling up development and permitting of secure geologic storage at gigaton scale is key to getting industries on track to be able to reach net-zero emissions targets and midcentury climate goals. Domestically, the [Great Plains Institute estimates](#) that there is the potential to capture and store more than 300 million metric tons of CO₂ emissions per year from existing industry and power sources by 2035. To date, over a quarter billion tons of CO₂ emissions have been successfully stored globally in saline geologic formations. Commercial saline storage began with the Sleipner Project in Norway in 1996, which has stored approximately 1 million tons of CO₂ annually captured from natural gas processes and injected deep under the bed of the North Sea. In the U.S., the industry is capturing and storing 22 million metric tons of CO₂ per year. At the Archer-Daniels-Midland (ADM) in Decatur, IL annually stores approximately 1 million tons of CO₂ in captured from ethanol fermentation, in the first active Class VI well.

With more than 60 publicly announced carbon management projects declaring their intent to store CO₂ through dedicated saline storage, ensuring that EPA's Class VI permitting program, which provides specific regulations for dedicated geologic storage of CO₂, has adequate resources to properly and expeditiously permit projects is increasingly important. The anticipated increase in project applications to the Class VI Well program highlights the importance of federal and state efforts to provide key support for project development to meet midcentury climate goals. According to the Great Plains Institute, EPA has permitted two Class VI wells to date, with well permit applications for an additional four wells as pending.

While it's true that the offshore environment presents unique circumstances relative to the onshore environment, relevant federal agencies should support the same rigor of monitoring, verification and reporting for secure, long-term storage of CO₂ when promulgating rules

governing the offshore environment. Additionally, these same agencies should ensure the same level of transparency through reporting, monitoring and verification and transparency measures required by Subpart RR of the EPA Greenhouse Gas Reporting Program in the onshore environment. Ensuring transparency and accountability mechanisms for the offshore storage environment are integral to maintain public confidence in the integrity of the 45Q tax credit.

Secure geologic storage is not only essential for reaching midcentury climate targets, but in enabling domestic industries to capture and manage their carbon emissions. In addition to playing a central role in decarbonizing domestic industry, manufacturing and energy, the deployment of carbon management technologies, coupled with the necessary development of CO₂ transport and storage infrastructure, will help safeguard current high-paying jobs at existing facilities, while creating tens of thousands of new jobs and generating tens of billions in capital investment, according to analysis conducted by the [Rhodium Group](#). The deployment of carbon capture, [direct air capture](#), carbon utilization and associated CO₂ transport and storage projects provide some of the most desirable clean energy, industrial and manufacturing jobs for American workers, as they consistently pay above-average local wages that support families and communities.

Federal policymakers have recently demonstrated their foresight and recognition of the essential role that CO₂ transport and storage infrastructure must play in putting our nation on a path to reaching net-zero emissions by midcentury with the enactment of the Infrastructure Investment and Jobs Act (IIJA). The bipartisan package included foundational investments in the buildout of regional CO₂ transport and storage infrastructure with the complete inclusion of the Storing CO₂ and Lowering Emissions (SCALE) Act. Much like the development of other vital infrastructure systems, the SCALE Act positions the federal government to partner with private capital to invest in both regional and national CO₂ transport and storage infrastructure networks.

The SCALE Act provisions enacted through the IIJA include funding for geologic storage permitting at \$25 million during FY22-26 and \$50 million during FY22-26 for state permitting program grants. Effective implementation of these modest but vital permitting resources could be transformative. These resources can provide the adequate federal and state permitting capacity required for a critical mass of carbon management projects to move forward over the next decade.

Enabling deployment at scale would ensure that the far greater federal investments in both the infrastructure bill and the 2018 bipartisan reform and expansion of the federal 45Q tax credit achieve their full climate potential. However, while these incremental gains remain important to realizing economies of scale, Congress now must deliver the broad portfolio of federal policy support for carbon management in forthcoming budget reconciliation legislation, including direct pay and multi-year extension of the 45Q tax credit, increased credit values for industry, power and direct air capture, and dramatically reduced annual capture thresholds. Combined with the investments made in the infrastructure law, these enhancements to the 45Q tax credit would result in an estimated 13-fold increase in carbon management capacity and annual CO₂ emissions reductions of 210-250 million metric tons by 2035 as well as creating hundreds of thousands of jobs in the carbon capture and direct air capture industries.

Conclusion

Carbon capture, removal, utilization, transport and storage technologies are essential tools to decarbonize the hardest-to-abate sectors, increase domestic energy production, protect and grow a high-wage jobs base, and fulfil our climate obligations. The groundbreaking provisions to scale deployment of associated CO₂ transport and storage infrastructure enacted as part of the bipartisan infrastructure law are essential to placing America's energy, industrial and manufacturing sectors on track to reach net-zero emissions by 2050. At the same time, these will ensure the long-term viability of vital industries that provide millions of existing high-wage jobs, which represent the lifeblood of American workers, their families and communities, and regional economies. Analyses by the Rhodium Group reveals the potential for creating tens of thousands and hundreds of thousands of jobs and generating hundreds of billions in investment from [carbon capture](#) and [direct air capture](#) deployment, respectively, if these technologies are deployed at levels needed to meet net-zero targets.

The Carbon Capture Coalition appreciates the opportunity to comment on the important topics of today's hearing and the Committee's support in advancing federal policies to enable greater deployment of carbon management technologies and infrastructure to meet midcentury climate goals. We look forward to working with the Committee in a bipartisan manner to participate in the rulemaking process for secure offshore geologic storage of CO₂. Should you have any questions about anything outlined in this statement, please contact Madelyn Morrison, External Affairs Manager, Carbon Capture Coalition at mmorrison@carboncapturecoalition.org.