

# Our Energy Future

Energy efficiency saves you money, and protects our Earth.

**earth**  
 **cents**



**SOUTHERN**  
**COMPANY** 

## **Renewable energy — an important part of the mix**

Southern Company is actively diversifying our fuel mix with alternatives that make economical and environmental sense. Nearly 20 research and development projects are in progress, including use of switchgrass as a biomass fuel. Current plans are to convert a coal plant in Georgia to biomass. If approved, the facility would become one of the largest of its kind in the nation.

Renewable development and projects:

### **Hydroelectric**

34 facilities for 2,730 MW

### **Landfill gas**

DeKalb County, Georgia - 3.2 MW  
Perdido, Florida landfill – 3.2 MW  
Santa Rosa County, Florida landfill

### **Solar panels on billboards**

### **Wind microturbines on billboards**

### **Geothermal**

30 MW project in Hawaii

### **Solid waste generation – purchasing power from refuse fired generators**

Bay County, Florida – 11 MW

### **Offshore wind turbine studies**

### **Thin film and concentrating PV installation**

Georgia Power headquarters - 2009

### **Biomass**

#### **– conversion of existing units**

Plant Mitchell – one unit for 96MW  
Plant Scholz – two units for 91MW  
Plant Smith – evaluating one unit  
Evaluation is underway at five additional plants

#### **– co-firing of coal and biomass**

Plant Gadsden – periodic testing  
Plant Watson – periodic testing

## **Fuel Diversity — keeping electricity affordable and reliable**

Making electricity from a diversified supply of fuels helps us avoid fuel shortages and helps keep prices down. Nuclear power, natural gas and clean coal are all important fuels to maintain reliable generation for the future. Southern Company is researching other means of producing low-carbon fuels for generation. New technologies will be a key component to ensuring a clean energy future.

### **Nuclear**

### **Natural Gas**

### **Clean Coal**

### **Hydropower**

### **Renewables**

### **Energy Efficiency**

## **Research and Development — keeping electricity clean and efficient**

Southern Company has long been at the forefront of energy efficiency. It's only by research and development — and through relationships with with partners like EPRI — that we can find the solutions to make energy cleaner and more efficient. We have long partnered with DOE studying coal gasification at our Wilsonville, Ala. facility and are now beginning a joint project to test carbon capture and sequestration at Plant Daniel in Mississippi.

Major research and development efforts we are involved in:

### **Electric transportation**

Plug-in hybrid electric vehicles (PHEV)  
Outdoor electric lift trucks  
Seaport/Airport support vehicle electrification

### **Residential**

Heat pump and Solar Thermal water heaters  
Advanced lighting efficiencies (LED)  
Smart Grid and home network appliances

### **Commercial/Industrial**

Outdoor street and area LED lighting  
Controllable and dimmable electronic ballasts for HID lighting  
Large scale heat-recovery heat pumps for water heating  
Ultraviolet for material final finish curing and drying  
High temperature heat pumps for kiln drying  
Enhanced dehumidification technologies for space humidity control

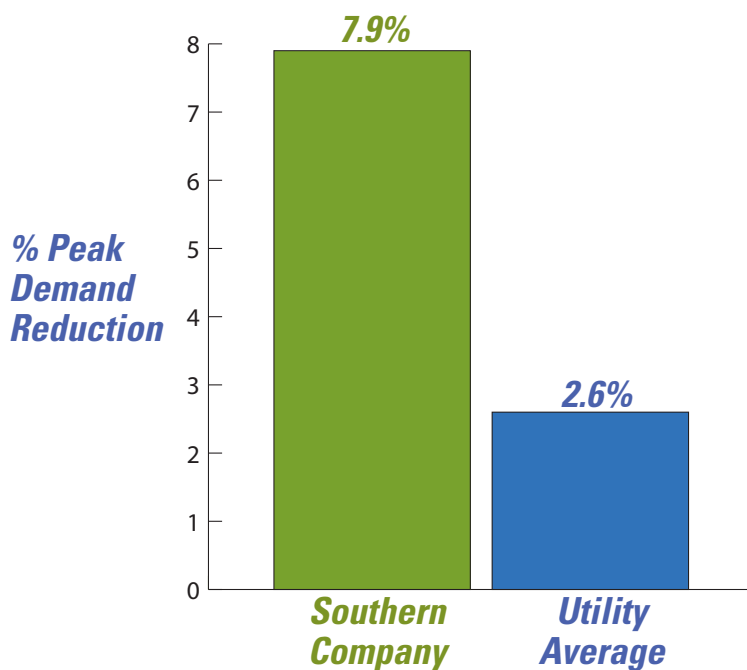
**E**arthCents is a Southern Company program designed to help customers save money and reduce energy use. Our initiatives have three major components: energy efficiency, renewable energy and fuel diversity.

We're excited about helping customers do the right thing for their wallets and for the environment. Already, Southern Company programs have reduced peak demand for electricity by 3,100 megawatts. That's enough energy to power 440,000 homes. As early as the '70s, Southern Company invented the GoodCents Home Program still used by more than 200 utilities nationwide.

Our commitment to helping our customers save money and reduce the amount of energy they use is significant. 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.

### ***Demand Side Management as a percentage of peak demand***

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. Southern Company has reduced its peak demand by 7.9 percent through 2006.



*Source: Utility average data from EIA 2006 Official Energy Statistics from the U.S. Government, September, 2008.*

### ***Emission Reductions***

Since 1990, Southern Company has reduced combined sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) by 30 percent, while increasing megawatt-hour generation by 40% to serve the growing demand for electricity. We have invested \$4.6 billion through 2007 on environmental controls and plan on spending an additional \$3.9 billion through 2010 to further reduce emissions of NO<sub>x</sub>, SO<sub>2</sub> and mercury. Implementation of EarthCents programs will continue to help reduce these emissions as well as CO<sub>2</sub> through the offset of generation through energy efficiency.

RESIDENTIAL

COMMERCIAL/INDUSTRIAL

ALL CUSTOMERS

Energy Efficiency/DSM Program	Description	Energy Savings	Benefits	Other*
Energy Check-up/Audits	Energy experts help customers identify major improvement upgrades, as well as no-cost and low-cost ways to reduce energy usage through free energy audits in-person, online, or by mail.	Reduction of up to <b>2%</b> annually in energy bill		Reduction of <b>3,295 tons</b> of CO <sub>2</sub> per year across Southern Company
Low income weatherization	Southern Company offers several versions of programs which help low income families permanently reduce their energy bills by making their homes more energy efficient.	Reduction of up to <b>32%</b> in heating cost		Reduction of <b>235 tons</b> of CO <sub>2</sub> per year across Southern Company
Load Control	EnergySelect/SmartPower	Reduction of up to <b>15%</b> annually in energy bill		Reduction of <b>5,148 tons</b> of CO <sub>2</sub> per year across Southern Company
	Direct load control	Reduction of required capacity by <b>17 MW</b>		
Geothermal heating and cooling	Geothermal heating and cooling has been labeled by the Department of Energy as the most energy efficient, environmentally friendly system available today. Incentives are being offered in some jurisdictions.	Reduction of up to <b>40%</b> of annual heating and cooling cost		Reduction of <b>4,737 lbs.</b> of CO <sub>2</sub> for each installation per year
Solar thermal water heating	A pilot program to put the sun to work is being offered with incentives in some jurisdictions.	Reduction of up to <b>75%</b> of annual water heating cost		Reduction of <b>4,510 lbs.</b> of CO <sub>2</sub> for each installation per year
EarthCents Home	The EarthCents home is being promoted by Southern Company as a high-performance home that will exceed the standards of the EnergyStar® and each respective state's building code.	Reduction up to <b>25%</b> annually in energy bill		Reduction of <b>7,480 lbs.</b> of CO <sub>2</sub> for each installation per year
Homebuilder programs	We work with home builders to ensure the most energy efficiency choices are made while under construction.	Average reduction of <b>734 kWh</b> for participants per year		Reduction of <b>762 tons</b> of CO <sub>2</sub> per year across Southern Company
EnergyStar®	Southern Company is an active promoter of the U.S. Environmental Agency and the U.S. Department of Energy program to reduce energy consumption and protect the environment through energy efficient practices and products. The company has already helped customers exchange over 200,000 conventional bulbs to CFL as part of this program.	National savings of <b>\$16 billion</b> on utility bills in 2007 **		Reduction in greenhouse gas emissions equivalent to <b>27 million</b> vehicles **
Energy Services	Southern Company is always looking for ways to help our customers become more energy efficient. Several of our operating companies have programs in place to help customers design and install tailored solutions for their needs.	Reduction of <b>110.6 million kWh</b> across Southern Company		Reduction of <b>84,650 tons</b> of CO <sub>2</sub> per year across Southern Company.
Real-time pricing	Available to large commercial and industrial customers, real-time pricing has reduced the demand for electricity at peak times, while holding the line on business costs.	Reduction of required capacity by <b>408 MW</b>		
Interruptible load/Standby Generation	Managing demand during peak periods is critical to maintaining a reliable and affordable power supply. Large customers who can reduce energy usage for brief periods of time can reduce their monthly power costs and help us reduce demand, delaying the need for additional generation.	Reduction of required capacity by <b>1,631 MW</b>		
Commercial construction programs	We're also talking to contractors, architects and building owners — offering free expert help on how they can build energy efficiency into their construction plans. The best time to build green and save green is before the hammer hits the first nail.	Average reduction of <b>12,775 kWh</b> for participants per year		Reduction of <b>2,069 tons</b> of CO <sub>2</sub> per year across Southern Company
Commercial geothermal heating and cooling	Southern Company is also promoting the installation of commercial geothermal systems. Incentives are being offered in some jurisdictions to help reduce the cost and help customers save money.	Reduction of up to <b>24%</b> of annual heating and cooling cost		Estimated reduction of <b>319 tons</b> of CO <sub>2</sub> for each installation per year
Smart Meters	Southern Company will have 1 million Smart Meters across the Southeast by the end of 2008 with an additional 3 million installed by 2011. The total installation will result in 4.8 million meters in service by 2012. These meters will allow customers to see how much energy they are buying at any time of the day or night. Customers will be able to understand how and when their homes or businesses use energy and look for ways to conserve and improve their energy efficiency.	Reduction in manual meter reading, operation efficiency improvements, reliability along with improved outage detection and response time. This will result in fewer vehicle emissions and cost savings.		
Smart Grid	As we move toward having a large number of our system on Smart Meters, we will be able to greatly improve the efficiency, reliability, and safety of our operations and help customers make wise energy decisions.			

\* These figures are based on 2007 participation at the operating companies where the programs are available.

\*\* Information from [www.energystar.gov](http://www.energystar.gov)

\*\*\* Information from a joint EEI - EPRI study on the technically achievable potential of energy efficiency.

NOTE: Total energy savings from participation in several EarthCents programs could save as much as 50% annually.

## **Educating our customers**

An informed customer makes better decisions about the way they use energy to help them save money. Our goal is to increase our customers' understanding of the benefits of energy efficiency. Through many education initiatives, we're helping customers understand the economic and environmental benefits of being more energy efficient. We know the cleanest kilowatt-hour is the one never used.

These are a few of the ways we communicate with our customers:

 **Public awareness campaigns**

 **School partnerships**

 **Workshops**

 **Interactive Web sites:**

**Alabama Power — [www.alabamapower.com/residential/energy.asp](http://www.alabamapower.com/residential/energy.asp)**

**Georgia Power — [www.georgiapower.com/residential/energy.asp](http://www.georgiapower.com/residential/energy.asp)**

**Gulf Power — [www.gulfpower.com/residential/energy.asp](http://www.gulfpower.com/residential/energy.asp)**

**Mississippi Power — [www.mississippipower.com/residential/energy.asp](http://www.mississippipower.com/residential/energy.asp)**

 **Direct mail**

 **Bill messaging**

 **Personal contact with customers**

## **Contact Information**

Combinations of these programs are available at our operating companies based on each state's regulatory structure. For more information please call Southern Company Media Relations.

 **Southern Company Media Relations — 1-866-506-5333**

**Southern Company consists of  
five operating companies:**

**Alabama Power Company**

**Georgia Power Company**

**Gulf Power Company**

**Mississippi Power Company**

**Southern Power Company**

**Vertically integrated investor owned utility**

**Serving 4.3 million retail customers**

**More than 41,000 MW of generating capacity**

**Over 27,000 miles of transmission lines**



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