

Board of Trustees Update: Sept. 2023

SER's Mission: Energy-driven economic development for Wyoming

General: SER is growing rapidly, due to a rapid increase in funding. Note that these hires do not include additional hires needed due to the recent large federal funding announcements, which are still under negotiation. SER is essentially out of office space. We continue to be thrilled by the level of personnel we're able to recruit – including mostly UW graduates and many Wyoming natives (even some moving back to Wyoming from Houston).

SER Academics: The SER Academic program continues to execute recruiting, evaluation of course offerings, advising students, career services, engagement with industry, administering scholarships, etc. to support student success and retention.

- SER is connecting with academic professionals (Deans, VP's, and Faculty) at the Wyoming Community Colleges to discuss the CCUS and Land Admin certificates as these allow for synchronous attendance where CC students could attend and complete these credentials from a distance. This includes highlighting how these courses can transfer to their CC and apply to their respective general education credits.
- UW Students, Faculty, and Staff were all welcome and encouraged to attend our August 2023 Idaho National Laboratory (INL) Trek. This is an exceptional opportunity to experience the world class facilities INL houses, learn about their operations, and build valuable contacts- and was fully funded by INL. Participants included 24 individuals from UW.
- We have begun planning and coordinating on LEEP and National Labs days for October 16th.

SER Outreach: The SER Outreach Program connecting Wyoming stakeholders, members of the community and UW faculty, staff and increases awareness of important energy academics and research at UW.

- Hosting Harold Hamm on Sept 14, for a fireside chat (with CEPS and COB)
- Continued coordinating monthly webinar series between the Hydrogen Energy Research Center at SER and Cardiff University
- Hired a second outreach professional for SER to focus on the growing research program

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 Wyoming Integrated Test Center (ITC) funding has been transferred from WEA to SER; existing support contracts (engineering, operations, communication) have been transferred; new contracts starting October 1 are in the process of being finalized. A strategic plan for the implementation of the ITC through SER is being finalized with the partners. Working to transfer

insurance contracts and revise site lease. About \$4 million has arrived at UW to support this operation (special thanks to the UW financial and GC teams!)

- SER continues to be successful at federal grant capture. New funding announcements include:
 - A two year, approximately \$2 million dollar project from the Department of Energy to develop a geotechnical database for the benefit of expediting Class VI permitting for in Wyoming's Greater Green River Basin. The Wyoming Class VI Site Characterization Database will accelerate storage hub development in Wyoming by providing and verifying the geologic data needed to complete Class VI compilation and review. This project will be led by SER in collaboration with the Wyoming Department of Environmental Quality and the Wyoming State Geologic Survey.
 - The SER Hydrogen Energy Research Center (H₂ERC) was selected for a \$5M award (\$10M total project) titled 'Integration of Produced Water Thermal Desalination and Steam Methane Reforming for Efficient Hydrogen Production. H₂ERC has partnered with Williams, Los Alamos National Laboratories (LANL), and Engineering, Procurement & Construction, LLC (EPC) on this project.
- Led by the Center for Carbon Capture and Conversion (CCCC), the carbon engineering initiative continues to create new products from Wyoming coal. The revised solvent extraction pilot (on campus to collect data for the demonstration in Gillette) schedule shows construction completion at the end of September and extract product being produced by the end of October.
- UW/SER/CCCC along with Western Research Institute (WRI) submitted a joint proposal to the Department of Transportation (DOT) and the Federal Highway Association (FHWA) to demonstrate the coal derived asphalt product on a road near Gillette, WY. The award should be announced by the end of September.
- CCCC personnel will attend a Hazard and Operability (HAZOP) meeting for the field demonstration pyrolysis unit in mid-September. Construction of the pyrolysis unit is scheduled to start in late fall of 2023.
- CCCC has started exploring the possibility of Wyoming coal or coal char being used to make nuclear grade graphite. The project started in mid-July and the PI has been putting together his team for the project – this was funded by the Wyoming legislature through exception funding.
- The Center for Energy Regulation and Policy Analysis (CERPA) is working with the Center for Business and Economic Analysis at the College of Business on economic analyses of six components of the integrated nuclear industry for potential application in Wyoming. The first paper in the series titled "Challenges and Opportunities for New Uranium Enrichment" will be published in mid-October.
- CERPA will soon be publishing the following white papers: (1) "Social License for Wyoming's Energy Future: A Replication Study"; (2) "Hydrogen Production with CCS Opportunities"; and (3) "Interstate and Federal Pore Space Challenges for CCUS Deployment".
- CERPA continues to provide policy support to the Governor's Office and the Wyoming Energy Authority on proposed rules related to BLM oil and gas leasing, the Council on Environmental Quality's efforts to reform the National Environmental Policy Act and other issues to critical to Wyoming energy development.
- ITC carbon capture vendors are in various stages of construction including the Membrane Technologies Research, Inc. large scale pilot; KHI Sorbent system small pilot; TDA hybrid membrane sorbent system pilot; and the Gas Technology Institute's advanced membrane small pilot. The KHI system team is planning a system commissioning event in October 2023.

- The WY ITC hosted the US EPA Administrator Regan and WY Governor Gordon in July 2023. ITC will be hosting the Western Governors Association and Legislators tour in September 2023.

Enhanced Oil Recovery Institute (EORI): The mission of EORI is technical collaborative work directly with operators in the state to minimize potentially stranded oil reserves and add revenue to the State through additional severance taxes from increased production. EORI is directly funded by the State of Wyoming through the Enhanced Oil Recovery Commission (EORC Agency 070)

- ~10 Technical Projects
- Supporting the COIFPM review process for the Wyoming Gas Injection Initiative
- Community and Industry Engagement
 - EORI had a booth and sponsored the PAW Rocky Mountain Petroleum Conference Aug 23-25 in Laramie
 - Launched EOR Insights (in Casper)
 - Updating and reformatting of EORI's **Alcova Geology Field Book** has been completed and is available for download on our website under Publications