

PROJECT FACTS

UNIVERSITY OF KENTUCKY CENTER FOR APPLIED ENERGY RESEARCH

PARTICIPANTS

UKCAER

SPONSORS

U.S. Dept. of Energy
Kentucky Dept. for
Energy
Development and
Independence

PROJECT VALUE

USDOE: \$913,385
DEDI: \$228,496

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ENVIRONMENTAL & COAL TECHNOLOGIES

Center for Coal-Derived Low Energy Materials for Sustainable Construction

The goal of this project is to create a center to support the development of new products and industries that manufacture construction materials from coal combustion by-products (CCB's). The center will have three functions:

- 1) facilitate the development of technology to produce new forms of non-Portland cement, pozzolanic concrete additives, and masonry from coal products;
- 2) provide information transfer and act as a technology liaison between coal combustion producers and the construction industry; and;
- 3) support relevant education and training via participation of graduate and co-op students.

This center will conduct research into the development of low energy, low CO₂ emitting construction materials from CCB's, including calcium sulfoaluminate and plaster-based cements, high performance pozzolanic cement additives and geopolymers.

The specific objectives of this project include the design, procurement, installation and testing of a processing system built around a research kiln. This system will be installed in a new 6,400 ft² facility constructed with funds from the State of Kentucky. The project has four broad task components: project management and planning; design of equipment; purchasing, construction and testing of equipment; and production and performance testing of low energy cements.