

JIM BRIDGER CARBON CAPTURE PROJECT

Developer / Lead: PacifiCorp (Rocky Mountain Power)	Location: Sweetwater County, WY
Status Category: Pre-FEED / Under Evaluation	Prepared By: Carbon Solutions

OVERVIEW

The Jim Bridger Carbon Capture Project is PacifiCorp’s initiative to assess retrofitting carbon capture on Units 3 and 4 of the Jim Bridger Steam Plant in Sweetwater County, Wyoming. The project is in the Pre-FEED stage, supported by a 50 percent cost-share grant from the Wyoming Energy Authority. Engineering firm Wood is leading design activities, while PacifiCorp explores both conventional amine-based capture systems and advanced alternatives through a Memorandum of Understanding with 8 Rivers Capital and SK Group. The study will determine the technical and economic feasibility of installing capture technology by 2030, consistent with PacifiCorp’s 2025 Integrated Resource Plan, which extends plant operations through 2042.

BACKGROUND / PLANT CONTEXT

The Jim Bridger Steam Plant has a total capacity of approximately 2,326 MW and is located near Rock Springs, Sweetwater County. Units 1 and 2 were recently converted from coal to natural gas, ceasing coal operations at the end of December 2023, and resumed in 2024.

Units 3 and 4 remain active coal-fired units, each around 580 MW, originally commissioned in 1976 and 1979. Both were slated for retirement in 2037. As of the 2025 Integrated Resource Plan (IRP), PacifiCorp’s updated modeling proposes installing carbon capture technology by 2030, extending their operating life until 2042.

KEY FACTS

- CO₂ Capture Potential:** ~89 million metric tons over project life
- Estimated Costs:** Previous studies indicate \$500 million–\$1 billion per unit for retrofits
- Funding:** \$1.5 million awarded in 2025 from Wyoming Energy Authority Energy Matching Funds program
- Geologic Storage:** Evaluation of potential injection into regional formations such as the Rock Springs Uplift and Moxa Arch

TIMELINE & REGULATORY PROCESS

- 2022:** RFP issued for CCS feasibility at Jim Bridger Units 3 & 4.
- 2024:** Updated IRP includes CCS retrofit in 2028, extending plant life modestly before retiring units in 2039.
- 2025 IRP:** CCS installation planned by 2030, pushing retirement out to 2042.
- Public Review:** The Wyoming Public Service Commission is evaluating the proposal; state leaders frame the approach as a way to retain dispatchable power, though consumer groups have raised concerns about potential costs to ratepayers.

TECHNOLOGY & PARTNERSHIPS

Capture System: Amine-based post-combustion carbon capture technology.

Alternative Evaluation: Memorandum of Understanding with 8 Rivers Capital and SK Group to assess Allam-Fetvedt Cycle integration.

Engineering Partner: Wood is leading Pre-FEED and FEED activities.

Policy & Cost Share: The FEED study is financed in part by a 50% grant from the Wyoming Energy Authority, easing the cost burden on ratepayers.

STRATEGIC IMPORTANCE

The Jim Bridger project provides a test case for large-scale CCS retrofits at existing coal-fired facilities. It is one of several projects advancing under Wyoming’s framework requiring utilities to evaluate carbon capture solutions. If successful, the project would enable capture of up to 90 percent of emissions from Units 3 and 4—equivalent to roughly 89 million metric tons over the project life—and demonstrate integration of carbon capture into Wyoming’s largest generating facility. Outcomes from the FEED study will inform both future CCS deployment at other sites and regional planning for CO₂ transport and storage infrastructure, including potential links to the Rock Springs Uplift and Moxa Arch formations.

