SOCIAL & NATURAL SCIENCE NEXUS

The energy industry is important to the economy of New Mexico, yet development is often constrained by socioeconomic issues and environmental impacts on water resources. The Social & Natural Science Nexus component team is creating innovative ways of using System Dynamics (SD) modeling to increase understanding of the behavior of complex systems like the interaction of water, the environment, energy, and people.

An experimental economics lab was completed at UNM (*pictured, below*) using *Energize New Mexico* funding. More data collection for the SD model continued in Year 2, including development of a framework for fossil fuel energy production and a preliminary SD model for the San Juan Basin in northwestern New Mexico. Data was gathered and transformed to be compatible with the modeling effort, and existing algorithms have been developed for incorporation into the SD model. In partnership with the Office of the State Engineer, creation of a statewide, dynamic water budget is well underway, which will also be incorporated into the final SD model.

Component co-lead Janie Chermak talks about the benefits of the new Economics Lab at UNM with NSF Program Officer Audrey Levine