April 28, 2022

Hon. Alan Lowenthal, Chair
Subcommittee on Energy and Mineral Resources
US House Committee on Natural Resources
1324 Longworth House Office Building
Washington, DC 20515

Re: Subcommittee Hearing: The Opportunities and Risks of Offshore Carbon Storage in the Gulf of Mexico, Statement for the Record of Clean Air Task Force, Inc.

Hon. Mr. Lowenthal:

Clean Air Task Force (CATF) thanks you for holding today's Hearing on the important question of permanent subseabed geologic storage of industrial carbon dioxide in the Gulf of Mexico.

CATF is a global nonprofit organization working to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies, including carbon capture and permanent storage and direct air capture and permanent storage technologies. CATF has offices in Boston, Washington D.C., and Brussels, with staff working virtually around the world. CATF's global carbon capture team consists of technology and policy experts and lawyers with decades of experience in carbon dioxide capture, transport, removal, and storage. The team's expertise stems from the regular contact we maintain with carbon capture project developers, investors, innovators, and regulators in addition to policy advocates and academic modelers. CATF's carbon capture team specializes in analyzing the effect of regulation and policy options, to discern the most cost-effective means to scale up carbon capture, transport, removal, and permanent storage technologies to achieve mid-century decarbonization goals.

CATF recognizes the critical role of carbon capture and permanent storage technologies in meeting mid-century decarbonization goals. IPCC Working Group III assessed 97 pathways to keep global warming to 1.5°C with limited or no overshoot and found an average of 665 gigatons (Gt) of carbon capture and storage will be needed between now and 2100, while emphasizing that carbon capture and storage is particularly vital for reducing hard-to-abate industrial emissions (e.g., cement, steel, and chemicals).[1] Many of these hard-to-abate industrial sources are located within the Gulf Coast region and have limited viable carbon dioxide emission mitigation options outside of carbon capture and storage. Injection of carbon dioxide deep below the seabed in areas offshore of these regions, both beneath state waters and on the Outer

[1] Climate Change 2022: Impacts, Adaptation and Vulnerability, Working Group II Contribution to the IPCC Sixth Assessment Report (2022), https://www.ipcc.ch/report/ar6/wg3/.

Continental Shelf (OCS) in the Gulf of Mexico represents a significant and viable gigaton-scale resource for permanent storage of captured carbon dioxide from industrial sources in the Gulf Coast region.[2]

Geologic storage, both onshore and offshore, is a well-understood and commercial practice in the U.S. and worldwide, with commercial operations dating back to the 1970s. To-date, in the United States alone, over 31 million metric tons (Mt) of CO_2 emissions have been safely and permanently stored in deep geologic formations regulated under the EPA's Subpart RR.[3] Commercial saline storage began with the Sleipner Project in Norway in 1996, which has stored approximately 1 Mt of captured CO_2 annually for over 20 years deep in the subseabed of the North Sea.[4] The Sleipner Project's multi-decade record of large-scale, safe and permanent storage of captured CO_2 provides precedent that subseabed geologic storage can be effectively and safely performed, provided that appropriate site characterization, design, monitoring, reporting and verification are undertaken. Additionally, the existence of naturally occurring, large hydrocarbon accumulations in the Gulf of Mexico provides evidence that this offshore region has appropriate subsurface geology and conditions for retaining large volumes of fluids over geologic time scales.

For permanent subseabed geologic storage to be implemented safely, a strong regulatory framework must be established. When properly characterized, deep [more than 1,000 ft below the seafloor][5] geologic reservoirs are ideal locations for permanent carbon dioxide storage and can ensure that injected captured carbon dioxide will not be released to the atmosphere. The operator must also demonstrate that injection and post-injection activities are sufficient to avoid releases, including through monitoring and reporting of amounts injected, pressures, and other specific parameters that should be included in regulatory requirements for this activity.

Existing rules under the Environmental Protection Agency's (EPA) Underground Injection Control program regulate geologic storage of CO_2 onshore and under the offshore seabed in state jurisdictions. The EPA also regulates the air monitoring of onshore geologic storage operations, under its Clean Air Act authority, to ensure that there is no release to the atmosphere. These regulations are based on the need for protections for underground sources of drinking water (USDWs). While USDWs are not present in the OCS, the key principles of EPA's UIC Class VI well regulations are otherwise still largely suitable for regulating subseabed storage activities beyond state jurisdiction in the OCS. Moreover, following the principles of EPA's UIC Class VI

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[2] P. S. Ringrose & T. A. Meckel, *Maturing global CO_2 storage resources on offshore continental margins to achieve 2DS emissions reductions*, 9 Sci. Rep. 17944 (2019).

[3] 40 C.F.R. §§ 98.440–98.449 (subpart RR).

[4] Anne-Kari Furre et al., *20 Years of Monitoring CO_2-injection at Sleipner*, 114 Energy Procedia 3916 (2017).

[5] U.S. Dep't of Interior, Bureau of Ocean Energy Management, OCS Study BOEM 2018-004, Best Management Practices for Offshore Transportation and Sub-Seabed Geologic Storage of Carbon Dioxide (Dec. 2017), https://espis.boem.gov/final%20reports/5663.pdf.

program will be equally imperative to prevent CO_2 releases to the ocean water column and the ensuing harm that could be caused to the ocean's flora and fauna.

The Infrastructure Investment and Jobs Act requires the Bureau of Ocean Energy Management (BOEM) to establish rules for deep subseabed storage of carbon dioxide under the OCS by November 15, 2022. BOEM and its sister agency the Bureau of Safety and Environmental Enforcement (BSEE) are working now to develop a robust regulatory framework for subseabed carbon dioxide storage. This effort will require close coordination and collaboration between EPA and BOEM/BSEE to ensure that any new rule adheres to existing key principles of EPA's UIC and Clean Air Act programs governing onshore geologic storage activities. BOEM and BSEE will also require financial support as they work to develop a suite of robust technical subseabed storage rules in a short timeframe.

Sincerely,
Clean Air Task Force

Please reach out to Matt Bright (email: mbright@catf.us, cell: 202-420-9137) with any questions.