



With 4.4 million customers and more than 42,000 megawatts of generating capacity, Atlanta-based Southern Company is the premier energy company serving the Southeast. A leading U.S. producer of electricity, Southern Company owns electric utilities in four states and a growing competitive generation company, as well as fiber optics and wireless communications. Southern Company brands are known for excellent customer service, high reliability and retail electric prices that are below the national average. Southern Company is consistently listed among the top ranking U.S. electric service providers in customer satisfaction by the American Customer Satisfaction Index (ACSI).

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More progress achieved in carbon storage research

A carbon storage research project involving Southern Company has hit a significant milestone with the beginning of carbon dioxide injection into a coal-bed methane well near Tuscaloosa, Ala.

Injection, storage and monitoring got under way in June at the Black Warrior Basin site and will continue for 45 to 60 days. The test is designed to evaluate the feasibility of combining carbon storage in coal seams with enhanced recovery of coal-bed methane, which is a primary component of natural gas.

The Black Warrior Basin Coal Seam Project is being conducted by the U.S. Department of Energy's Southeast Regional Carbon Sequestration Partnership (SECARB), of which Southern Company is a member. Southern Company is providing funding and technical consulting and performing the field soil and groundwater monitoring.

According to the DOE, the northern Alabama site was chosen because it is representative of the Black Warrior Basin, an area of about 23,000 square miles that contains enough coal to potentially sequester, or store, 1.1 giga-tons to 2.3 giga-tons of CO₂.

In addition, enhanced coal-bed methane recovery combined with CO₂ storage could squeeze another 1.5 trillion cubic feet of natural gas from the coal seams, according to the DOE. The process itself is similar to that of the recently completed pilot injection of CO₂ at Mississippi Power's Plant Daniel and is utilizing some of the same type equipment and procedures.

However, there are significant differences. At Plant Daniel, the CO₂ was injected into a deep saline rock formation, 8,500 feet below ground. In the Black Warrior test, carbon dioxide is being injected into coal seams at much shallower depths, ranging from 940 feet to 1,800 feet. Also, the amount of CO₂ is smaller in the Alabama project – 240 tons, compared with 3,000 tons at Plant Daniel. And the methane recovery element applies only to the coal-bed tests.

Other partners in the Black Warrior project include the Southern States Energy Board, Geological Survey of Alabama (local manager of the project), El Paso Exploration and Production, the University of Alabama and the Virginia Center for Coal and Energy Research at Virginia Tech.

Environmental Leadership through Technology and Innovation

Emission Reduction

also see: www.southerncompany.com/corporateresponsibility/environment/

- Invested \$7.5 billion in environmental controls since 1990 and plans to invest additional \$2.4 billion through 2012 to further reduce emissions of nitrogen oxides (NOx), sulfur dioxide (SO2) and mercury.
- Since 1990, emissions of NOx down 70 percent and SO2 down 60 percent while generation of electricity has increased more than 30 percent to serve the growing need for electricity.
- Managed more than \$500 million in environmental research and development over the past decade.

Climate Change

also see: www.southerncompany.com/corporateresponsibility/environment/climateChange.aspx

- Managing the Department of Energy's National Carbon Capture Center in Alabama, testing the next generation of technologies to capture CO2 emissions.
- Planning to demonstrate carbon capture and sequestration on an existing unit of Plant Barry in Alabama. Beginning in 2011, the project will capture up to 150,000 tons per year for permanent underground storage.
- Building a commercial-scale, 582-MW generating plant in Kemper County, Miss., using local lignite and the company's Transport Integrated Gasification (TRIG™) technology, with 65 percent carbon capture and sequestration.
- Plant Daniel in Mississippi is host site for a U.S. Department of Energy carbon sequestration demonstration project. About 3,000 tons of CO2 have been injected underground and are now being monitored.
- Endorsed Edison Electric Institute Global Climate Change Points of Agreement, which supports technology development and sets long-range goals for CO2 emissions reduction.

New Nuclear

also see: www.southerncompany.com/nuclearenergy.aspx

- Nuclear generation is emission-free. Southern Company has a 30-year-plus record of safely operating nuclear plants.
- Aug 2005: announced plans to construct two additional nuclear units at Plant Vogtle in Georgia. Our proportionate cost (45.7 percent): \$6.1 billion. The 1,100-megawatt units are to be in service by 2016 and 2017.
- March 2008: filed for a Combined Construction and Operating License with approval targeted in 2011.
- March/April 2009: Georgia Public Service Commission certifies and approves rates for recovery of construction financing.
- August 2009: received an Early Site Permit from the U.S. NRC enabling design, construction and site-prep.
- February 2010: President Obama announces conditional loan guarantees awarded by the Department of Energy.

Renewables

also see: www.southerncompany.com/corporateresponsibility/electricity/building.aspx

- Biomass: constructing a 100 MW biomass unit in Texas; converting older coal plant to biomass in Georgia
- Hydroelectric: 34 facilities with 2,730 MW
- Landfill gas: DeKalb County, Ga. -- 3.2 MW; Perdido Key, Fla. -- 3.2 MW; Savannah, Ga. -- 6.4 MW
- 30 MW solar PV plant under development in New Mexico in partnership with Turner Renewable Energy
- Solar panels and wind micro-turbines on billboards; Thin-film and concentrating solar PV installation at Georgia Power headquarters and solar panels at Alabama Power headquarters
- Solid waste generation -- purchasing power from refuse-fired generators, Bay County, Fla. -- 11 MW
- Offshore wind turbine studies -- Georgia and Florida
- Geothermal: 30 MW project in Hawaii

Smart Grid

also see: www.southerncompany.com/corporateresponsibility/electricity/

- Southern Company has responsibility for approximately \$5.5 billion in transmission assets, including more than 27,000 miles of transmission lines, 3,300 substations, 154,000 miles of distribution lines, 3.6 million poles and more than 300,000 acres of right of way.
- Southern Company plans, designs, builds, operates and maintains the transmission system to meet growing demand and has budgeted \$4 billion in new capital expenditures over the next three years.
- Installing more than 4 million "smart meters" by 2012, which will help us lower costs and customers manage energy use.

Energy Efficiency

also see: www.southerncompany.com/corporateresponsibility/electricity/championing.aspx

- EarthCents is a Southern Company program designed to help customers save money and reduce energy use.
- Southern Company energy efficiency programs have reduced peak demand for electricity by 3,100 megawatts. That's enough energy to power 440,000 homes.
- Between now and 2020, Southern Company plans to spend \$1 billion on energy efficiency and demand-control programs, reducing peak demand by an additional 1,000 megawatts.
- When comparing companies with peak demand of 2,000 megawatts and greater, the average reduction reported to EIA from demand-side management is 2.6 percent; we have reduced our peak demand by 8.3 percent through 2008.

SOUTHERN COMPANY

2009 operating revenues:
\$15.7 Billion

2009 net income:
\$1.64 Billion

2009 total assets:
\$52.0 Billion

Diversified sources of energy (2009):

- 57% coal
- 23% gas
- 16% nuclear
- 4% hydro

Electric generating capacity: 42,932 MW

Financial summary:

- Stable A credit rating
- Dividends -- 249 consecutive quarters (62 years) of payouts; 9 straight years of increases represent 30% growth; 4% increase in 2010

Operations summary:

- Safety -- Goal is zero; dominated top quartile in safety as measured by Southeastern Electric Exchange
- Reliability -- plant performance among best in industry; top quartile in forced outage rate
- Prices -- well below national average
- Customer Satisfaction -- consistently ranked one of nation's best