

A photograph of a modern multi-story office building with a glass facade and a central tower section. The Southern Company logo is visible on the left side of the building. The sky is blue with white clouds.

# Institute of Clean Air Companies

Tom Fanning  
Chief Operating Officer  
Southern Company

April 30, 2009



# Agenda



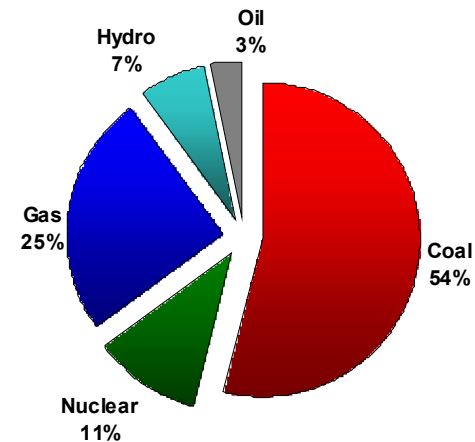
- Environmental Performance
- National Energy Policy Priorities

# Environmental Performance

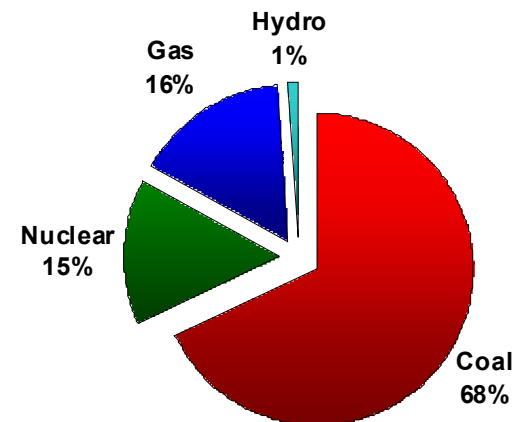


- Our emissions are coming down while customers' needs continue to grow
- Since 1990
  - NOx emissions down more than 45%
  - SO2 emissions down more than 40%
  - Generation up over 40%

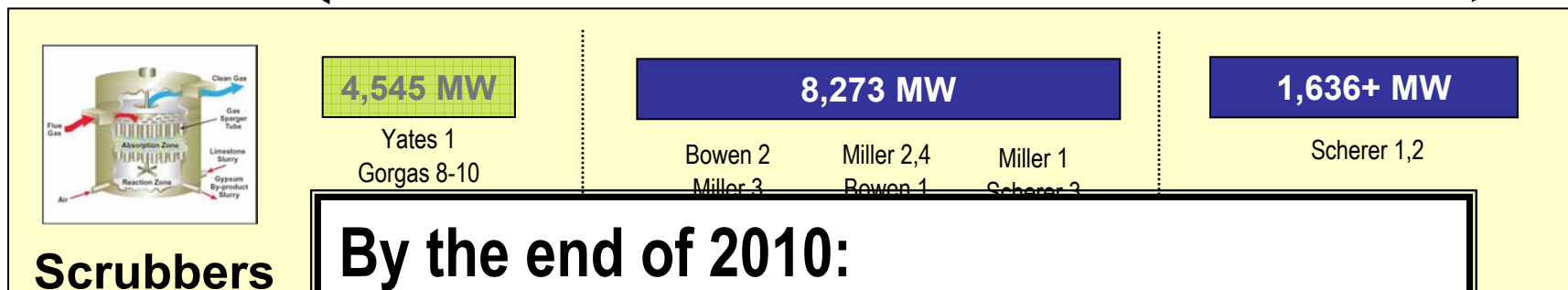
## 2008 Generation Mix - Capacity



## 2008 Generation Mix - Energy



# Environmental Performance - Retrofits



## Scrubbers

### By the end of 2010:

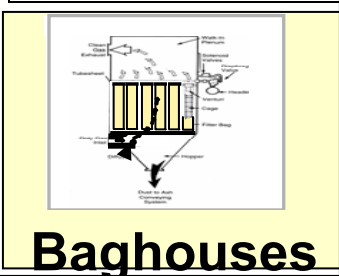
- Over 10,500 coal MWs retrofit with SCR
- Over 11,000 coal MWs retrofit with FGD

### By 2015:

- Plan to have about 70% of coal MWs retrofit with SCR and FGD



## SCRs



## Baghouses

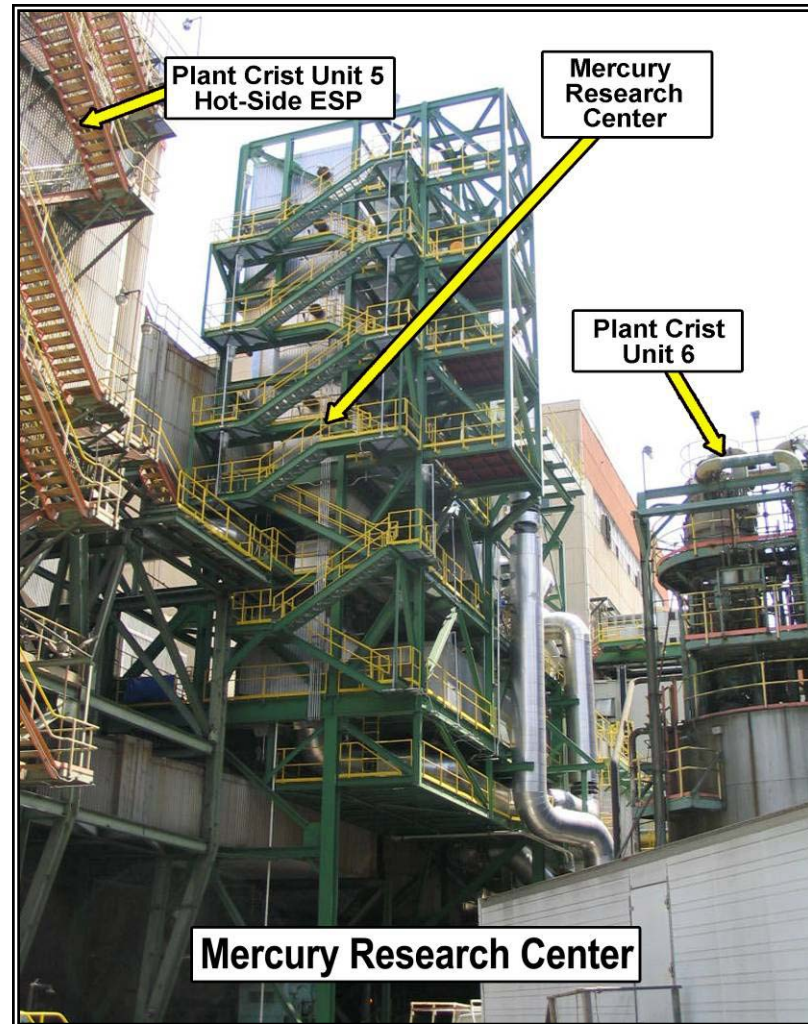
Future additions are evaluated as part of the company's environmental strategy planning process and consideration of the environmental regulations driving the addition, the cost of the technology, the availability of other compliance options and related environmental issues

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# Environmental Performance – Research Mercury Research Center

SOUTHERN  
COMPANY

- Located at Gulf Power's Plant Crist
- Equipped with SCR, Pulse-Jet Fabric Filter, Electrostatic Precipitator, and Scrubber
- Research to date includes 15 partners from 5 countries including the U.S., Japan, Denmark, Australia, and Germany
- Additional benefits include research into reducing such emissions as NO<sub>x</sub>, ammonia slip, and PM





# Environmental Performance– Research Power System Development Facility (PSDF)

SOUTHERN  
COMPANY

**The PSDF is a unique test facility to develop engineering data for commercially viable coal-based power generation options including lower cost CO<sub>2</sub> capture technology**

- Find and utilize “best-in-class” component technologies (or, in some cases, develop in-house).
- Scale-up technologies to appropriate, “real-world” design & operating conditions.
- Develop performance data to support designs for commercial demonstration and deployment.



# National Energy Policy Priorities



- Future Resources
  - Energy Efficiency
  - Nuclear
  - Clean Coal
  - Natural Gas
  - Renewables
- Create Technology Path for CO<sub>2</sub>

# Energy Efficiency



- Demand-response programs
  - Achieved 3,000 MW of demand reduction
  - By 2017, projected to achieve 4,100 MW of demand reduction
  - Plan to invest over \$1 billion through the next ten years
- Automated Meter Infrastructure (AMI)
  - All Smart Meters projected to be installed by 2012
  - Manufacturer: Sensus Metering
  - Smart Grid capabilities with customer interface platforms



# Nuclear – Vogtle Nuclear Plant



- Two additional units (3&4) rated at 1175 MW each
- April 2008 – contract agreement with Westinghouse/Shaw for 2 AP1000 reactors (first such agreement since 3 Mile Island accident 1979)
- Early Site Permit and Combined Operating License submitted in 2008 to NRC
- COD in 2016 – Unit 3
- COD in 2017 – Unit 4



# Coal – Kemper County IGCC

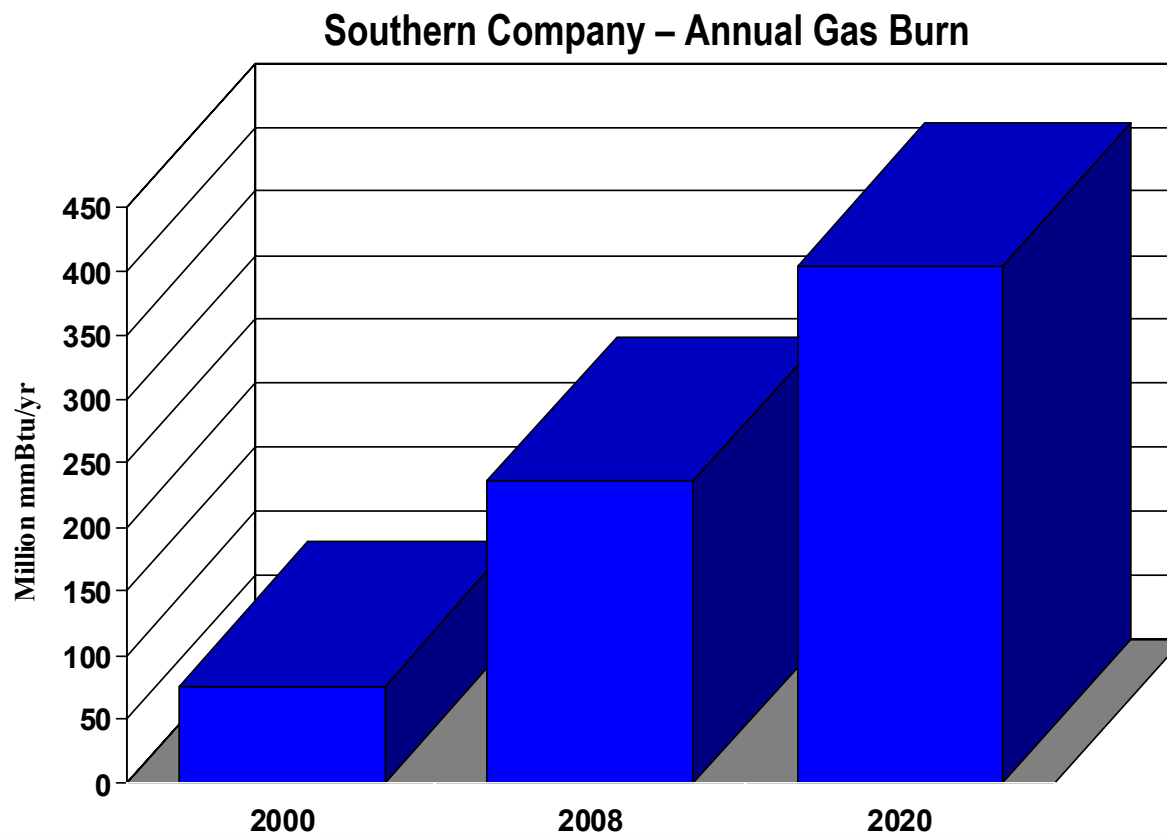


- 582 MW Integrated Gasification Combined Cycle power plant located in Kemper County, Mississippi
- Fueled with locally mined Mississippi lignite coal
- TRIG Gasification technology developed at Southern Company's PSDF
- 50 percent carbon capture and sequestration
- First of its kind clean coal plant
- COD 2013

# Natural Gas – McDonough CC



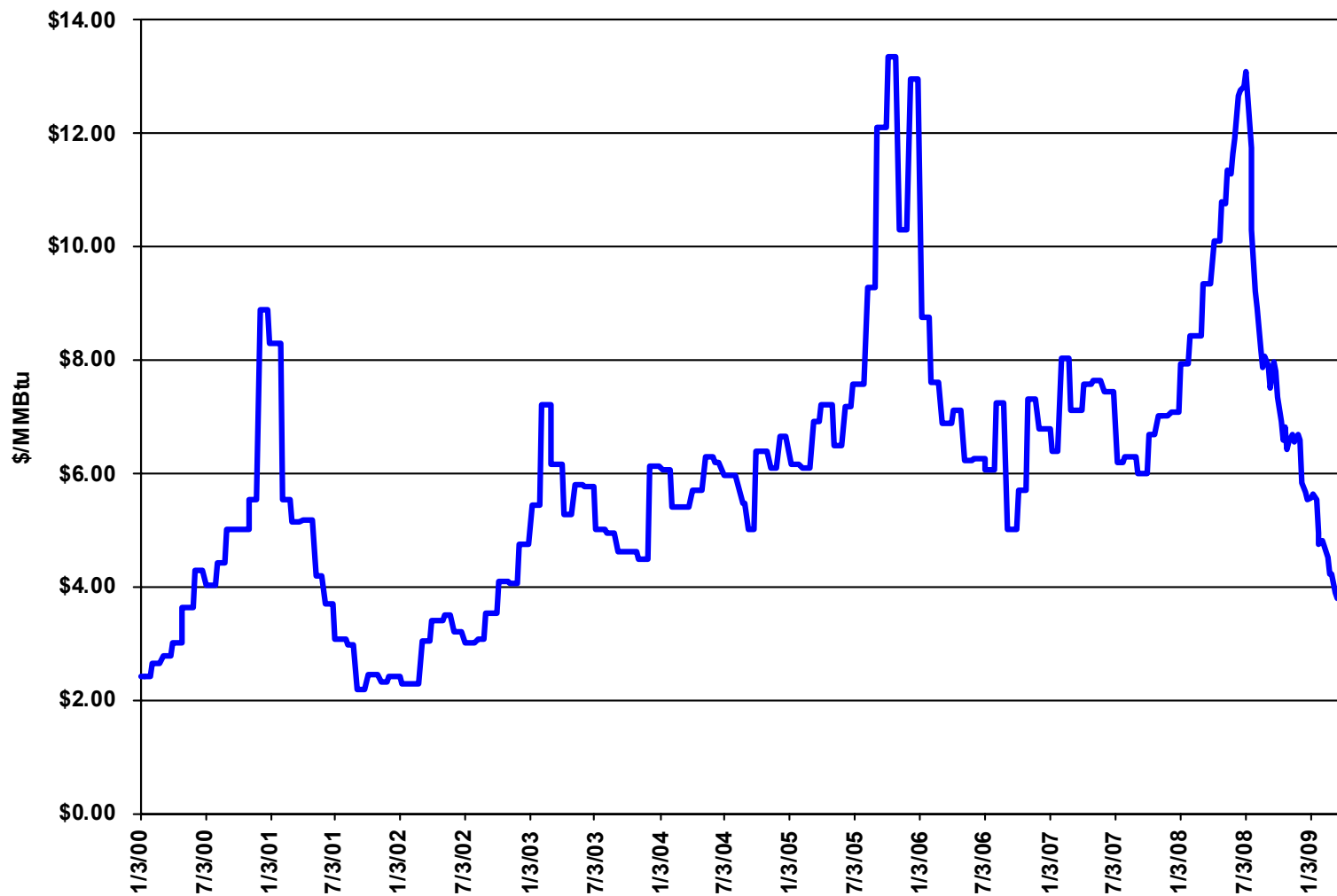
- McDonough
  - Three 2-on-1 G combined cycle blocks
  - CODs in 2011 – 2012



# Natural Gas – Henry Hub



Ending April 17, 2009



# Renewables – Mitchell Biomass Conversion



- Converting a 1964 vintage, 155 MW coal unit to a 96MW wood biomass unit
- One of the largest biomass units in the country
- Cost-effective renewable energy
- Lower emissions of SO<sub>2</sub>, NO<sub>x</sub>, Mercury
- CO<sub>2</sub> neutral
- Increased fuel diversity



# Priorities - Options



- Energy Efficiency
- Nuclear
- Clean Coal
  - Integrated gasification combined cycle
  - Carbon capture and sequestration
- Natural Gas
- Renewable Energy

***RELIABILITY – ECONOMIC ACCOUNTABILITY – SUSTAINABILITY***