1. University of Texas Lyndon B. Johnson School of Public Affairs: Sheila Olmstead, Andrew Waxman, Ben Leibowicz Lead Team Awarded $850,000 to Study the Economics of Carbon Capture and Storage

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The Alfred P. Sloan Foundation has awarded a team led by LBJ School Professor of Public Affairs Sheila Olmstead a $850,000 grant to study the economics of carbon capture, utilization and storage (CCUS). The three-year project is a unique collaboration between social science scholars at The University of Texas at Austin and the University of Wyoming, supported by physical science experts at UT's Bureau of Economic Geology. It will not only develop and complete four projects on the economics of CCUS, but will also create an interdisciplinary research network to engage further study.

CCUS technologies capture carbon dioxide (CO2) at their source -- power plants and industrial facilities -- to either reuse or store in deep geological formations. At the state, national and international levels, policymakers are looking to CCUS as a valuable tool in their arsenal to reduce carbon pollution and combat climate change. However, CCUS development to date has been slow, with projects either stalling or shutting down due to market conditions. This project aims to analyze and understand the barriers to CCUS deployment on a large scale, including analyzing how current federal tax incentives to expand CCUS are working.

"CCUS plays an important role in planned strategies to combat climate change, and in the U.S., it is the rare approach that has achieved bipartisan support for policy action," said Olmstead. "But until we understand why development has been slow, CCUS is unlikely to play the key role that many climate policy models envision for this technology. Our interdisciplinary team will help illuminate the barriers to expanding CCUS and its potential benefits and drawbacks, so that policymakers can better assess its role in climate policy going forward."

Specifically, the team will conduct new theoretical and empirical research to answer specific questions about CCUS development in four areas:

1. Economics: How does policy uncertainty affect investment in CCUS infrastructure and in turn risk tolerance among infrastructure investors? Can the design of CCUS policy help navigate between policy commitment and flexibility?

2. Operations research: Do private sector coordination problems create a barrier to CCUS development? If so, what are solutions to overcome these issues?

3. Public policy: How does the current U.S. federal approach to subsidizing CCUS stack up against other major climate policy tools?
4. Environmental justice: How could ramping up CCUS disproportionately affect local air pollution in communities of color, where power and industrial facilities are often located?

In addition to the core research and the outreach translating the team's work for the public and policymakers, a vital part of the project involves creating a larger, more diverse community of scholars to address questions about the economics of CCUS. The goal is to seed new economic and social science work on CCUS at multiple institutions, train students at the beginning of their research careers and forge new partnerships between physical scientists and social scientists. During the project's first year, the team will issue a competitive call for proposals on CCUS economics and policy, and those chosen will present their work at UT during a workshop in spring 2024.

LBJ School Assistant Professor Andrew Waxman and Benjamin Leibowicz, Assistant Professor in UT's Operations Research and Industrial Engineering graduate program (who also has a courtesy appointment at the LBJ School), will serve as co-principal investigators. Charles Mason, Associate Dean for research in the College of Business and the H. A. "Dave" True, Jr. Chair in Petroleum and Natural Gas Economics in the Department of Economics at the University of Wyoming is also a co-principal investigator. Dr. Susan Hovorka and Vanessa Nunez-Lopez of UT's Bureau of Economic Geology are co-investigators.