

# NATIONAL CARBON CAPTURE CENTER



## ADVANCING FOSSIL ENERGY TECHNOLOGY SOLUTIONS

Managed and operated by Southern Company, the U.S. Department of Energy's National Carbon Capture Center is a world-class neutral research facility working to advance technologies to reduce greenhouse gas emissions from natural gas- and coal-based power plants.

The center has worked with over 30 government, industry, university and research organizations from seven countries to bridge the gap between laboratory research and large-scale demonstrations. Located in Wilsonville, Alabama, the facility provides realistic testing conditions plus the infrastructure to explore the most promising, cost-effective technologies, while generating reliable data to verify performance.

### NATURAL GAS CARBON CAPTURE

Plans are underway to expand testing of carbon capture technologies with flue gas from natural gas-fired power generation.

### POST-COMBUSTION CARBON CAPTURE

Installed at an 880-megawatt supercritical pulverized coal unit at Alabama Power's Plant Gaston, the facility includes a Pilot Solvent Test Unit, Slipstream Solvent Test Unit and seven pilot- and bench-scale test bays. Its focus is to:

- ▶ Test new solvents and gas/liquid contactors
- ▶ Assess sorbents, membranes, enzymes and other technologies
- ▶ Reduce capital and operating cost penalties

### ACCOMPLISHMENTS

The National Carbon Capture Center has completed more than 100,000 test hours since its founding in 2009. Through testing of approximately 60 technologies, the center has reduced the projected cost of carbon capture by one-third.

**The National Carbon Capture Center chairs the International Test Center Network, a global coalition focused on accelerating the research and development of carbon capture, utilization and storage technologies.**



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## ADVANCING FOSSIL ENERGY TECHNOLOGY SOLUTIONS

### ABOUT

- ▶ World-class neutral research facility
- ▶ Focused on cost-effective carbon capture innovations
- ▶ Created in 2009 by the U.S. Department of Energy in Wilsonville, Alabama
- ▶ Managed and operated by Southern Company

### RESEARCH

- ▶ Expanding testing of carbon capture technologies for natural gas-fired power plants
- ▶ Post-combustion carbon capture testing using flue gas from an 880-megawatt pulverized coal unit at Alabama Power's Plant Gaston

### ACCOMPLISHMENTS

- ▶ Completed more than 100,000 hours of testing for third-party developers
- ▶ Worked with over 30 government, university and research organizations from seven countries

### WORKFORCE

- ▶ Approximately 170 highly specialized engineers, O&M employees, support staff and construction personnel
- ▶ \$5 million annually in labor including overtime
- ▶ Over \$13 million annually in contract labor

### INTERNATIONAL LEADERSHIP

- ▶ Co-founder and chair of the International Test Center Network, a global coalition focusing on carbon capture, utilization and storage technology development
- ▶ Collaboration with Australia, Canada, China, India, Japan, Korea, Mexico, Norway, the European Union, United Arab Emirates and U.S.

