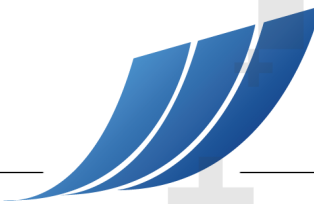


Working For You



Presented by the University of Kentucky's Center for Applied Energy Research

Engineered Fuels Lab



Background:

Increasing the utilization of biomass for power production is impeded by economic and practical limitations including an inherently low energy density, making transport over even moderate distances, cost prohibitive. In addition, significant investment is required to use biomass near its point of production or to add the equipment needed to handle and process biomass at the utility. Similar to biomass, expanded marketing of fine coal suffers from problems associated with its high and difficult-to-remove moisture content, which. The high moisture content lowers calorific value, creates handling, storage, and transportation problems, and ultimately has led to the disposal of vast quantities of coal fines to waste impoundments and gob piles around the US estimated to measure in the billions of tons.

The Solution:

One promising approach for addressing the marketing issues posed by fine coal and biomass residues is to co-briquette these materials to produce a premium, reduced-moisture fuel that can be transported as free-flowing solids, and then stored, crushed, and conveyed in existing infrastructure used for coal. Work at the CAER in this area is ongoing with a continued emphasis on development of cost effective binders and an expanded focus on co-briquetting of agricultural residues and torrefied biomass.

Dedicated Equipment:

- Komarek Model B-100 and B-220 briquetters
- 40-cm (16") and 91-cm (36") diameter pan pelletizers
- 2-stage, 122-cm (48") diameter roller drum
- 9-ft3 ribbon-paddle mixer and 80 L dough style blender
- Gravimetric and volumetric feeders (~20-300 kg/hr)
- 65-kW forced-air thermal dryer
- 30 kw microwave dryer

