

COAL FIRST COMPLETED SEVEN PRE-FEED STUDIES, INITIATED CRITICAL COMPONENTS R&D, AND SELECTED PILOT TEST ENGINEERING STUDIES

Next generation coal-fired power plants will be cleaner, more efficient, stable, and adaptive to meet the nation's future electricity needs.

COAL FIRST (FLEXIBLE, INNOVATIVE, RESILIENT, SMALL, TRANSFORMATIVE) INITIATIVE – DEVELOPING THE COAL POWER PLANT OF THE FUTURE



Coal FIRST will integrate critical R&D on power plant components with currently available technologies into a first-of-a-kind system to make electricity and hydrogen energy plants more adaptive to the modern electrical grid.

Plants would be small and modular, cost less to build, have near-zero emissions, and located strategically to provide extra stability to the grid. The smaller power plant of the future would provide highly efficient, cleaner, stable power to meet the needs of an everchanging electricity grid.

PRE-FRONT END ENGINEERING DESIGN (PRE-FEED) STUDIES ESTABLISH BENCHMARKS FOR THE COAL PLANT OF THE FUTURE

Under the Coal FIRST Initiative, technology developers, architect engineers, and researchers have completed seven pre-FEED studies, a significant step for the Coal FIRST initiative.

The analysis and conclusions in these studies provided a critical starting point to advance Coal FIRST plant concepts to FEED studies for pilot testing and R&D on critical components. Final Pre-FEED studies on the Coal FIRST plant concepts can be found at: <https://netl.doe.gov/coal/tpg/coalfirst/concept-reports>.



CRITICAL COMPONENTS RESEARCH LEADS THE WAY TO NEXT GENERATION OF COAL-FIRED POWER PLANTS

NETL awarded seven projects to undertake critical R&D on power plant components that can be integrated with currently available technologies into a first-of-a-kind system to make coal-fired power plants more adaptive to the modern electrical grid.



FOA-0002057 - Critical Components Projects

FOUR PLANT CONCEPTS SELECTED FOR EVALUATION OF COAL FIRST PILOTS

NETL selected four projects to complete FEED studies and prepare these systems for pilot testing or commercial deployment. These projects are developing 21st century electricity and hydrogen energy plants that have net-zero carbon emissions and will be fueled by coal, natural gas, biomass, and waste plastics and incorporate carbon capture, utilization and storage (CCUS) technologies.



FOA-0002180 - FEED Study Projects

AWARD NUMBERS
FEED STUDIES
 FOA-0002180
CRITICAL COMPONENTS
 FOA-0002057
PRE-FEED STUDIES
 RFP89243319RFE000015

PROJECT BUDGET
 DOE FUNDING



- FEED STUDIES..... est. \$82,100,000
- CRITICAL COMPS \$36,228,976
- PRE-FEED STUDIES..... \$7,589,275

CONTACTS

HQ PROGRAM MANAGER
RAJ GAIKWAD

TECHNOLOGY MANAGER
DAVID LYONS

FEDERAL PROJECT MANAGERS

- MATTHEW ADAMS**
- PATCHARIN BURKE**
- RICHARD DALTON**
- DEBALINA DASGUPTA**
- ANDREW JONES**
- SETH LAWSON**
- DIANE REVAY MADDEN**
- STEVEN MARKOVICH**
- VENKAT VENKATARAMAN**

CORE COMPETENCIES

- ENERGY CONVERSION ENGINEERING
- PROGRAM EXECUTION and INTEGRATION
- SYSTEMS ENGINEERING and ANALYSIS