Center for Applied Energy Research
Lexington, Kentucky, USA

The University of Kentucky Center for Applied Energy Research (UKy-CAER) has three decades of clean coal research experience including existing programs for CO_2 capture and advanced power generation. UKy-CAER currently leads CO_2 capture solvent, process, and membrane development projects primarily funded by U.S. DOE NETL to develop a robust and cost-effective technology for CO_2 capture and utilization from a power generation process. These projects related to reducing CO_2 emissions include a range of topics such as post-combustion CO_2 capture, integrated capture processes, solvent development, catalysis, membrane separation, and solvent degradation.

Contact:
Kunlei Liu
kunlei.liu@uky.edu

The UKy-CAER 0.7 and 0.03 MWe CO_2 Capture Testing Facilities.

- A 0.7 MWe pilot scale testing facility was designed, constructed, and installed at the Kentucky Utilities E.W. Brown Generating Station, located near Harrodsburg, Kentucky.
- The pilot facility features a post-combustion heat integrated solvent-based CO_2 capture system with a two-stage stripping process for solvent regeneration and a heat-integrated cooling tower system that recovers waste energy from the CO_2 capture platform.
- A 0.03 MWe bench-scale testing unit integrated with coal derived flue gas and with exposure to flue gas contaminants is housed at the UKy-CAER campus in Lexington, Kentucky.