# Center for Advanced Combustion Engineering Research

Distinguished Center

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Established as a center in 1986 as a joint project between BYU and the U of U. This center is working towards the clean and efficient use of low-grade fossil fuels. Near term emphasis is on the development of advanced combustion technology that will take advantage of alternative low-cost fuel resources such as coal, heavy oil, oil shale and tar sands. All of these fuel sources are abundant in Utah. Received "Distinguished Center" status in 1991.

## Overview

Current State Contract . . . $100,000

FY92 Matching Funds . . $2,501,889
Cumulative . . . . . $17,239,640

Total Jobs Created . . . . . 271
Industry . . . . . 130
Center . . . . . 141

Direct Center Spin-offs . . . . . 2

Total Benefiting Utah Companies . . 9

License Agreements . . . . . 30

Patents Applied . . . . . 0

Patents Issued . . . . . 0

## Technologies

*Combustion process strategies

*Fuel structure reaction mechanisms

*Fuel minerals

*Mechanisms for pollutant formation and control

*Reacting, turbulent flows

*Comprehensive model development

*ACERC 3-dimensional computer simulation of combustion process code (computer-aided design combustion technology)

## Status

*Center recognized as a leading world combustion research center

*Created one new combustion reactor for research on the use of fluidized bed in toxic waste disposal

*Continue to host national and international meetings & guest speakers

*True collaboration between eight universities

## Economic Impact

*$13.4 million grant from National Science Foundation from 1989-1994

*Annual direct and supported research effort of over $7,000,000/year

*Research equipment at the Center exceeds $13,000,000

*New spin-off company: Combustion Services Inc.

*Source of new technology for Center members within the State, including Geneva Steel

*4 new industrial contracts have been approved worth $490,000

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