

Board of Trustees Update: July 2025

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

SER Administration:

- SER continues to work with the Energy Resources Council (ERC) to determine its budget request for the 2026 legislative session, which will be finalized at the August 15 ERC meeting.
- SER and CEPS, specifically the Department of Biomedical and Chemical Engineering, have successfully recruited one out of two tenure-track faculty funded by the state of Wyoming focused on critical mineral and rare earth element separation. The first individual hired will start at UW in January 2026. The other position, after a failed search, will be relaunched in the fall, which will add another SER faculty member, who is likely to focus on separations and process engineering.
- The proposed Wyoming Critical Minerals Initiative seems to overlap with much of what SER is already doing and has already done in terms of faculty support. In addition, it is attempting to take over much of what SER is statutorily required to do in terms of broad programmatic funding across UW with oversight from the Energy Resources Council.

SER Academics:

- SER and CEPS are working on a feasibility study for our approved NOI on a new proposed certificate in Subsurface Energy Undergraduate Certificate built on existing and planned courses.
- SER's Professional Land Management Director is attending two required summer meetings for our secondary accreditation, at which we expect to continue meeting or exceeding requirements.

SER Outreach:

- The Outreach team is deep in the website migration rebuild which will take priority over the summer months.
- The Outreach team is coordinating the travel and event logistics for the Critical Mineral Leadership Academy (CMLA), scheduled to take place in August.

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 SER Center for Economic Geology Research (CEGR) is completing the second deep well to characterize an area north of Granger, Wyoming for geological CO₂ storage to support local trona and natural gas industries with industry partner Frontier Carbon Solutions. This well is being drilled through a Class VI injection permit, the first in Wyoming. This work is supported by a federal grant with state and industry matching funds.

- CEGR, in collaboration led by colleagues at the National Energy Technology Lab, finalized a batch rare earth element extraction project at the Wyoming Innovation Center in Gillette using Powder River Basin coal fly ash. This project was designed to test extraction concepts that had previously been tested only at the lab scale.
- The Center for Carbon Capture and Conversion (CCCC) continues to work on demonstrating new uses for Wyoming coal. Including:
 - Construction of the pyrolysis section at the Wyoming Innovation Center beginning in mid-July. All infrastructure except for the pyrolyzer installation will be completed. The pyrolyzer fabrication is delayed due to changes in the fabrication company, now scheduled for May 2026 (from January 2026).
 - Detailed engineering for the solvent extraction section will start in fall 2025.
 - The solvent extraction team is refining the pilot plant in the Lutz building. Engineering data from this pilot will inform the detailed design of the field demonstration plant.
 - Ongoing research is building upon previous studies of coal from the Green River Basin, with a particular focus on material from the Kemmerer mine. Preliminary results indicate that several coal seams in the area show strong potential as feedstock for the production of synthetic graphite.
- Two student papers were published from the Mowry Project, a multidisciplinary effort led by SER, which includes 8 departments:
 - E.K. Owusu-Banahene, et al., *Capillary Condensation Measurements in Multimodal Nanoporous Media and Pore Critical Point Determination: Methan/Propane Mixture*, Langmuir, 41, 16, 2025
 - I. Nwankwo et al., *A critical review of experimental and theoretical studies on shale geomechanical and deformation properties, fluid flow behavior, and coupled flow and geomechanics effects during production*, International Journal of Coal Geology, vol. 305, 2025.
- SER continues to oversee the distribution of Energy Science Graduate Assistantships (GAs) supported through Abandoned Mine Lands funds administered by the Wyoming Department of Environmental Quality. Under this funding, SER currently funds one MS student in the Geology Department and plans to fund four additional graduate students for the 2025-2026 academic year.
- SER will be hosting the inaugural Critical Minerals Leadership Academy (CMLA) in August 2025. The academy is sponsored by the Department of Energy and will bring together a cohort of 20 graduate students and early career professionals with diverse backgrounds. The CMLA aims to build a strong domestic critical minerals network, foster leadership capabilities, catalyze growth and innovation in emerging critical minerals industries, and showcase critical minerals research and development taking place in Wyoming.
- The Energy ELC team, in collaboration with the Haub School of Environment and Natural Resources and the Native American Education Research & Cultural Center, coordinated and participated in a school visit to the Wind River Reservation to present to high school students about jobs and educational opportunities in energy and environmental fields. On April 29th and 30th, a group of six representatives from UW visited four schools: Arapahoe Charter School, Saint Stephens High School, Fort Washakie High School, and Wyoming Indian High School.

- The Energy ELC is collaborating with the Academics Team and JOULE (Jurisprudence of Underground Law and Energy Research Group) to develop a short-term study abroad course to Norway. The course will be open to graduate and undergraduate students and content will focus on the interdisciplinary social, economic, and legal/policy dynamics of emerging energy industries and technologies including critical minerals and carbon capture and storage
- The Center for Energy Regulation and Policy Analysis (CERPA) completed two research papers:
 - *Wyoming Coal Market Dynamics: Analyzing the Demand for Wyoming Coal* (authored by Dawson Kluesner). This paper describes the current export markets for Wyoming's coal resources and how demand has declined since 2009. The paper quantifies that Wyoming coal is beholden to state export markets and market trends are reflective of state reliance on coal-derived electricity markets. Finally, the paper discusses how state regulatory structures are influencing market demand and how SER can continue to be a leader in developing technological and policy-based solutions to this issue.
 - *Rock Springs Resource Management Plan (RMP)* (authored by Bryan Leonard – UW Haub School of Environment and Natural Resources and CERPA). This paper describes the potential economic implications to the State of Wyoming if the Rock Springs RMP were to be utilized in its current form as the BLM Rock Springs field office's overarching land management direction.

Enhanced Oil Recovery Institute (EORI):

EORI Mission: Technical collaborative work with the oil and gas industry in the state. EORI focuses on increasing production, extending field life and minimizing stranded oil reserves, and adding revenue to the state of Wyoming through additional taxes from increased production.

- Amitabh Garg, Sr. Petroleum Engineer, will start at EORI is July 1, 2025.
- EORI is currently working 18 Industry Collaborative projects including:
 - Field Development using 3 different EOR technologies
 - Enriched Air-EOR
 - NGL- EOR
 - CO₂-EOR projects on 8 fields
 - 1 Polymer-related projects in the Big Horn Basin
 - Developing brines for effective water-flooding in the Muddy formation
 - Regional studies involving over 10 Industry Partners
 - Geology
 - Reservoir
 - 3D Seismic
- **EOR Insights**
 - EOR Insights is a Platform for Interactive Industry Meetings. These quarterly events continue
 - The 2nd Quarter meeting was held on June 18 and focused on the updated and improved EORI - WYRIT interactive reservoir tool
 - The 3rd Quarter meeting will be held on September 30th and will feature David Daniel with Wolf Systems

- EORI will present with the Wyoming Oil and Gas Conservation Commission, PAW and WEA to the second interim Joint Minerals Committee meeting on July 30th. The continued focus is on incentivizing Enhanced Oil Recovery in Wyoming.