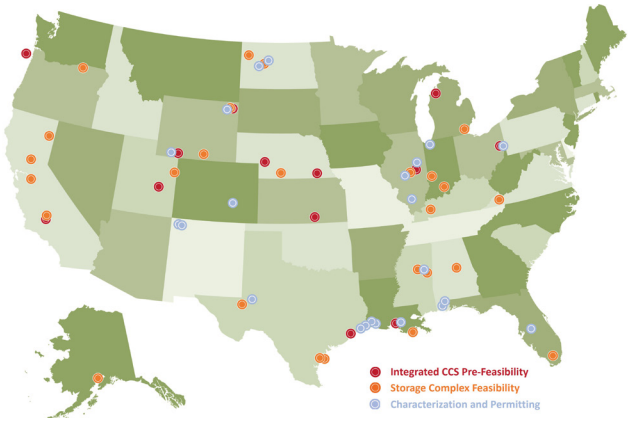
Carbon Storage Assurance Facility Enterprise (CarbonSAFE)

The CarbonSAFE Initiative began in 2016 to facilitate development of commercial-scale storage facilities, each with the capacity to store more than 50 million metric tons (MMT) of carbon dioxide (CO_2). The CarbonSAFE Initiative has been carried out in a phased approach representing the different stages in the development of a storage project, from conception to construction.



PROGRAM OBJECTIVES

- Address the technical and non-technical challenges associated with characterization, permitting, and monitoring of a commercial-scale (50+ MMT CO_2) geologic storage complex.
- Collect geologic data from basins within the United States to address research and development (R&D) knowledge gaps.
- Develop a suite of tools for rapid and effective site screening, site characterization and development, and basin-scale storage resource monitoring and management.
- Develop tools and technologies that ensure effective resource utilization, operational safety, and long-term integrity.
- Provide an advanced, strategic, carbon capture, utilization, and storage (CCUS)-specific data infrastructure system to facilitate technology transfer and drive the efficient & rapid deployment of the CCUS industry.
- Prioritize community engagement through a Community Benefits Plan (CBP) to ensure that CCUS infrastructure maximizes benefits and minimizes impacts to surrounding communities.

Phase I: Integrated CCS Pre-Feasibility
12-18-month initiative

- Formation of a team
- Inventory available data
- Purchase seismic data
- Purchase and condition well data
- Model scenarios
- Risk Assessment
- Community Benefits

Phase II: Storage Complex Feasibility
18-24-month initiative

- Data Collection
- Geologic analysis
- Analysis of contractual and regulatory requirements
- Subsurface modeling
- Risk Assessment
- Evaluate monitoring requirements
- Community Benefits

Phase III: Site Characterization and Permitting
<3-year initiative

- Detailed site characterization
- Prepare/Submit UIC Class VI or BSEE Permits to Construct
- CO_2 Source(s) Feasibility Study
- CO_2 transport FEED Study
- Storage Field Development and Commercialization Plan
- NEPA process/approvals
- Community Benefits

Phase III.5

- NEPA process/approvals
- CO_2 transport FEED and supplemental analyses
- Community Benefits

Phase IV: Construction
<2.5-year initiative

- Drill and complete injecting and monitoring wells
- Complete risk and mitigation plans
- Obtain EPA UIC Class VI or BSEE Permit/Authorization to Inject
- Community Benefits

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