



JOULE

*Jurisprudence of
Underground Law
& Energy*

2025 Year-End Report

Overview and Mission

The Jurisprudence of Underground Law & Energy (JOULE) advances nationally and internationally recognized research on the legal, regulatory, and policy frameworks governing subsurface resources and energy systems. Based in the School of Energy Resources, JOULE focuses on carbon capture and storage (CCUS), nuclear energy, hydrogen, subsurface resource governance, and energy infrastructure—domains that are central to Wyoming’s economic base and future energy leadership.

Directed by Tara Righetti, with Madeleine Lewis, Associate Research Scientist, and Scarlett Forrest, Assistant Research Scientist, JOULE operates as a small, highly productive, faculty-led research center supported by external project funding and the Occidental Chair for Energy and Environmental Policy. In 2025, JOULE translated that support into significant federal research deliverables, high-impact scholarship, workforce development, and policy engagement directly relevant to Wyoming.

Federally Funded Research

A core focus of JOULE’s work in 2025 was the preparation of substantive legal and policy deliverables for U.S. Department of Energy–funded projects, particularly in the areas of carbon management and advanced nuclear energy. These deliverables provide implementation-ready research for use by government agencies and project developers. During 2025, JOULE also contributed to the preparation and submission of several additional proposals for external research funding.

Key outputs included:

- Phase III CarbonSAFE Regulatory and Policy Analysis, supporting large-scale carbon sequestration project development in Campbell County.
- A 50-state legal and regulatory survey for hydrogen development, prepared for GPI/CERPA.
- A DOE-funded historical and industrial energy analysis as part of a project on advanced nuclear facility siting.
- A final project report to DOE/NETL on the valuation of storage rights in pore space, prepared with contributions from researchers in the Center for Economic Geology Research and the Haub School of Environment and Natural Resources.

Scholarly Output and National Thought Leadership

In parallel with federal project work, JOULE produced an extensive portfolio of peer-reviewed scholarship published in leading U.S. law reviews and edited volumes. This body of work addressed foundational legal issues in CCUS infrastructure, CO₂ pipelines, pore-space valuation, modular nuclear licensing, renewable portfolio standards, and associated gas utilization. Publications appeared in outlets including the Columbia Journal of Environmental Law, Boston University Law Review, Tulane Environmental Law Journal, Oklahoma Law Review, the Oil, Gas & Energy Resources Law Journal, and books published by major international publishers such as Springer Nature and Wolters Kluwer. Collectively, this scholarship analyzes legal doctrine and regulatory design in ways that directly affect energy development, resource extraction, and industrial investment in Wyoming.

Student Research, Training, and Workforce Development

JOULE also served as a platform for funded research and training opportunities for undergraduate and graduate students, integrating research, policy analysis, and professional development. Students participated through independent studies, research assistantships, and externships, contributing directly to DOE-funded projects, regulatory surveys, and applied policy research. These experiences provided students with hands-on training in legal analysis, statutory interpretation, qualitative research, and interdisciplinary collaboration.

State, National, and International Engagement

JOULE faculty were invited speakers, panelists, and convenors at major national and international forums in 2025, including the Western Governors' Association, the United States Energy Association, the Foundation for Natural Resources and Energy Law, and academic institutions in the United States, Colombia, and Canada. JOULE also convened the Subsurface Futures Symposium at UW, strengthening interdisciplinary collaboration and international partnerships. Faculty expertise was also sought by national and regional media, including Reuters and Wyoming Public Radio. As part of its mission to support informed public engagement on energy and resource law issues, JOULE also published a Wyoming Community Guide on CO₂ Pipelines.

Strategic Significance

Through a combination of federally funded deliverables, high-impact scholarship, student training, and outreach and engagement, JOULE continues to amplify the University of Wyoming's leadership in energy law and policy. Its work directly supports Wyoming's legacy energy industries while helping shape the legal frameworks necessary for emerging Wyoming industries such as carbon management, hydrogen, and advanced nuclear energy.