

School of Energy Resources Update
March 24, 2021

1. SER has developed and proposed an energy-focused minor that will rely exclusively on existing courses. The pool of incoming students that have indicated an interest in energy topics is much larger than the number of students that ultimately select an energy-focused major. SER's proposed minor is progressing through the required vetting process, although it has been temporarily held up at the UW Faculty Senate.
2. SER's Center for Economic Geology Research (CEGR) continues its research emphasis on carbon storage research. Select highlights include:
 - a. Phase III of Wyoming CarbonSAFE \$19.5 million project is underway. To date the project team has focused on completing a preliminary environmental analysis, drafting initial well permit applications (by the Center of Energy Regulation and Policy Analysis) and initiating baseline monitoring activities focused on characterizing groundwater and soil geochemistry. The team's other current focus involves finalizing field operations for drilling and well completion of the State's first two, fully permitted CO₂ injection wells. State producers and project developers have expressed great interest in understanding SER's work with Class VI permitting and thus SER is working with EORI to hold a webinar on the topic.
 - b. The U.S./China Clean Energy Research Center (CERC) is wrapping up Phase II projects. CEGR's project is a joint study to develop commercial scale integrated CCUS project in the Ordos Basin and Wyoming basin. SER's participation in the program has supported several visiting scholars, students, joint geologic field trips, knowledge transfer, and most importantly, helped both nations address global challenges related to carbon management and clean energy transfer.
3. SER and the Enhanced Oil Recovery Institute submitted a proposal to DOE to investigate the technical and economic feasibility of incorporating carbon capture technology with commercial-scale hydrogen production at existing natural gas facilities in Converse County, Wyoming.
4. SER is collaborating with Geology and Geophysics to sample and analyze coal core from the Kemmerer mine for the occurrence and distribution of rare earth elements and other critical minerals. This effort is underway to support identification of new uses for the Kemmerer coal as that mine may be subject to closure if new uses for that coal are not identified.
5. Regarding SER's focus on developing new products for Wyoming coal, select projects include:
 - a. With the help of the UW legal team, SER is negotiating a collaborative project to field demonstrate the UW-invented coal refinery; the demonstration is being considered adjacent to Atlas Carbon's activated carbon production facility near Gillette, WY.
 - b. Field demonstration of coal derived soil amendments will start end March 2021 at two field locations: Lingle and Powell Research Stations.
6. The 3D Visualization Center was successful with both its proposals for the Provost Strategic Investment Fund-Award-2021:

- a. The Pioneer Program is in collaboration with the College of Engineering Makerspace. The projects unites community and students innovators, in a real world project based environment.
- b. A Human-Centered Artificial Intelligence Learning Platform: Enhancing Virtual Co-Presence and Engagement in Distance and Hybrid Education Using the Principles of Listening! In collaboration with Dept. of Computer Science, and College of Education. This will test technologies for an AI layer between the teacher and learner to enhance engagement and learning outcomes.