

Board of Trustees Update: Jan. 2025

SER's Mission: To advance energy-driven economic development for Wyoming

SER Administration:

• The School of Energy Resources made a supplemental budget request. The governor's budget book includes part of the request in the amount of \$2.08M to cover inflation on the coal pyrolysis field demonstration in Campbell County.

SER Academics:

- SER and CEPS have submitted a Notice of Intent (NOI) to Academic Affairs on an undergraduate certificate in Subsurface Energy, which SER is developing with the Department of Energy and Petroleum Engineering.
- BOT approved our UG/GR Nuclear Energy Science certificates in November. Now these require a site visit from HLC; SER/CEPS is working with AA on scheduling.
- SER's Nuclear Energy Research Center co-director, Caleb Hill, continues to lead a faculty search for a nuclear-focused faculty member.

SER Outreach:

• Outreach is working with SER Academics to plan the Rocky Mountain Professional Landman Conference on April 9-10.

SER Research: The SER research program leads and supports a wide array of Wyoming-focused research programs to ultimately drive increased state revenue and graduate students with expertise important to Wyoming.

- The Center for Economic Geology Research (CEGR) has been selected for awards on two additional grants through the U.S. Department of Energy's CORE-CM Initiative (Carbon Ore, Rare Earth and Critical Minerals (CORE-CM) Initiative). SER is leading one of these projects and supporting another. On the SER-led grant, SER will lead a consortium comprising ten states and four basins to develop domestic supply chains utilizing secondary and unconventional critical mineral resources, such as coal. SER will also participate in a University of Utah led project and a project led by the University of Texas at Austin.
- SER began drilling the first of three wells over the winter break at the Sweetwater Carbon Storage Hub. These wells will help to prove CO2 storage capacity at the Hub and will meet carbon sequestration permitting and engineering requirements for future commercial use.
- Pilot testing began for the rare earth element extraction pilot at the Wyoming Innovation Center in Gillette. The pilot is being led by the National Energy Technology Laboratory in collaboration with

SER, Campbell County, the City of Gillette, and Energy Capital Economic Development. Testing will continue through the spring to identify the economic viability of the technology to extraction rare earth elements from coal ash.

- The Hydrogen Energy Research Center funded and co-published three articles this fall in leading journals. These include two publications in collaboration with Chengyi "Charlie" Zhang from the Department of Civil and Architectural Engineering in the International Journal of Hydrogen Energy, and a third study led by Haibo Zhai, the Roy and Caryl Cline Distinguished Chair in Engineering and a professor at UW College of Engineering and Physical Sciences, which was published in Environmental Science and Technology.
- CCCC (Center for Carbon Capture and Conversion) continues work on demonstrating new uses for Wyoming coal. Including:
 - On the pyrolysis demonstration at the Wyoming Innovation, SER has a contract for the final major piece of equipment; the pyrolyzer. Due to the 48-week delivery time for this piece of equipment, the start-up date has been moved to early December 2025 (weather permitting). Piping and instrumentation detailed engineering is underway.
 - The solvent extraction pilot plant in the Lutz building started operation the week of December 16. The engineering data from the pilot plant will be used for the detailed engineering design of the solvent extraction field demonstration plant, which will be built next to the pyrolysis demonstration.
 - The soil amendment team is working with Wyoming DEQ, Abandoned Mine Land Division to assess whether the soil amendment will aid in the reclamation of uranium mine sites in the Shirley Basin. In addition, the team is also working with several coal mines on reclamation projects around the state and beyond. The soil amendment is created from coal char.
- CERPA (Center for Energy Regulation and Policy Analysis) recently published a new white paper: The Policy Pendulum & Risks of Establishing Energy Policy Through Executive Order. The CERPA team will monitor the 2025 General Session for energy-related bills.

Enhanced Oil Recovery Institute (EORI):

EORI Mission: Technical collaborative work directly with the oil and gas industry in the state. The Institute focuses on minimizing potentially stranded oil reserves and adding revenue to the state of Wyoming through additional taxes from increased production.

- The EORI Team
 - 24 applications were received for the Sr. Petroleum Engineer position. We are in the process of scheduling 2nd interviews with the final 4 candidates. We anticipate a final selection by the end of January 2025.
 - The EORC (Enhanced Oil Recovery Commission) formally requested a Budget Exception (Supplemental Budget request of \$558,802) to fill 2 vacant positions that are critical for EORI. We were advised in early January 2025 that a second hearing will likely be needed with the Joint Appropriations Committee during the Legislative session, and we were warned that approval is unlikely.
- Focused Technical Project Work:

- Continued advancements with TR Operating's new CO₂ EOR project (3 Minnelusa fields) in the Powder River Basin
- Collaborative work advancing on two new CO₂ EOR projects (Shannon and Frontier reservoirs) in Natrona and Converse counties (Powder River Basin) with Juno Energy.
- The pilot project to test NGLs (Natural Gas Liquids) for near wellbore blockages at Jiggs-Thompson field (Powder River Basin) is advancing with Sunshine Valley Petroleum and XOil.
- Collaborative work with 6 Powder River Basin operators is advancing on improving results from 3D Seismic in the Minnelusa formation. This project involves 8 different fields in the study and is being led by John Frederick, a leading geophysicist in upper Cretaceous reservoirs in Wyoming.
- Advanced studies on water compatibility issues in the Muddy formation continue.
 Developing a usable brine will unlock huge reserve potential in the Muddy reservoir which to date, has not been successfully waterflooded.

• Engagement

- Director Whitman, EORC Chairman Robert King and EORI Deputy Director Roger
 Hillibush hosted Representative Bill Allemand (House District 58) at EORI on Thursday,
 January 2nd for a review of EORI, the EORC, our funding and project focus areas. It was a very informative and helpful meeting.
- EORI is hosting EOR Insights (EORI's platform for interactive public/industry meetings) on January 8th in Casper. The guest speaker will be Robert Downey from CycleStim who has developed an EOR method using specific solvents.
- EORI will participate and have a booth at the WEA Legislative Luncheon on January 23rd in Cheyenne.
- The 1st Quarter 2025 EORC (Enhanced Oil Recovery Commission) meeting is scheduled from 1-5 pm on Friday, March 28 via zoom.