



April | 2024

UW'S 3D VISUALIZATION CENTER DEVELOPS TOOL FOR UNDERSTANDING CARBON STORAGE

The 3D Visualization Center at the University of Wyoming School of Energy Resources (SER) is developing a powerful outreach and communication application to help the public understand the mechanics of underground carbon storage as part of the Wyoming CarbonSAFE project in the Powder River Basin.



Located adjacent to Basin Electric Power Cooperative's Dry Fork Station near Gillette, the Wyoming CarbonSAFE project is part of a national initiative to capture and permanently store large volumes of carbon dioxide deep underground.

The new interactive visualization tool developed by the 3D Visualization Center allows users to see and experience the sheer scale and depth of the project, as well as understand the different geological formations that serve as storage zones and caprock seals.

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SCHOOL OF ENERGY RESOURCES STUDENTS COMPLETE LEGISLATIVE INTERNSHIPS DURING BUDGET SESSION

During the recent legislative budget session, two students in the Energy Resource Management and Development



LEGISLATIVE
INTERNSHIP
PROGRAM



(ERMD) degree programs in the School of Energy Resources (SER) participated in the Wyoming Legislative Internship Program.

Rachel Reese of Johnstown, Colo., and **Tyler Schlager** of Cheyenne, Wyo., spent over 40 hours among Legislative Service Office staff, Wyoming legislators, and other elected officials during the 2024 session to gain a new appreciation for, and perspective on, representative democracy and public service in Wyoming.

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HIGHLIGHTS

Research Centers of Excellence

- The *Center for Economic Geology Research's (CEGR)* **Tyler Brown** and **Erin Phillips** obtained cores drilled with project partner NTEC.

The cores will be analyzed for rare earth elements and other



Photo: Tyler Brown and Mark Arambel (NTEC) with Douglas Exploration drilling rig.

critical minerals and will contribute to basin-scale resource assessments for the Powder River Basin CORE-CM project.

- *CEGR's* **Selena Gerace** presented on the CBP Toolkit at the Wyoming Funding Summit in Riverton.
- Researchers in *CEGR* attended the Department of Energy project update meeting in Pittsburgh for the CORE-CM projects. **Erin Phillips** and **Davin Bagdonas** reported on the PRB and GGRB-WRB basins, respectively.

- **Kara Fornstrom** in the *Center for Energy Regulation & Policy Analysis (CERPA)* moderated a panel dedicated to water at the Ranch Management and Agricultural Leadership Symposium.



To submit news and updates
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UNIVERSITY
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School of
Energy Resources

MTR CARBON CAPTURE AWARDED DOE FUNDING FOR INTEGRATED CCS DEMONSTRATION PROJECT AT DRY FORK STATION

Membrane Technology and Research (MTR) Carbon Capture today announced it has been selected to receive \$4.6 million in funding from the U.S. Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED) to develop a Front-End Engineering Design (FEED) study for an integrated carbon capture and storage (CCS) project at Basin Electric Power Cooperative's Dry Fork Station, a coal-based power plant near Gillette, Wyoming. The Wyoming Carbon Storage Assurance Facility Enterprise (CarbonSAFE) Project, led by the University of Wyoming School of Energy Resources (SER), is a strategic partner for sequestering the captured CO₂ and is a co-recipient on this award.

The project includes a FEED study for a proposed capture plant featuring MTR Carbon Capture's second-generation Polaris™ membrane. The project aims to capture, compress, and store onsite 3 million tonnes of CO₂ per year, achieving at least a 90% carbon capture rate.

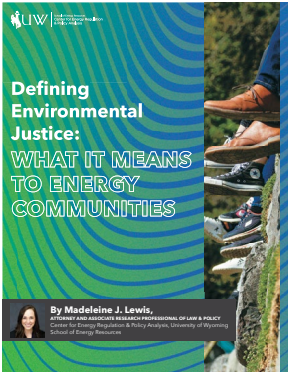
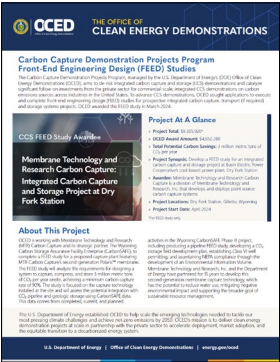
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SER'S MADELEINE LEWIS PUBLISHES WITH ABA DEFINING ENVIRONMENTAL JUSTICE AND WHAT IT MEANS FOR ENERGY COMMUNITIES

Madeleine Lewis, attorney and associate research professional of law and policy in the School of Energy Resources' (SER) Center for Energy Regulation & Policy Analysis (CERPA) and Center for Economic Geology Research (CEGR), published an article in the Winter 2024 edition of the American Bar Association's Natural Resources & Environment Magazine helping to define the term 'environmental justice' and what it means for energy communities.

The article examines the challenges of implementing a one-size-fits-all framework of environmental justice, particularly for rural energy states like Wyoming.

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HIGHLIGHTS

Research Cont.

- **CEGR Researcher Lily Jackson** presented in Platte County about critical minerals and rare earth elements as part of the 'UW in Your Community Event.'



- Construction commenced at the Wyoming Innovation Center for the Pyrolysis Pilot Project in the **Center for Carbon Capture and Conversion (CCCC)** including the installation of the rotating kiln!



- SER-funded graduate student **Danish Kumar** working on Hydrogen and CCUS related projects under Associate Professor **Charlie Zhang**, was recognized with the UW Excellence in Global Engagement Award by addressing pressing international issues including carbon emission reduction, climate change resilience, and energy transition technologies.



- Engineering Researcher **ChooKim Lau** received the 2024 Outstanding Master's Thesis Award. Housed in the Department of Civil and Architectural Engineering and Construction Management and funded by the School of Energy Resources, Lau's thesis on the coal-derived bricks set the stage for the entire array of coal-to-products under development at UW.



UW SER HOSTS THIRD ANNUAL ROCKY MOUNTAIN PROFESSIONAL LANDMAN CONFERENCE APRIL 29

The University of Wyoming's School of Energy Resources (SER) once again hosted the Rocky Mountain Professional Landman Conference Monday, April 29.

The in-person forum seeks to bring together industry professionals and professional landman alumni in the Rocky Mountain region to showcase the profession; discuss current topics and issues facing the industry; and explore career paths and opportunities for future graduates.

The robust agenda was composed of panel discussions covering hot topics in the energy sector, including issues on federal lands; enhanced oil recovery and how it relates to carbon capture, utilization and storage; nuclear energy; water; and a legal ethics panel.

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SCHOOL OF ENERGY RESOURCES HOSTS SECOND ANNUAL MEETING FOR CORE-CM PROJECT IN POWDER RIVER BASIN

The School of Energy Resources (SER) hosted the second annual forum for the Carbon Ore, Rare Earth, and Critical Mineral (CORE-CM) project in the Powder River Basin (PRB).

The event took place on April 24 at the Northern Hotel in Billings, Mont., as well as online. It was open to any interested stakeholder, especially those located within the PRB of Montana and Wyoming.

Awarded by the Department of Energy (DOE) in 2021, Phase I of the CORE-CM project is part of a national strategy dedicated to finding alternative domestic sources of rare earth elements and critical minerals, as well as to focus on expanding and transforming the use of coal and coal-based resources to produce coal-based products using carbon ore.

The annual forum is part of the project directive to form a coalition of private industry, university, and state, local, and federal government to stimulate regional economic growth and employment opportunities in prominent coal basins.

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HIGHLIGHTS

Research Cont.

- The SER team comprised of **Charles Nye**, **Sarah Buckhold** and **Maryam Lakjaa**, along with **Charlie Zhang**, **Srishti Hada**, and **Danish Kumar** in the College of Engineering, went on a visit to Dry Fork Station to better understand the operations and future development of the power plant, and to collect the necessary information for a pipeline (Front End Engineering Design) FEED study.



Academics

- SER 's Finance and Accounting Assistant **Jake Dippel** was recognized as the Outstanding Senior in Accounting by the College of Business. [READ MORE >](#)
- Energy Resource Management and Development student **Connor Fleming** was accepted in the UW Leadership Academy, which will explore the intricacies of Wyoming's industries beginning in fall 2024.
- Students in the ERMD program visited Laramie River Power Station and the Wyoming Oil and Gas Conservation Commission hearing as part of the experiential learning opportunities in the program!

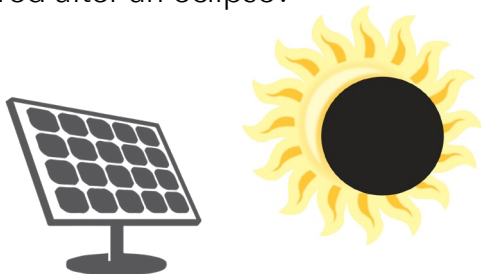


IMPORTANT DATES

- **Last Day UW Classes**
May 3, 2024
- **Finals Week**
May 6-10, 2024
- **Joint Minerals Committee and Joint Appropriations Committee at SER**
May 7-8, 2024
- **Spring Commencement Ceremony**
May 11, 2024
- **WIP Immersive Reality Training Conference**
May 15-17, 2024
- **ERC Director's Reports Due**
May 22, 2024
- **ITC Technology Showcase**
May 29-30, 2024
- **ERC Reporting Director's Slides Due**
June 3, 2024
- **Tallgrass Ribbon Cutting Event**
June 6, 2024
- **Energy Resources Council Meeting**
June 6-7, 2024
- **Federal Pore Space Workshop**
June 14, 2024

ENERGY JOKE

What did the sun say to the solar panel when it reappeared after an eclipse?



Pleased to heat you again!

SER BIRTHDAYS!

APRIL

Kimmie Takaki, April 29

Reminder: If you want your birthday recognized, please update your information with Kristi Russow at krussow@uwyo.edu.

