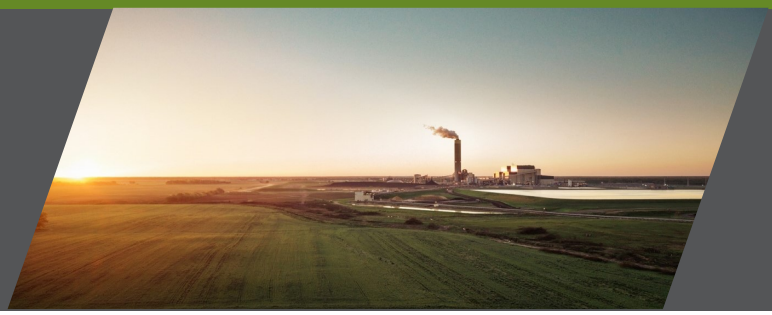
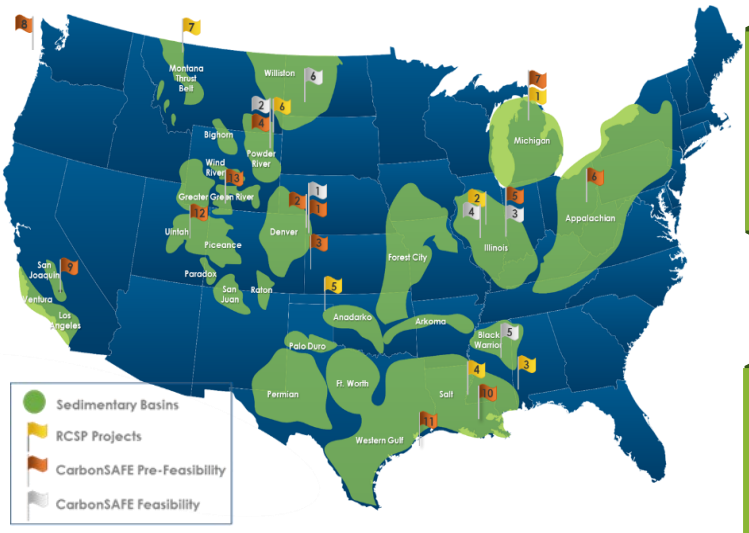
Carbon Storage Assurance Facility Enterprise (CarbonSAFE)

The CarbonSAFE Initiative builds off the work done by the Regional Carbon Sequestration Partnerships to fund and develop projects focused on ensuring carbon storage complexes will be ready for integrated Carbon Capture, Utilization, and Storage (CCUS) system deployment in the 2025-2030 time frame.





CarbonSAFE Objectives

⇒ Address the R&D knowledge gaps and develop the technologies needed to nationally deploy commercial scale (50+ million metric tons) CO_2 storage.

⇒ Understand the development of a CCUS storage complex from the feasibility study through the point of injection.

⇒ Improve understanding of commercial-scale project screening, site selection, geologic characterization, modeling, and monitoring.

⇒ Address both the technical and non-technical challenges associated with characterization, permitting, and monitoring of a geologic storage complex.

Phase I: Integrated CCS Pre-Feasibility

18-month initiative

- Formation of a team; development of a feasibility plan; and high-level technical evaluation of the sub-basin and potential CO_2 sources
- Thirteen projects funded

Phase II: Storage Complex Feasibility

2-year initiative

- Data collection; geologic analysis; analysis of contractual and regulatory requirements; subsurface modeling; risk assessment; evaluate monitoring requirements; and public outreach
- Six projects funded

Phase III: Site Characterization and CO_2 Capture Assessment

3-year initiative

- Detailed site characterization; obtain Underground Injection Control (UIC) Class VI Permit to construct; CO_2 Capture Assessment; NEPA approvals

Phase IV: Permitting and Construction of Storage Complex

2.5-year initiative

- Obtain UIC Class VI permit to inject; drill and complete injection and monitoring wells; develop risk and mitigation plans
- Subject to future funding

U.S. DEPARTMENT OF ENERGY | NATIONAL ENERGY TECHNOLOGY LABORATORY

Follow Us

https://www.netl.doe.gov/research/coal/carbon-storage

CARBON STORAGE CONTACTS

Mary Sullivan
Project Coordinator
Mary.Sullivan@netl.doe.gov

Andrea McNemar
Acting Technology Manager
Andrea.McNemar@netl.doe.gov

September 2019