

# Assessing the Potential for Subsea CO<sub>2</sub> Storage in the Eastern Gulf of Mexico

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9.29.2020 - 10.1.2020 – AAPG Annual Convention and Exhibition 2020, Online/Virtual

## Abstract

An estimated 40% of U.S. anthropogenic CO<sub>2</sub> emissions are generated in the southeast with a large portion of these emissions generated within 100 km of the coastline which positions the eastern Gulf of Mexico (GOM) as an attractive prospect for offshore geologic carbon dioxide (CO<sub>2</sub>) subsea storage. Recent work has demonstrated that the storage potential in Cretaceous and Tertiary reservoirs is vast (e.g., ~1,000 Mt potential storage in the DeSoto Canyon Salt Basin alone). The project, “Southeast Regional Carbon Storage Partnership: Offshore Gulf of Mexico” (SECARB Offshore), is assembling the knowledge base required for secure, long-term, large-scale CO<sub>2</sub> subsea storage in the GOM with or without CO<sub>2</sub> enhanced hydrocarbon recovery (CO<sub>2</sub>-EOR). SECARB Offshore supports the Department of Energy’s (DOE) long-term objective to ensure a comprehensive assessment of the potential to implement offshore CO<sub>2</sub> subsea storage in all Bureau of Ocean Energy Management (BOEM) Outer Continental Shelf (OCS) Oil and Gas Leasing Program Planning areas in the GOM. Quantifying the potential resources is only the first step in understanding the potential for subsea CO<sub>2</sub> storage in the eastern GOM. Robust best practices (BPs) have been developed and promoted by DOE for onshore geologic CO<sub>2</sub> storage projects; however, these BPs do not currently address some of the significant technical and logistical differences that occur with offshore operations. For example, dedicated monitoring wells, a standard for onshore CO<sub>2</sub> storage projects, are likely prohibitively expensive in the offshore. Thus, a significant outcome of SECARB-Offshore is development and refinement of BPs as applied to offshore geologic CO<sub>2</sub> projects for both CO<sub>2</sub>-EOR and for saline CO<sub>2</sub> storage.

