



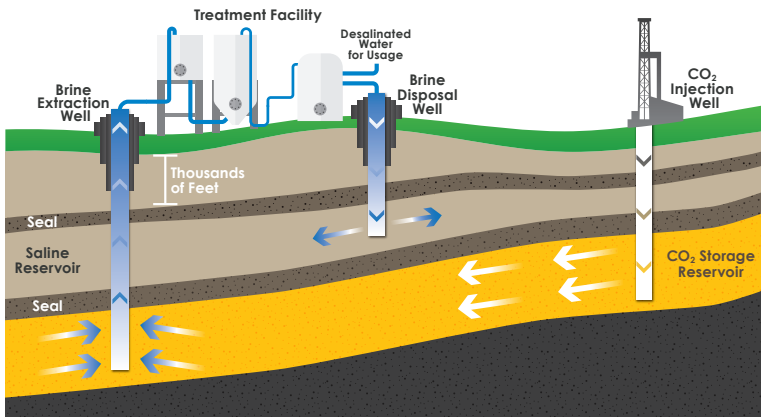
# Fit-for-Purpose Brine Extraction Storage Test (BEST) Field Projects

The BEST field projects develop and validate cost effective pressure control, plume management, and extracted water strategies to improve the efficiency and capacity of CO<sub>2</sub> saline storage reservoirs.



## Feasibility Evaluation

- 5 projects performed site characterization, extraction and monitoring approaches, and life cycle analysis of treating extracted formation water across different regions of the US.
- Modelled strategies for well placement and pumping rates to extract brine for pressure management.
- Calculated costs for process elements such as extraction, transportation, pre – and primary treatment, and disposal of residual brine concentrate.



## Field Demonstration Projects

**Plant Smith Generating Station – Gulf Coast Basin**  
Electric Power Research Institute

**Johnsons Corner – Williston Basin**  
UND Energy Environmental Research Center

Field Demonstration Project Activities...

### Active Reservoir Management

Test if ARM approaches will reduce stress on the sealing formation, control subsurface pressure location, and improve injectivity, capacity, and storage efficiency of the reservoir.

### Brine Treatment Test Bed Facility

Provide the capability to pilot-test technologies capable of treating high-salinity brine to produce an alternate source of water for industrial use, reduce brine disposal volumes, and recover potentially economically valuable materials.

## Accomplishments of BEST projects in reservoir pressure management:

- ✓ The feasibility evaluation explored various basins across the US to analyze a range of formation water salinity and composition, including the Illinois Basin, Green River Basin, Gulf Coast Basin, and the Williston Basin.
- ✓ Modeling demonstrated the impact of reservoir characteristics on pressure reduction for various injection and extraction scenarios in the feasibility evaluation projects.
- ✓ A brine treatment test-facility for evaluating potential technologies for treating high TDS brines is operational at Johnsons Corner, Williston Basin.
- ✓ A novel approach of incorporating passive pressure relief wells along with active brine extraction wells, modeled in one of the Phase I projects, will be field validated in EPRI's Gulf Coast Basin project.
- ✓ Active reservoir management (ARM) strategies are being tested at the Johnsons Corner site to help manage formation pressure and plume movement through the storage reservoir.



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