

## US Lower 48 CO<sub>2</sub> Demand Potential via CCUS

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### Summary

On the path to reach net-zero GHG by 2050, the oil and gas sector offers a near term tangible solution and plays a critical role in emission reduction success. With current climate change trend, source and sink mitigation measures ought to be mandatory and trackable part of global policy. Carbon Capture Utilization & Storage (CCUS) has been known as a short to mid-term solution in CO<sub>2</sub> abatement and/or its intensity reduction if CO<sub>2</sub> utilization demographic fully changes to anthropogenic sources. Currently, North America is leading CCUS projects in both numbers and volumes, however, a significant scale up is required for CCUS to play a critical role in decarbonization ambition.

North America, mainly Permian Formation, offers suitable geological sites for CCUS that are connected to storage hubs as well as decades of CO<sub>2</sub> injection optimization practices currently in place and being monitored. Site selection and ranking based on key geological and engineering criteria, CO<sub>2</sub> and crude oil supply and demand landscape are critical metrics for future investors with decarbonization ambition.

This study presents a comprehensive full cycle assessment of potential CCUS in US Lower 48. The main objective of this study is to characterize the size of the opportunity located in four main CCUS adaptive regions of the US Lower 48. i.e. Permian, Rocky Mountains, Mid Continent and Gulf Coast. The study was based on IHSM in-house propriety information and CCUS expertise. The research methodology consisted of detailed geological assessment, screening criteria, evaluation of field performance under primary and secondary mechanisms, CO<sub>2</sub> injection modeling, development of predictive type curves and economical screening. The results of this study provide guidelines on near term carbon abatement roadmap as well as CCUS market size in US Lower 48.