# R&D INITIATIVES LAUNCHED FOR COAL PLANTS OF THE FUTURE

Modernizing America's coal fleet to provide secure, stable, and reliable power

**QUICK FACTS** 

AWARD NUMBER

DE-FOA-0001788

(LARGE-SCALE PILOTS)

**PROJECTED** 

### TRANSFORMING & MODERNIZING THE COAL-FIRED POWER FLEET

Developmenting power plant systems and technologies that will enable the future deployment of efficient, clean, and cost-competitive coal power plants.

- High Efficiency
- Grid Independent
- Low Emissions
- Integrate with Intermittent Power

CO<sub>2</sub> Capture Ready

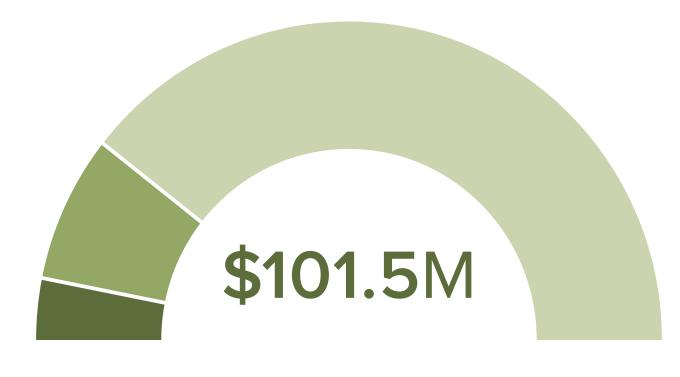
- Domestic and International Market Pull
- Modularity and Parametric Design

9 projects selected from DE-FOA-0001788 (Large-Scale Pilots) were awarded federal funding for Phase I.

33 responses from 31 respondents were received from the Coal FIRST RFI.

- Announced retirement through 2025
- Retired 2012–2016
- Operating coal units Coal Units Size By Capacity (MW)
- 500 to 1344
- o 250 to 500 • 0 to 250

### PHASE BUDGETS (LARGE-SCALE PILOTS)



- PHASE I ......\$6,500,000

## COAL FIRST INITIATIVE

This initiative will **integrate** critical R&D on power plant components with currently available technologies into a first-of-a-kind system to make coal-fired power plants more adaptive to the modern electrical grid.

Large-Scale Pilots

Coal FIRST Response Locations

lexible ransformative nnovative Resilient

CONTACTS

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RFP seeking conceptual design for Coal-Based Power Plants of the Future with an option for Pre-Feed Feasibility study.

**Q2 of FY19** 

FOA for cost-shared research and R&D projects focused on steam turbines that can be integrated into a 50-350 MW future advanced coal plant design. Q3 of FY19

FOA for cost-shared R&D projects focused on critical components and advanced approaches (e.g., manufacturing, fabrication, advanced design) to support future coal plants.

### TRANSFORMATIONAL LARGE-SCALE PILOTS



















This program is developing two large-scale pilot operations utilizing advanced coal conversion and/or capture technologies, representing new ways to convert energy.

### End of FY19

- Complete Phase I Pre-FEED **Feasibility Studies**
- Down-select to the 4-5 most promising technologies (and teams)

### End of FY21

- Complete Phase II-Design activity
- Down-select to the 2 most promising technologies (and teams)

### End of FY26

Complete Phase III- Design, Construction, and Operation of 2 largescale pilot facilities

### End of FY30

Transfer technology to private sector to construct and operate an advanced coal plant





Advancing the next generation of modular, highly efficient, and flexible coal-fired power plants



