

NATIONAL CARBON CAPTURE CENTER



ADVANCING FOSSIL ENERGY TECHNOLOGY SOLUTIONS

WORLD-CLASS NEUTRAL RESEARCH FACILITY

Managed and operated by Southern Company, the U.S. Department of Energy's National Carbon Capture Center is advancing technologies to reduce greenhouse gas emissions from natural gas- and coal-fueled power plants. Located in Wilsonville, Alabama, the center explores the most promising, cost-effective carbon capture processes from third-party developers and bridges the gap between laboratory research and large-scale demonstrations.

POST-COMBUSTION CARBON CAPTURE

Installed at an 880-megawatt 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

NATURAL GAS CARBON CAPTURE

The center is expanding its testing of carbon capture technologies for natural gas power generation. Additional infrastructure will include a natural gas-fired boiler, flue gas cooler, fan, condenser and controls, and provide a range of CO₂ concentrations for individual developer units.

CARBON UTILIZATION

Future testing will also evaluate new technologies and support business cases for carbon utilization.

ACCOMPLISHMENTS

Through the pilot testing of over 60 technologies, the center has directly participated in the reduction of carbon capture costs by one-third.

The National
Carbon Capture
Center has
completed more
than 100,000 test
hours since its
founding in 2009.

