Southern Company

2017

Carbon Disclosure Report

Introduction

Southern Company and its subsidiaries are committed to developing real, innovative solutions that will help shape America's energy future. At our foundation is a focus on providing more than 9 million customers with clean, safe, reliable and affordable energy. Beyond excelling at the fundamentals, Southern Company is always pushing forward to create new products and services for the benefit of customers. Southern Company is the only company developing around the full portfolio of energy resources, including carbon-free nuclear, 21st century coal, natural gas, renewables and energy efficiency.

Southern Company also leads the industry in conducting robust research and development of new, innovative energy technologies – and in deploying those technologies to address greenhouse gas (GHG) emissions. GHG emission reduction is a major focus of the company's research and development organization, which has a historic record of technology advancement that goes back to the 1960s.

In 2016, Southern Company further enhanced its commitment to addressing GHG emissions by acquiring AGL Resources – now Southern Company Gas – whose primary business is the distribution of natural gas through the natural gas distribution utilities. Southern Company Gas is also involved in several other businesses, including gas marketing services, wholesale gas services and gas midstream operations. For more than two decades, Southern Company Gas has spearheaded several projects that reduced GHG emissions, served as a trusted education source for consumers and participated in federal emissions reduction programs.

Southern Company also grew its natural gas developments with a major investment in a leading natural gas transmission system, Southern Natural Gas, serving southeastern states.

The cleanest-burning fossil fuel, domestically abundant natural gas is a significant part of the answer to America's energy solution needs. In addition to generating electricity, natural gas can be used to fuel industrial processes and motor vehicles and keep our homes and businesses comfortable while reducing our environmental impact.

Additionally in 2016, Southern Company acquired PowerSecure, a premier provider of utility and energy technologies to electric utilities, and its industrial, institutional and commercial customers. PowerSecure provides products and services in the areas of distributed infrastructure, storage and renewables, energy efficiency and utility infrastructure. The company is a pioneer in developing distributed infrastructure power systems with sophisticated smart grid capabilities and microgrid controls.

This report details the Southern Company system's actions to address GHG emissions, including information that was previously submitted to the Carbon Disclosure Project (CDP), and offers a single, comprehensive look at the system's challenges, opportunities and progress related to GHG emissions.

Leadership Oversight [1]

Southern Company's environmental affairs director is responsible for environmental programs, including GHG policy activities, for the Southern Company system. The environmental affairs director reports to the environmental and system planning vice president, who reports to the chief operating officer (COO), who reports to the chairman, president and chief executive officer (CEO) of Southern Company.

Overall environmental leadership is provided by the Southern Company management council, a team of senior officers responsible for setting and reviewing corporate policies and key strategies and evaluating the company's performance. The management council is made up of Southern Company's CEO; COO; executive vice president and chief financial officer; president of external affairs; executive vice president, general counsel and chief compliance officer; executive vice president and chief human resources officer; and the CEOs of each operating company and Southern Company Services. The full

[1] The information in the report that corresponds to the specific questions included in CDP's 2017 Climate Change Information Request is footnoted throughout the report. For the "Leadership Oversight" section, CDP's 2017 Climate Change Information Request questions: 1.1, 1.1a, 2.3f are answered.

Alabama Power's Plant Gaston

Southern Company board of directors also reviews the company's environmental policy activities. The nuclear/operations committee of the board has general oversight responsibilities regarding significant information, activities and events related to the system's operations, including significant environmental policy and planning issues. This committee regularly reports to the full board.

Business Strategy Integration [2]

The Pool

Alabama Power, Georgia Power, Gulf Power, Mississippi Power and Southern Power operate as an integrated system pursuant to the Southern Company system Intercompany Interchange Contract (IIC), an agreement on file with the Federal Energy Regulatory Commission (FERC). The IIC provides a framework whereby generating resources of the operating companies are operated in a coordinated, integrated fashion to reliably and economically serve their aggregate firm-load obligations, as well as to engage in shorter-term opportunity transactions in the wholesale markets. The IIC is administered by Southern Company Services, which acts as the agent for the operating companies in relation to Pool-related activities and processes.

The concept of economic dispatch, which seeks to minimize total system production cost, is a fundamental premise of the Pool. The generating assets of all the operating companies in the Pool are committed and dispatched as a single system, without regard to operating company ownership. Subject to reliability considerations and operational limitations, generation assets with the lowest variable costs are dispatched during each hour to meet the aggregate load obligations of the system. The goal of this process is to minimize the total cost of energy every hour, which benefits customers of all the operating companies. The IIC sets forth methodologies and procedures for an after-the-fact accounting of system dispatch, so that each operating company realizes the economic benefit of its owned resources and receives its proportionate share of other costs and revenues resulting from pooled operations.

[2] *CDP 2017 Climate Change Information Request questions: 2.1, 2.1a, 2.1b, 2.1c, 2.2, 2.2a.*

Environmental Compliance Planning

The operating companies of the Southern Company system develop their environmental compliance strategies on a coordinated basis, using inputs and expertise from several organizations across the system. These groups represent environmental and governmental affairs, planning, fuels, engineering, finance, operations, communications, generation and research functions. As described below, the process entails a series of meetings, presentations and discussions, where requirements, modeling data, emissions information, emissions technologies, costs, schedules and other considerations are examined in detail. While participating in this coordinated planning process, each operating company retains the right and responsibility to review and approve its own compliance plans and strategies.

Gathering all available knowledge about current and possible future local, state, regional and national environmental requirements is critical. The future requirements may be in the form of legislation that will result in future rulemakings or in the form of proposed rules that must go through the rulemaking process to become final. For many rules, the possibility that litigation will result in changes to the rule creates additional uncertainty. The forecast of impacts of the requirements on generating plants is formally refreshed at least annually.

To forecast the impacts of requirements on generating plants, various assumptions must be made regarding generating units, including possible responses by the Southern Company operating companies and other systems across the nation to existing and future environmental requirements, in addition to changes in electricity demand. These assumptions include unit operating characteristics such as heat rates, capacity, emission rates, fuel characteristics and costs, allowance prices for market-based programs, emission limits and environmental requirements, control technology options and costs and future generation demand.

To appropriately consider uncertainty, a scenario process is employed by the Southern Company system for long-term resource planning. A range of planning scenarios is developed and modeled. This range is established through the work of a coordinated planning team consisting of internal subject matter experts and company planning managers. The analytical work is supported by external expert inputs with key parts of the analysis conducted with an external consultant. Planning scenarios identify important drivers in the ongoing evolution of the energy industry, including fuel markets, possible carbon dioxide (CO_2) policies and other environmental issues, economic growth and technology development.

The scenarios consider multiple views of CO_2 policies and fuel prices. Incorporating a coordinated approach, the operating companies analyze the scenarios using a fully integrated multisector energy-economic model. Model outputs characterize the evolution of the U.S. energy economy – including electricity, transportation, manufacturing, industrial, commercial and residential – for each of the scenarios. The interconnected nature of these sectors is captured through the system's modeling approach. For example, higher CO_2 and fuel costs would increase electricity prices and tend to reduce growth in overall economic activity, including reduced growth in electricity sales. Moreover, CO_2 legislation or regulation places costs and restrictions on CO_2 and other GHG emissions. These costs and restrictions, along with varying projections of fuel prices, would shift generation investment choices through retirements of existing capacity, installation of new environmental control technologies and construction of new replacement capacity. These and other such interrelated factors are considered in the system's scenario modeling process.

The application of control technology is dictated initially by the anticipated environmental requirements for each specific generating plant and/or unit. In some cases, the plant or unit emission-control requirements are mandated. In other cases, such as the market-based program for sulfur dioxide established to address acid rain, utilities can choose the most cost-effective option: fuel switching, applying control technology or purchasing emission allowances.

Customer impacts must be at the heart of decision-making, and the resulting strategy must consider a range of potential outcomes. These impacts include the direct cost effectiveness of the strategy as compared to alternative strategies, as well as local community impacts such as jobs and taxes. Some units and plants may not be able to achieve required emission reductions in a cost-effective manner, resulting in the need to switch fuels, find alternate methods to comply or retire. If emission controls are mandated for a specific unit, then the economic value of the generating asset, including future operating costs, must be considered to determine whether it is in the best interest of customers to apply the technology or whether it is better to retire the generating asset and replace it with another resource. The decision process reviews the cost-effectiveness of each feasible option for each unit. After the process is completed and analyzed across various planning scenarios, a strategy is compiled on a unit level and reviewed annually based on the most current information.

One major goal of the environmental planning process is to maintain flexibility by including as much information as possible before making final decisions. If allowed under the regulations, controls are applied to the most cost-effective units first. A key advantage of this process is that it allows decision-making on an incremental basis. While the strategy includes emission-control plans for the next 10 years, final decisions on specific pollution-control projects are not made until commitments are required for construction to commence early enough to meet any required compliance date. While controls may be planned on a particular unit, no firm commitment to that plan will be made until necessary to assure the emission control equipment is in place and operational when needed. This flexibility enables each operating company to adapt to changing requirements and keep costs low for customers.

Customer impacts are at the heart of planning for the system's environmental compliance strategy and fuel mix.

Weather

The operating results of the operating companies are affected by weather conditions that may fluctuate seasonally or interannually. The Southern Company system is aware of the regions' climates and broad range of weather conditions that could impact its operations and businesses. Significant weather events, such as hurricanes, tornadoes, floods and droughts, have at times resulted in substantial damage to or limited the operation of the system's properties. Not surprisingly, the occurrence of such events can negatively impact results of operations and financial condition.

Electric

Electric power supply is generally a seasonal business. In many parts of the country, demand for power peaks during the summer and winter months with market prices also peaking during those periods. As a result, the overall operating results of the Southern Company system may fluctuate substantially on a seasonal or even annual basis.

Volatile or significant weather events could result in substantial damage to the system's transmission and distribution lines. The system has significant investments in the Atlantic and Gulf Coast regions that could be affected by major storm activity.

Further, severe drought conditions can reduce the availability of water and could restrict or prevent the operation of certain generating facilities.

Each operating company maintains a financial reserve to cover the cost of damages from weather events to its transmission and distribution lines and the cost of uninsured damages to its generating facilities and other property. In the event an operating company experiences any of these weather events, natural disaster or other catastrophic event, recovery of costs in excess of reserves and insurance coverage is subject to the approval of its state public service commission (PSC). While the operating companies should be entitled to recover prudently incurred costs resulting from such an event, any denial by the applicable state PSC or delay in recovery of any portion of such costs could have a material negative impact on the Southern Company system's results of operations, financial condition and liquidity.

Damage caused by significant weather events within the Southern Company system service territory may result in reduced customer demand for electricity for extended periods and, potentially, a drop in the number of connected customers.

Natural Gas

Southern Company Gas currently owns and operates three non-utility underground natural gas storage facilities. The facilities have a combined capacity of approximately 30 billion cubic feet (Bcf) of working gas and consist of one depleted reservoir field and two salt dome facilities. Southern Company Gas' utility Nicor Gas also operates eight natural gas storage reservoirs in Illinois that provide 130 Bcf of working gas storage.

Underground natural gas storage allows for the increased and more efficient utilization of natural gas by better balancing seasonal and daily supply and demand. Underground natural gas storage also allows for the uninterrupted usage of natural gas during times of extreme temperatures, natural disasters and unforeseen accidents.

Torrential showers, tornadoes and powerful winds struck the southeast in early 2017 affecting over 250,000 customers.

The storage industry faces a variety of new regulations designed to provide for safe operations of underground natural gas storage facilities. Emerging regulations address the integrity management of storage wells and underground reservoirs, as well as standards related to determining and limiting fugitive methane emissions. Southern Company Gas is committed to following these new regulations and continuing its record of safe operations.

Greenhouse Gas Emissions [3,4]

As shown in Figure 1, the Southern Company system's GHG emissions have decreased since 2007. Without federal mandates, total annual emissions in 2016 were approximately 27 percent lower than 2005 levels.

The emissions shown in this report are based on electric generation units and electricity and natural gas transmission and distribution systems for which the Southern Company system has financial control. For 2016, the Southern Company system's GHG emissions were approximately 100 million metric tons

[3] This report describes GHG Emissions from the Southern Company systems' wholesale generating portfolio. To the extent facilities identified below generate environmental attributes, including renewable energy credits (RECs), the owners of such attributes generally retain the right to use them to serve customers or to sell them to third parties. [4] CDP's 2017 Climate Change Information Request questions: 3.1, 3.1f, 3.3, 4.1, 7.1, 7.2, 7.3, 7.4, 8.1, 8.2, 8.5, 8.6, 8.6a, 8.6b, 9.1, 9.2,9.2a, 9.2b, 9.2c, 9.2d, 12.1, 12.1a, 12.3.

GHG Emissions
(based on financial control)

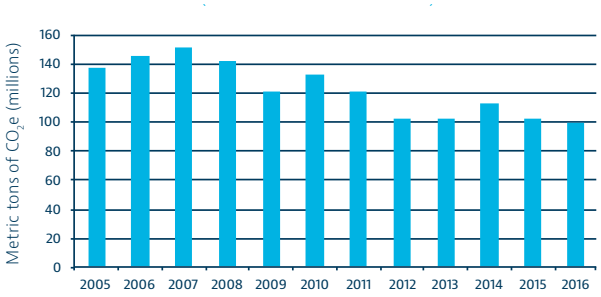


Figure 1, *Southern Company system's CO_2e emissions: 2005 – 2016 based on financial control. Data reported from 2005 – 2015 includes emissions by Southern Company's electricity generation system. Data reported in 2016 includes emissions by Southern Company's electricity generation and natural gas distribution systems.*

of carbon dioxide equivalent (CO_2e). This represents an approximately 2 percent decrease from the Company's 2015 emissions.

The system's GHG emissions are calculated using methods required by the U.S. Environmental Protection Agency (EPA) GHG Reporting Program (GHGRP), including the GHGRP's global warming potentials and emission factors. The emissions reported under the GHGRP are verified by EPA and based on units for which the system has operational control.[5]

The majority of the system's electricity generation GHG emissions are measured with continuous emissions monitoring systems (CEMs) according to EPA's 40 CFR (Code of Federal Regulations) Part 75 specifications. Emissions not monitored by CEMS are calculated based on GHGRP methodology. Several electricity generating units operated by Southern Company subsidiaries are owned or co-owned by various other companies.

The majority of the Southern Company system's GHG emissions result from the use of fossil fuels to generate electricity, which results in emissions of three GHGs: CO_2, methane (CH_4) and nitrous oxide (N_2O). More than 99 percent of the system's electric generation GHG emissions are CO_2. Alabama Power, Georgia Power, Gulf Power, Mississippi Power, Southern Power, Southern Company Gas, and Southern Electric Generating Company, all have emissions of CO_2, CH_4 and N_2O.

The system's transmission and distribution (T&D) organizations also have emissions of the GHG sulfur hexafluoride (SF_6). SF_6 is a colorless, odorless, nontoxic, nonflammable and extremely stable

2016 GHG Emissions by Business Division
(based on financial control)

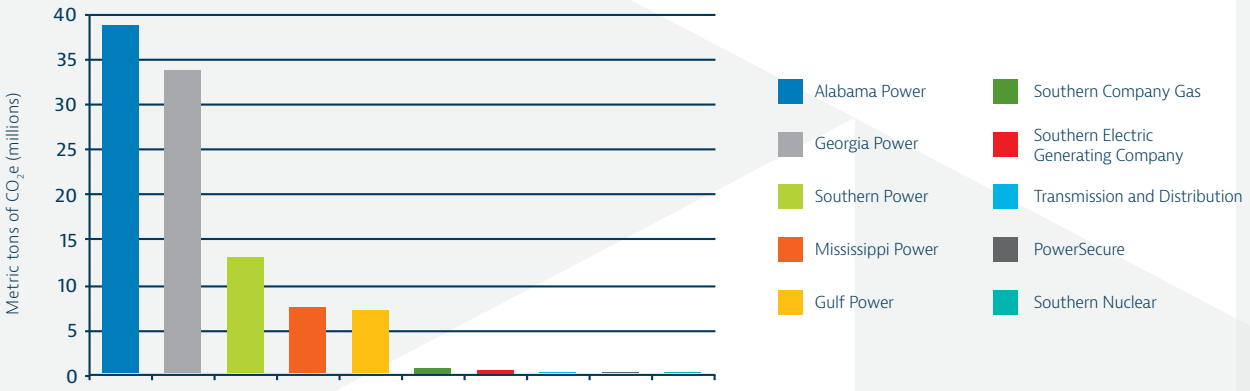


Figure 2, *The Southern Company system's 2016 GHG emissions by business division based on financial control*

[5] *EPA's GHG Reporting Program is located at 40 CFR (Code of Federal Regulations) Part 98. Emissions reported to EPA on an operational basis, as well as on a facility level, can be found on EPA's Facility-Level GHG Emissions Data Tool: http://ghgdata.epa.gov/ghgp/main.do.*

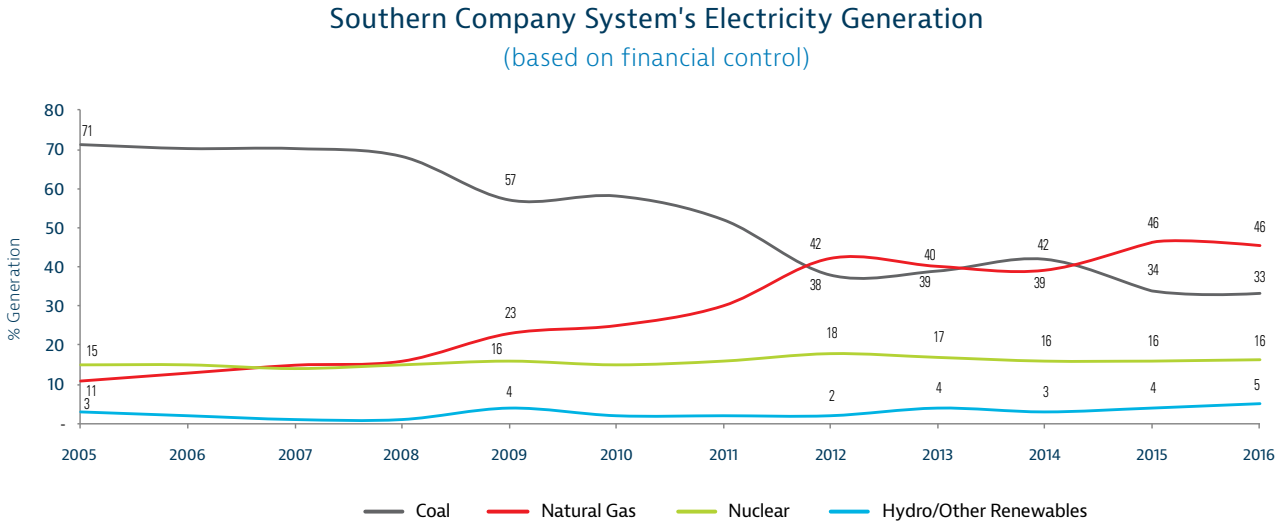


Figure 3, *Southern Company system's electricity generation since 2005*

insulating gas that is essential for the safe operation of T&D switchgear across the U.S. The system has used SF_6 in switchgear since the 1970s and currently has a system capacity of approximately 530,000 pounds. Annual emissions of SF_6 have been reduced by more than 90 percent since the 1990s. SF_6 represents the smallest percentage of the generation system's GHG emissions.

PowerSecure produces GHG emissions through the combustion of both diesel fuel and landfill gas in a series of stationary combustion sources (engines). PowerSecure's total GHG emissions per site are less than the reporting threshold mandated in the GHGRP. PowerSecure's diesel engines are EPA Tier 4 final certified engines that meet the most stringent and cleanest emission requirements and therefore, emissions remain very low.

GHG Emissions from Electricity Generation

Southern Company owns a growing generation business with approximately 116,300 miles of power lines and 46,000 megawatts (MW) of generating capacity through subsidiaries Alabama Power, Georgia Power, Gulf Power, Mississippi Power and Southern Power.

The Southern Company system's electricity generation mix from 2005 to 2016 is shown in Figure 3. In 2005, the system generated about 71 percent of its electricity from coal and 11 percent from natural gas. For the year 2016, with low natural gas prices, the system generated 33 percent of its electric power from coal and 46 percent from natural gas. A diverse generating fleet provides Southern Company the ability to generate electricity in the most economical manner and to provide protection from volatile fuel price swings all while keeping the cost of electricity low for the benefit of customers.

Variability in GHG emissions is the result of multiple factors, such as the economy, weather and fuel prices. Although a slight increase in overall electricity generation demand occurred in 2016, an overall decrease in emissions was achieved due to the shift from coal toward increased natural gas and renewable generation. Because of lower natural gas prices, the Southern Company system's generation from natural gas has increased. With natural gas combustion emitting approximately half the GHG emissions of coal, lower overall GHG emissions is the result. As the economy changes and/or as natural gas prices increase, future emissions could be higher than historical levels.

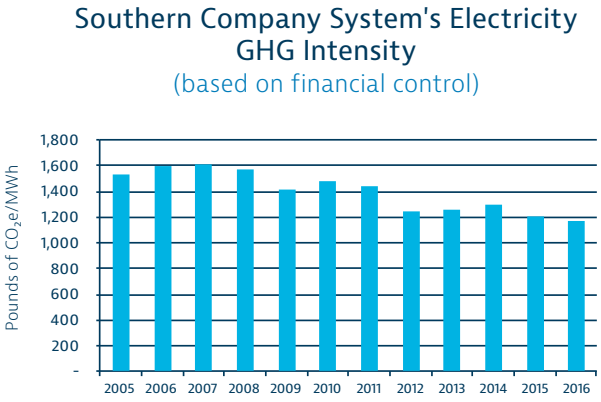


Figure 4, *The Southern Company system's electricity generation lbs CO_2e/MWh: 2005 – 2016*

The change in the Southern Company system's electricity generation mix is reflected in GHG emissions intensity. In 2016, GHG intensity on a financially controlled basis was about 1,172 pounds (lbs) of CO_2e per megawatt hour (MWh).

While the Southern Company's electricity generation system does not currently have a GHG emissions reduction target, the system is committed to continuing the robust research, development and deployment of new technologies to reduce GHG emissions. The system's commitment to the environment – demonstrated through actions to reduce environmental impact, environmental stewardship and efforts to protect valuable natural resources – is a core value that applies to every employee, every day.

GHG Emissions from Natural Gas Distribution

Natural gas distribution emissions represent a small share of total U.S. GHG emissions. As little as 0.1 percent of natural gas delivered nationwide is emitted from local distribution systems.

Methane is the primary GHG emitted from the Southern Company Gas distribution system. The primary sources of CH_4 emissions attributable to the Southern Company Gas distribution system are aging pipe, pipeline valves and pressure relief activities during repair work and equipment. Aging bare steel and cast iron pipe have the highest potential to develop leaks in a natural gas system.

For nearly two decades, Southern Company Gas has reported natural gas CH_4 emissions through EPA's Gas STAR voluntary reporting program and through EPA's GHGRP since 2011. Figure 5 shows a summary of Southern Company Gas' EPA reported fugitive CH_4 emissions from 2011-2016.

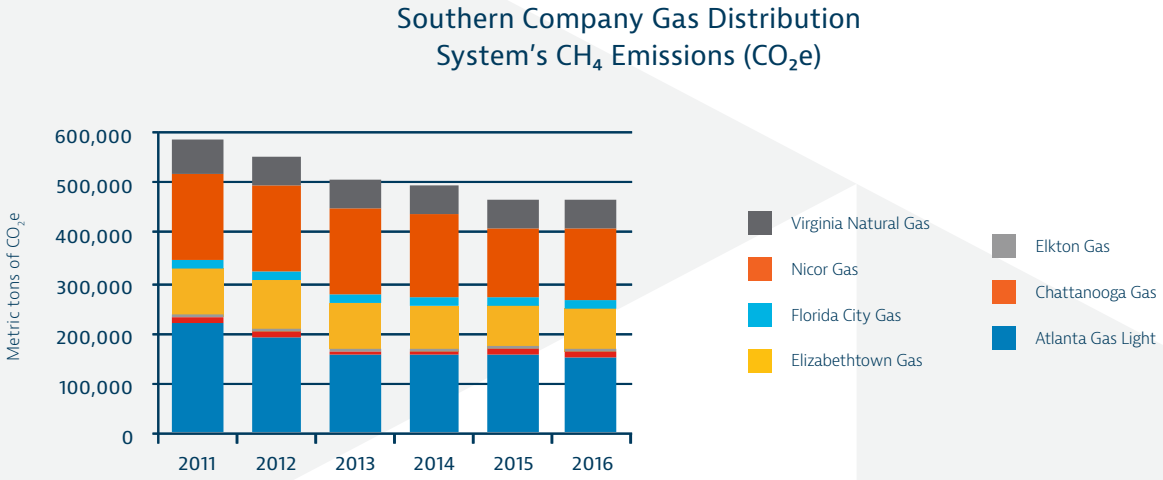


Figure 5, *Methane emissions from Southern Company Gas distribution systems*

In 2014, Southern Company Gas voluntarily elected to establish a total GHG emissions baseline using a methodology that exceeds EPA reporting requirements. The more robust methodology was developed as part of Southern Company Gas' involvement as a 2014 founding member in Our Nation's Energy (ONE) Future, a coalition of leading companies with operations in every part of the natural gas value chain. ONE Future companies aim to achieve a voluntary goal of reducing methane emissions to 1 percent or less by 2025. The methodology includes those sources captured in EPA's GHGRP, EPA's National Inventory (GHGI) and additional emission sources which are not included by EPA.

Based on the ONE Future methodology, distribution of natural gas, in 2016, accounted for 92 percent of Southern Company Gas' CH_4 emissions, or approximately 910,000 metric tons. Gas storage and compression accounted for 7 percent. Other contributors were liquefied natural gas (LNG) storage, transmission and compression, which accounted for less than 1 percent of Southern Company Gas' CH_4 emissions. Total 2016 GHG emissions for Southern Company Gas were approximately 6 percent lower than 2014 levels.

Southern Company Gas has been a leader in pipeline replacement since the 1990s, putting it at the forefront of reducing GHG emissions. The company has replaced much of its older pipe with state-of-the-art corrosion resistant pipes, and it reports progress each year through public utility commissions and other government agency filings. Since 1998, Southern Company Gas has replaced 5,300 miles of bare steel and cast iron pipe and, as a result, has removed 2.5 million metric tons of CO_2e from its natural gas distribution system.

Future Emissions [6]

It is uncertain how the Southern Company system's GHG emissions will change in the future. This is because GHG emissions are based in part on factors such as energy demand, the state of the economy, weather, fuel prices and the availability

National Carbon Capture Center

of cost-effective, commercial-scale technology. To reduce GHG emissions while continuing to provide clean, safe, reliable and affordable energy to customers, the Southern Company system uses a diverse generating mix with an emphasis on new, innovative energy technologies and energy efficiency. Low-emitting, cost-effective electricity generation and new solutions for the production, delivery and end-use of energy must be researched, developed and deployed.

The Southern Company electricity generation system has managed $2.3 billion in research and development investments since 1969 to deploy new technologies and since 1990 has invested $11.9 billion in environmental control technologies.

21st Century Coal

The U.S. is home to an abundant supply of coal, which has served customers' energy needs as a low cost and reliable fuel source over time. With 28 percent of the world's coal reserves – more than any other country in the world[7] – coal is currently used to generate over 30 percent of the nation's electricity and is widely deployed around the world.

[6] *CDP 2017 Climate Change Information Request questions: 3.1f, 3.3a, 3.3b, 3.3c, 8.9.*
[7] *http://www.fossil.energy.gov/education/energylessons/coal/gen_coal.html.*

To keep electricity costs affordable while meeting the demand for lower CO_2 emissions, the nation must invest in the research, development and deployment of new technologies, such as carbon capture, utilization and storage (CCUS).

Southern Company's leadership and commitment to developing 21st century coal technologies for the benefit of customers is exemplified by several major initiatives. The Southern Company system manages and operates the U.S. Department of Energy's (DOE) National Carbon Capture Center (NCCC). Located in Wilsonville, Ala., the center serves as a world-class test facility for evaluating and advancing the development of cost-effective CO_2 capture technologies from both coal and natural gas power generation. Hosting technology developers from around the world – including over 30 government, industry, university and research organizations from seven countries – the NCCC helps bridge the gap between laboratory research and large-scale demonstrations. The facility offers realistic testing conditions with the infrastructure necessary to simultaneously test multiple technologies, while generating meaningful data that can accurately verify cost and performance.

The NCCC also co-founded and chairs the Carbon Capture International Test Center Network (ITCN), a global coalition of facilities working on the research, development and commercial deployment of carbon capture technologies. Because reducing CO_2 emissions requires international solutions, the center has been active in establishing international collaborations and knowledge sharing through the ITCN, with ongoing efforts in Australia, Canada, the European Union, Japan, Korea and the Middle East.

Southern Company also joined DOE and other worldwide partners in a 25-MW demonstration of carbon capture on a pulverized-coal power plant at Alabama Power's Plant Barry. The facility can capture up to 150,000 tons of CO_2 annually for permanent underground storage. The captured CO_2 is transported through a 12-mile pipeline and injected and permanently stored 9,500 feet underground in a deep geologic formation. The project has captured more than 250,000 metric tons of CO_2, and has transported and injected more than 125,000 metric tons of CO_2. The project received numerous accolades, including three of R&D Magazine's R&D 100 awards. In addition, FuelCell Energy and ExxonMobil have announced the selection of the Plant Barry project as the location to jointly test new fuel cell carbon capture technology.

Southern Company and its partners, KBR Inc. and DOE, jointly developed a state-of-the-art coal gasification technology, known as Transport Integrated Gasification (TRIG™), which is designed to produce electricity with lower carbon emissions. TRIG™ technology is designed to use low-cost, low-rank coals that make up about half of the world's proven coal reserves. In addition, this technology is designed to have lower nitrogen oxide, sulfur dioxide and mercury emissions than traditional pulverized coal technology.

The nation's first commercial-scale deployment of TRIG™ is currently being implemented at Mississippi Power's Kemper County energy facility. The 582-MW integrated gasification combined-cycle (IGCC) project is designed to cleanly produce electricity with carbon emissions comparable to a similarly sized natural gas combined-cycle plant, and will use an otherwise unused fuel – locally mined lignite – that is not subject to the price volatility and transportation costs associated with other fuel sources. The project is expected to capture at least 65 percent of CO_2 emissions and the captured carbon is expected to be beneficially reused in enhanced oil recovery.

Also in Mississippi, Southern Company and partners successfully conducted a carbon storage pilot injection study at Mississippi Power's Plant Daniel. In this DOE-funded project, 3,000 metric tons of CO_2 were injected into a deep saline geologic formation 8,500 feet below the ground surface and monitored to demonstrate permanent geologic storage.

Other Southern Company supported storage activities include a Southeast Regional Carbon Sequestration Partnership project to study injection of CO_2 into unmineable coal seams near Tuscaloosa,

Kemper County energy facility will use native Mississippi lignite and is expected to generate electricity with carbon emissions comparable to a similarly sized natural gas combined-cycle.

Ala. and a CO_2 pilot injection project in the Citronelle Oil Field, in south Alabama, to examine the potential beneficial use of CO_2 for geologic storage with enhanced oil recovery operations. Southern Company also hosted a geologic storage site-characterization project, in partnership with the University of Alabama at Alabama Power's Plant Gorgas, and partnered with the University of Alabama at Birmingham to develop a CO_2 storage laboratory to evaluate the physical properties of rocks for geologic storage and train students in carbon storage science and engineering.

Most recently, Southern Company, Mississippi Power and others have teamed up with the Southern States Energy Board as a host site for the DOE's CarbonSAFE (Carbon Storage Assurance and Facility Enterprise) program to drill three site-characterizations wells surrounding the Kemper County energy facility. The project is designed to evaluate the geologic storage capacity of saline formations surrounding the plant.

Southern Company has also recently partnered with the Electric Power Research Institute (EPRI) and DOE to host a site characterization and geologic modeling project of CO_2 storage in saline reservoirs at Gulf Power's Plant Smith in Florida.

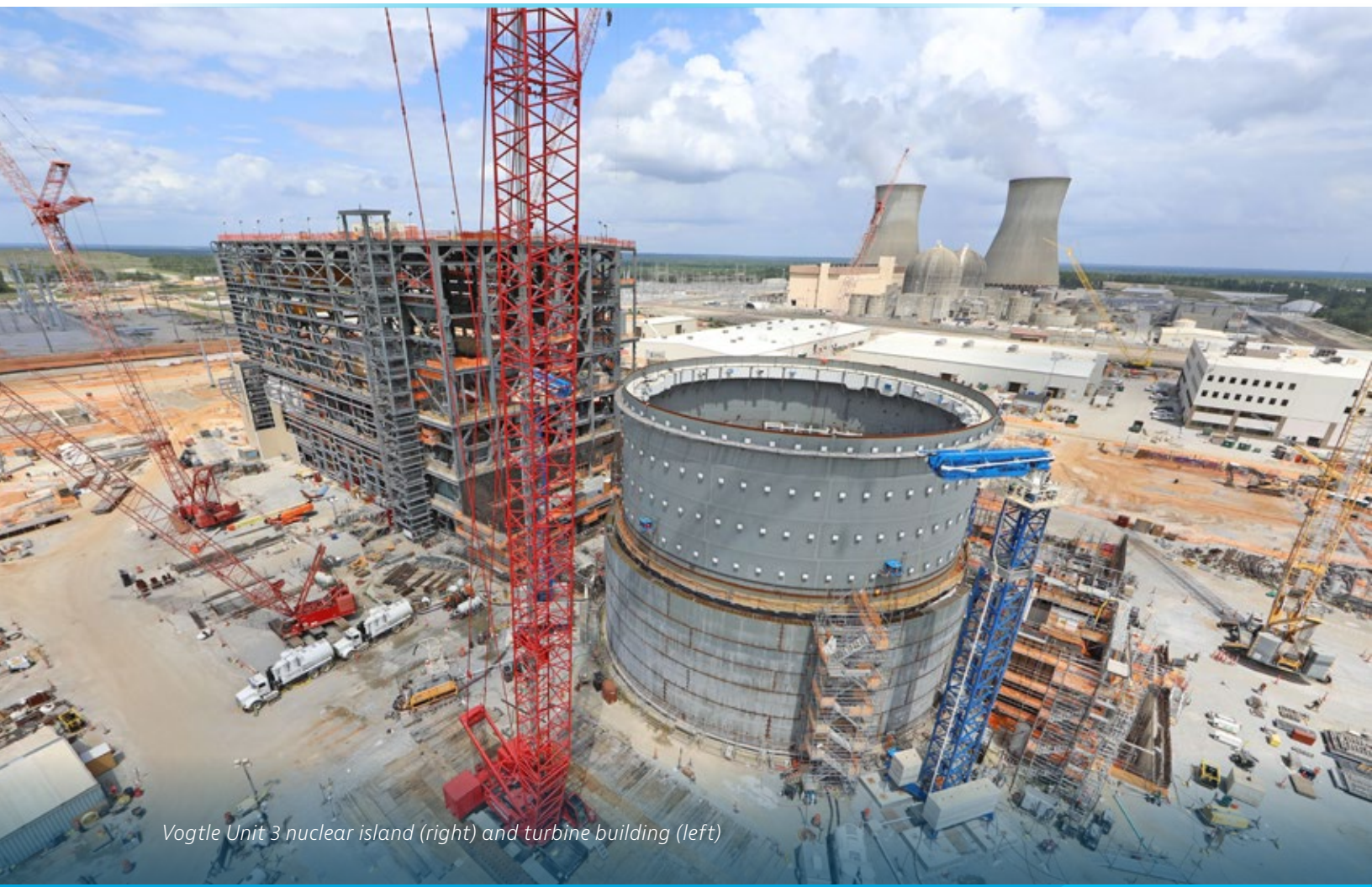
In addition, Southern Company is involved in the Edison Electric Institute (EEI) Carbon Capture and Sequestration Task Force and the Carbon Sequestration Council, which are working on behalf of the industry toward a regulatory framework for carbon technologies. Southern Company is a member of the Global Carbon Capture Storage Initiative and the International Energy Agency's GHG program. Southern Company also has played a leadership role in the development of International Organization for Standardization standards for both geologic storage and storage via enhanced oil recovery.

Nuclear Energy

Nuclear energy, which currently accounts for about 20 percent of the U.S. energy mix, must continue to be a part of the full portfolio of energy resources. Nuclear energy is emission-free, safe and increases America's fuel diversity using a low-cost, reliable, 24/7, abundant resource.

Nuclear energy facilities are by far the largest source of electricity that do not emit GHGs and other air emissions. About 63 percent of all American emission-free electricity is nuclear. In 2016, nuclear power supplied about 16 percent of the Southern Company system's electricity generation from three plants: Vogtle and Hatch in Georgia and Farley in Alabama. Southern Company is committed to the safe operation of its nuclear energy facilities with equipment and systems that meet rigorous Nuclear Regulatory Commission safety and design regulations.

Southern Company, through its Georgia Power subsidiary, is currently constructing two of the nation's first new units in more than three decades near Augusta, Ga. The construction of Plant Vogtle units 3 and 4 is intended to help achieve both the nation's goal of energy security and the company's goal of a diverse, cost-efficient portfolio of electricity sources. Upon completion, Plant Vogtle units 3 and 4 would provide a total of 2,200 MW (approximately 1,000 MW for Georgia Power) of carbon-free nuclear energy – enough electricity to power more than half a million homes and businesses – and incorporate the Westinghouse AP1000 technology – the newest generation of nuclear technology in the world today. Plant Vogtle units 3 and 4 represent one of the largest infrastructure projects currently underway in the U.S. Southern Company has also been awarded up to $40 million from DOE to explore, develop and demonstrate advanced nuclear reactor technologies through subsidiary Southern Company Services. The effort will be managed through a new public-private partnership with TerraPower, Oak Ridge National Laboratory, the EPRI and Vanderbilt University. Housed at TerraPower's laboratories in Bellevue, Washington, and at DOE's Oak Ridge National Laboratory, in Oak Ridge, Tennessee, the research will bolster the development of molten chloride fast reactors, an advanced concept for nuclear generation.



Vogtle Unit 3 nuclear island (right) and turbine building (left)

Natural Gas

Electricity Generation

Technological innovation in production techniques has increased the amount of natural gas available to help meet America's energy needs while lowering fuel prices. As a result, the Southern Company system has more frequently dispatched natural gas in place of coal, lowering fuel costs to customers and demonstrating the flexibility of its diverse electricity generating fleet.

Based on recent data, the Southern Company system's consumption of natural gas places it as the second-largest end-use consumer of natural gas in the U.S. In the past decade, Southern Company has more than tripled its use of natural gas.

Due to fuel price uncertainty, natural gas should be utilized as part of a diverse portfolio of generation resources – not as a stand-alone electricity generation resource. Though natural gas reserves are now more abundant, transportation challenges remain. In addition, the growth of natural gas exports could increase fuel prices in the U.S. by reducing the supply available to the domestic market. These and other challenges must be addressed if natural gas generation is to become an even larger part of America's energy mix.

Distribution

Southern Company Gas continues to work diligently with state public service commissions to remove aging pipe, the primary source of methane emissions, from its system. All seven local distribution companies continue to achieve methane emission reductions through system modernization. For example:

- Virginia Natural Gas is completing a 10-year plan, Steps to Advance Virginia's Energy, to replace more than 200 miles of bare steel, cast iron and vintage plastic gas mains and service lines in Virginia. To date, 186 miles have been retired.
- Chattanooga Gas is currently replacing more than 110 miles of aging gas main pipe with technologically advanced plastic and steel pipes in Tennessee. To date, 105 miles have been retired.
- Elizabethtown Gas has completed 100 miles of gas mains and services replacement in a multi-year Utility Infrastructure Enhancement replacement program since 2012. The utility's four-year Accelerated Infrastructure Replacement program to replace bare steel and cast iron pipe has retired 83 miles to date and is expected to be completed in 2017. Elizabethtown Gas has also requested approval of a 10-year, $1.2 billion plan called Safety, Modernization and Reliability Tariff to replace 630 miles of vintage pipe in New Jersey.
- Nicor Gas is executing a nine-year infrastructure replacement program, Investing in Illinois, to replace hundreds of miles of aging pipe and upgrade infrastructure in northern Illinois. To date, more than 320 miles have been retired.
- Florida City Gas is moving forward with the Florida Safety Access and Facility Enhancement Program , a 10-year plan to move 254 miles of gas main currently located in rear easements. To date, more than 14 miles have been retired.
- In 2013, Atlanta Gas Light completed a 15-year program of replacing bare steel and cast iron pipes with state-of-the-art materials, and was later ranked first by the American Gas Association (AGA) as a best practice for replacing more miles of pipe than any company in the eastern U.S. Atlanta Gas Light has also completed the first phase of its Integrated Vintage Plastic Replacement Program to replace approximately 750 miles of plastic pipe installed between 1965 and 1983. To date, 621 miles have been retired.

In 2003, Southern Company Gas formed a new specialized business unit, Energy Services, which helps federal clients improve energy efficiency while reducing their carbon footprint. The group determines the best energy-efficient solutions encompassing lighting, HVAC, control systems, water conservation, combined heat and power, fuel conversion and renewable energy. These solutions are in high demand due to two factors: 1) federal energy efficiency executive orders and directives and 2) the financing funding mechanism through Utility Energy Services Contracts (UESC). The CO_2 emissions reduced from Energy Services client projects from 2004 – 2016 totaled approximately 57,000 metric tons.

Southern Company's subsidiary Southern Power is operating, acquiring or developing solar projects in six states.

Other significant methane emissions reduction activities planned by Southern Company Gas include:

- Designating program oversight to set strategy, manage resources and establish internal culture
- Building on current practices of system renewal, reduced venting, design and equipment considerations
- Continuing industry leadership with ONE Future participation, AGA involvement and guidance on standardization methods
- Continuing to lead volunteer methane reduction efforts

Southern Company Gas is also a founding member and 21-year participant in the voluntary U.S. EPA Natural Gas STAR program, which promotes methane emissions reductions. Southern Company Gas has tracked best management practices and EPA developed emissions factors and as a result, customers have saved $8.9 million and CO_2e emissions have been reduced by 723,000 metric tons since 1993.

Renewable Energy [8]

Southern Company is committed to developing renewables as part of the full portfolio of generation resources and is one of the nation's leaders in developing renewable energy. The Southern Company system has placed in service or has planned for over 7,000 MW of renewables since 2012.

Furthering the development of renewables, the Southern Company system currently has more than 20 research and development projects underway to determine the potential of different renewable resources and technologies. Areas of research include solar photovoltaic (PV) deployment, operation and maintenance, solar resource forecasting, wind generation, biomass-fueled power generation, bulk-power system integration of variable generation sources, energy storage and the integration of storage with solar PV technology, and integration and operation of distributed renewables on the grid. Southern Company is pursuing the development of cost-effective renewable generation resources that will benefit customers and drive innovation.

Solar

The Southern Company system is one of the largest owners of solar PV facilities in the U.S., generating electricity that can be used to serve customers or sold to third parties, with or without the associated renewable energy credits (RECs).

[8] Southern Company's subsidiaries may self-build renewable generation and/or enter into power purchase agreements (PPAs) for energy and environmental attributes from generating facilities fueled by renewable resources. The companies retain the right to use the energy delivered as renewable energy for customers and retire the environmental attributes, as well as the right to sell the energy and the environmental attributes, separately or bundled together, to third parties at their sole discretion.

The Southern Company system also serves as the only energy company in the nation to partner with the U.S. Army, U.S. Navy, U.S. Marine Corps and U.S. Air Force to develop 19 innovative renewable energy generation projects, the largest number of military base projects of any energy company in the country. Through March 2017, Southern Company and its subsidiaries, Alabama Power, Georgia Power, Gulf Power and Mississippi Power, have military solar projects online or under contract totaling 365 MW. The partnership with the Department of Defense not only helps meet the military's goals, but also puts solar to work for customers across the Southern Company system, providing options to benefit the military base, federal emergency programs and the communities the system is privileged to serve.[9]

As advances in solar energy continue, the Southern Company system is evaluating solar technologies to help the company determine technology performance and cost effectiveness. The company is also working to identify issues that come with integrating solar onto the electric grid. As part of this effort, performance data from several different PV systems installed at locations across the system are being collected, and the electricity generated from these systems is being fed directly back into company buildings.

Southern Power owns more than 1,700 MW of solar generating capacity at 27 facilities operating or under construction in California, Georgia, Nevada, New Mexico, North Carolina and Texas. Nineteen of these facilities are co-owned by third parties, with Southern Power having the majority ownership.

Georgia Power is pursuing what is currently the largest voluntary solar generation portfolio of any utility in the U.S. with over 850 MW online.[10] The efforts in Georgia have prompted recognition by the Solar Energy Industries Association and Smart Electric Power Alliance (SEPA), formerly the Solar Electric Power Association, with Georgia Power being named to SEPA's Top 10 Utility Solar list. The company was previously named Investor-owned Utility of the Year by SEPA.

Georgia Power headquarters hosts a 44-kilowatt (kW) rooftop demonstration project, which reflects emerging solar technologies and provides the ability to measure and compare the solar project output using a variety of system orientations and optimization factors, including recently installed battery storage technology.

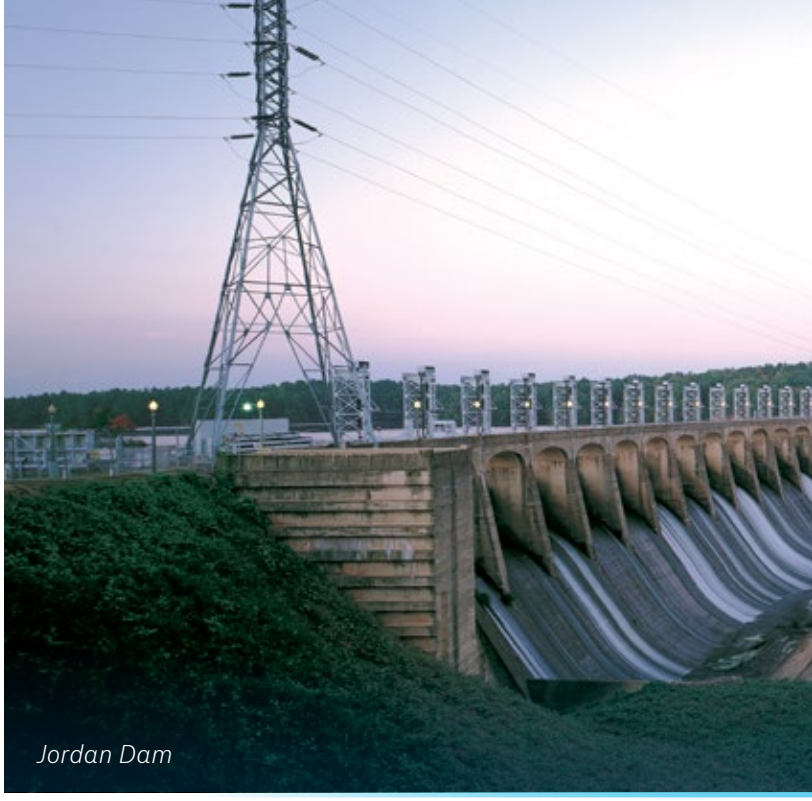
Alabama Power has received approval from state regulators to secure up to 500 MW of generation from renewable resources, including solar, through 2021. This includes a purchase power agreement (PPA) for the full output of a 72-MW solar facility as a part of Alabama Power's Renewable Participation Program, with the majority of the RECs being committed to Walmart Stores, Inc. Alabama Power also owns two solar facilities totaling 17 MW at Anniston Army Depot and Fort Rucker that will begin operations in 2017.

The Southeastern Solar Research Center (SSRC), in Birmingham, Ala., is an example of the system's commitment to finding real solar energy solutions. Through a collaborative effort between EPRI, Southern Company, Southern Research and others, the facility studies the effects of southeastern U.S. weather conditions – such as high levels of heat, humidity, precipitation and pollen – on the performance of solar PV systems in the region. Studies include accelerated aging of PV panels in a laboratory to better predict panel performance and degradation over time. The resulting data is providing insight into the optimal design of solar PV systems for utilities and promoting a better understanding of solar PV applications in the Southeast. A 15-kW demonstration site with seven different PV systems is also installed at an Alabama Power facility in Mobile to continue performance and reliability studies.

Gulf Power has partnered with the U.S. Navy, U.S. Air Force, and solar developers to install a total of 120 MW of utility-scale solar generation at three sites, the first of their kind in Northwest Florida. Construction is currently underway with Gulf Power expecting to accept the energy and RECs from the PPA before the end of Summer 2017.

[9] The respective operating companies retain all rights to the energy and RECs from the military projects, which they can use to serve customers with renewable energy or sell to third parties. [10] Georgia Power purchases only the null energy output from some renewable generating facilities that have contracted to sell energy from their facilities to Georgia Power. The ownership of the associated RECs is specified in each respective PPA, and the party that owns the RECs retains the right to use the RECs.

Southeastern Solar Research Center



Jordan Dam

Mississippi Power has collaborated with solar energy businesses to build more than 100 MW of additional utility-scale solar projects, making the company the largest renewable energy partner in the state. Mississippi Power can serve customers with the solar energy generated, when it makes sense, or sell it and the associated RECs to third parties for the benefit of customers.

A 5-kW, thin-film PV system is installed at Mississippi Power headquarters in Gulfport, along with high-quality weather monitoring equipment that will add to the system's understanding of PV systems and the impact of weather on their performance.

Southern Company Gas Energy Services is implementing an energy conservation and renewable project for a multi-site federal agency in Georgia. The project was awarded to Southern Company Gas subsidiary, Atlanta Gas Light, under a UESC that allows utilities to perform fuel neutral energy conservation, water conservation and renewable projects. The renewable project consists of three distinct solar arrays, including two roof top arrays of 100 kW (AC) and 90kW (AC) and one 249 kW (AC) ground mount system. Renewable energy production began in April 2017 and is expected to generate 650,000 kilowatt-hours (kWh) per year. This is the largest UESC renewable project installed by the Southern Company system on a federal installation.

Wind

While wind generation in the Southeast is challenging, the Southern Company system is importing wind energy from other regions when it is cost-effective. In instances where the delivered price of wind energy to the system's service territory is competitive with other generation alternatives, Southern Company's subsidiaries seek to incorporate those resources into their respective generation portfolios.

Southern Company also has many wind research projects under way, including evaluating the potential of onshore and offshore wind generation. The company is collaborating with the Southeastern Wind Coalition and other partners to deploy sonic detection and ranging devices in the Southeast to validate and improve wind resource databases, including higher altitude data, specific to the Southeast. This information will add to wind data previously collected by the company along the Gulf Coast in Florida and Mississippi. In addition, the Southern Company system is also working to deploy multiple light detection and ranging (LiDAR) devices to obtain wind resource data across Georgia.

Southern Power has acquired eight wind projects – three in Oklahoma, four in Texas and one in Maine

Southern Power owns more than 1,440 MW of wind generating capacity at eight facilities operating or under development in Maine, Oklahoma and Texas.

Alabama Power, Georgia Power and Gulf Power have purchased, or plan to buy, more than 900 MW of wind generation from Oklahoma and Kansas. The companies may use this energy and the associated RECs to serve customers, or they can sell the energy and RECs, together or separately, to third parties.

Georgia Power will also be conducting a study of wind speeds and direction at 200 meter altitudes using LiDAR boxes at three locations throughout Georgia. This study will collect actual wind speeds at high elevations over a two-year period, the results of which may determine a viable source of future wind generation in Georgia.

Hydro

Since its earliest years, the Southern Company system has relied on hydro power to serve customers and communities with one of the cleanest, environmentally safe and affordable sources of renewable energy. Hydro is the lowest-cost energy source available on the system, in that the "fuel" (water) is free and produces zero emissions. Plus, harnessing the power of falling water is a self-reliant process, not dependent upon other systems or fuel infrastructure.

With 33 hydro generating facilities and a combined nameplate generating capacity of approximately 2,800 MW, the system has ranked as high as seventh in the nation for hydro generation.

The Southern Company system completed projects that created an additional 16 MW of incremental hydro capacity. State-of-the-art gate systems at many hydro plants help protect the habitat of marine animals, improve efficiency and create more stable water levels at the reservoirs. The system is also exploring ways to increase hydro capacity through innovations that improve turbine efficiency. In addition, these facilities provide more than 200,000 acres of lakes and more than 5,000 miles of shoreline for recreational use by the public.

Biomass and Landfill Gas

Electricity from sustainably grown biomass can be considered "carbon neutral." Although some CO_2 is emitted during the generation process, it is offset by the amount absorbed while the biomass was growing, thus causing no net increase in CO_2 emissions on a carbon-lifecycle basis.

Switchgrass, sawdust and wood chips are among the most abundant biomass sources available in the Southeast. Southern Company's operating utilities have cofired biomass as part of normal operations at some facilities and have evaluated and will continue to evaluate opportunities to convert existing fossil units to biomass when it makes sense for customers. Landfill gas is a natural byproduct of organic matter decomposition in landfills. While municipal solid waste landfills are the third-largest source of human-related methane emissions in the U.S., they also represent an opportunity to capture and use a significant energy resource. Renewable methane that otherwise would be flared off or burned instead can be collected at the landfill site, processed and treated. Landfill gas can be used to generate electricity or replace fossil fuels for direct use in industrial and manufacturing. It can also be upgraded to pipeline quality gas for use in homes, businesses or alternative fuel vehicles.

Southern Power operates one of the nation's largest wood-fired biomass power plants, 115 MW, in Nacogdoches, Texas.

Nacogdoches Generating Facility

Alabama Power's purchase arrangement with Westervelt Renewable Energy has further diversified the company's mix of fuel sources by providing renewable generation capacity from wood byproducts. This arrangement has given the company opportunities to sell RECs associated with the generation, which helps lower costs for customers.

Gulf Power owns and operates a landfill gas-to-energy facility at the Perdido Landfill in Escambia County, Florida.

Georgia Power has a PPA with Waste Management Inc. for landfill gas to energy and receives the RECs from the project.

Southern Company Gas offers three options for converting landfill gas to energy. One is a turnkey solution in which its subsidiary company, Renewco, partners with a landowner to assess and optimize landfill gas, construct and manage a processing facility that connects to a pipeline, market the gas to end users and obtain the best pricing for the product. The other two options are offered through the company's utilities and are described as bio-methane transportation rates in the transportation section of this report.

Renewco operates a landfill gas plant in Athens, Tennessee. Processing the gas onsite to high British thermal unit pipeline-quality natural gas, Renewco injects the natural gas into an East Tennessee transmission pipeline for use in the renewable compressed natural gas (CNG) transportation market. The resulting renewable natural gas is used to displace wellhead natural gas that otherwise would be consumed.

Distributed Generation

The Southern Company system has a long and successful history of incorporating distributed generation into its energy mix. Southern Company supports distributed generation as a means for customers to meet their energy needs, while also continuing to seek the best ways to serve customers without impacting the local operating utilities'

ability to continue providing clean, safe, reliable and affordable energy to all customers.

Southern Company's operating utilities purchase energy from distributed generation resources such as qualifying facilities, standby generation and other similar programs. The operating utilities also own or buy energy output from cogeneration operations located alongside customer facilities that have large electric and thermal energy needs.

In October 2016, PowerSecure announced a strategic alliance with Bloom Energy, which includes project investment and joint-technology development to provide behind-the-meter energy solutions. PowerSecure also acquired an estimated 50 MW of Bloom Energy Servers under long-term PPAs with high-quality commercial and industrial customers.

Most recently, PowerSecure extended its distributed infrastructure offering by acquiring Power Pro-Tech Services, a Florida-based distributed power system service provider that specializes in the service and installation of distributed power systems including generators, switchgear, solar inverters and fuel cells. Power Pro-Tech will service PowerSecure's existing customers, and is well-positioned to support future expansion of the behind the meter energy solutions offered by PowerSecure.

Within Georgia Power's renewable development regulated business unit, Georgia Power's Rooftop Solar Service program commenced July 1, 2015, and provides enhanced support and education to residential customers interested in installing rooftop solar. Georgia Power's unregulated business unit, Energy Services, is now providing solar installation and sales services to customers interested in installing solar at their home or business.

The system continues to support all forms of distributed generation that are consistent with applicable federal and state policies and that do not result in increased rates for customers who choose not to install distributed generation.

Green Partnerships

The Southern Company system is offering customers increasing amounts of renewable energy from qualified sources, such as wood waste, landfill methane gas, solar, wind and hydro.

Green energy programs provide Georgia Power customers the option of purchasing renewable energy through the company's Simple Solar program by paying a premium in addition to their regular power bill.

Similarly, Alabama Power residential and commercial customers can "green" their energy use by purchasing RECs associated with energy generated from renewable sources.

Gulf Power recently received approval for a community solar program called Energy Share that will allow customers an opportunity to support additional solar energy development in Florida.

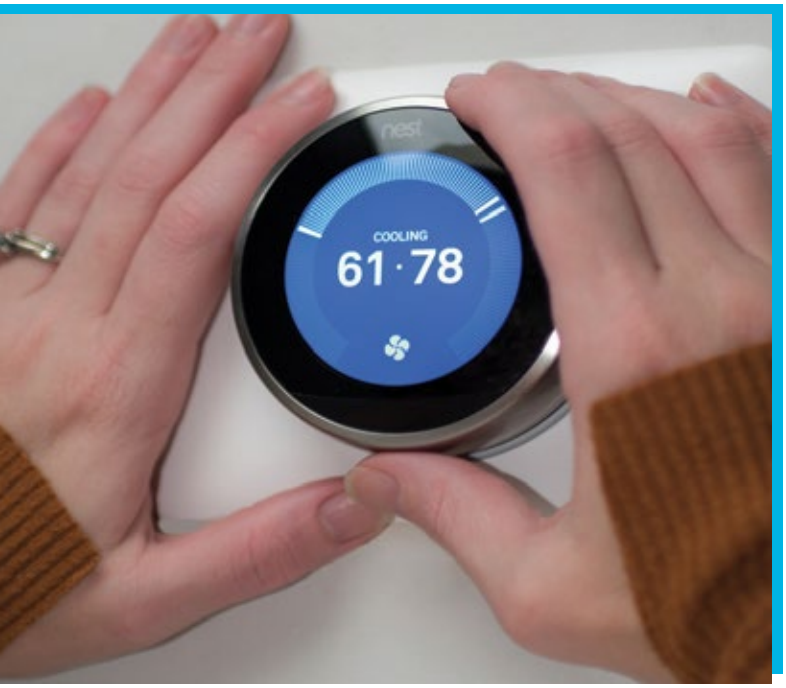
Energy Efficiency

The Southern Company system has a responsibility to operate a reliable, cost-effective array of energy resources that meet customer needs now and in the future. Energy providers are central to the economy and better the lives of American families. Energy is growth capital, and the nation must do everything it can to ensure a secure, abundant supply. The electric and natural gas systems must maintain enough power generation capability and natural gas system capacity to serve the energy needs of all its customers, particularly during hot days in the summer and cold days in the winter.

Energy efficiency programs play an important role. When demand reduction coincides with periods when the Southern Company system is called on to produce the most electricity or supply peak volumes of natural gas, these programs reduce the need to build more plants, obtain rights to new generation or secure additional supplies of natural gas.

The Southern Company system is a leader in offering innovative electric and natural gas energy efficiency programs that help customers use energy more

wisely. Since 2000, energy efficiency programs have helped the electric system reduce peak demand for electricity by more than 4,800 MW and avoid more than 2 billion kWh of energy use. That's the same amount of energy used by over 700,000,000 loads of laundry, or enough kWh to meet the electrical charging needs for 450,000 electric cars for one year. Over that same period, the Southern Company system invested approximately $890 million on energy efficiency and demand-response programs to reduce peak demand, including over $70 million in 2016. The system is currently on the path to invest over $1 billion in electricity-related efficiency by 2020.



A sampling of energy efficiency and demand-response programs offered to residential customers by the Southern Company system includes home energy audits; low-income weatherization; distribution of low-flow showerheads, outlet gaskets, refrigerator coil brushes and compact fluorescent lights; a student energy efficiency education program; variable pricing and "smart" thermostat combinations; geothermal heating and cooling systems; solar thermal water heating and home-building guidelines.

Southern Company operating subsidiaries are partners with EPA and DOE in the ENERGY STAR® program, which promotes the use of energy efficient products and practices. In addition, Southern Company and Nest Labs Inc. announced a partnership to develop innovative products and services to help customers save energy.

Alabama Power is partnering with Signature Homes, Southern Company, Oak Ridge National Laboratory and several technology vendors to develop and offer Smart Neighborhood by Alabama Power - a community of 62 high-performance homes featuring emerging technology and energy-saving materials. This company effort is a major opportunity to promote Alabama Power as a leader in developing creative energy solutions for customers. It also represents yet another example of how Alabama Power continues to be on the forefront of energy research and development so it can continue to provide reliable and affordable energy for customers well into the future.

For larger-volume small business, commercial and industrial customers, energy services, energy audits, real-time pricing, equipment rebates, interruptible customer rate programs, guided customer energy "six-sigma" type programs, standby generation and commercial construction programs are among the offerings also available.

Furthermore, My Power Usage enables electric customers to view their daily energy usage in dollars or kWh, set up and maintain personal energy-use budget alerts, subscribe to energy efficiency reminders and view their projected electric bill amount.

The Southern Company system has made major investments in smart grid technologies, including the deployment of approximately 4.6 million smart meters, or advanced metering infrastructure, that can help customers manage their energy use and save money. Smart meters offer a host of benefits for customers, such as improved system maintenance,

improved response time to outages, live outage maps and power consumption information available to customers who seek to manage their own energy use and control their energy bill.

Southern Company is a founding member of the Southeast Energy Efficiency Alliance and is a founder-level associate member of the Alliance to Save Energy. Southern Company also is among more than 60 leading energy organizations that worked with EPA and DOE to develop the National Action Plan for Energy Efficiency. As a charter member of the EPRI national energy efficiency initiative, Southern Company supported programs such as the "living laboratories," which develop new smart appliances and energy-management technologies.

Southern Company Gas' natural gas energy efficiency programs offer customers a wide array of energy saving measures and incentives. These programs are designed and implemented to help customers conserve energy and save money, without sacrificing comfort, style or convenience. These efforts also provide significant environmental benefits. Since 2011, energy efficiency programs have helped Southern Company Gas' natural gas system reduce demand and customers' emissions from natural gas by more than 90 million therms and approximately 454,000 metric tons of CO_2.

The annual savings in CO_2 emissions associated with these energy efficiency programs are equivalent to meeting the energy needs of more than 50,500 households annually. The natural gas system has strategically invested over $215 million on energy efficiency and demand-response programs since 2011, and is currently on a path to continue investments of more than $160 million on energy efficiency activities by 2021.

Southern Company Gas' natural gas system has an emerging technology program which brings energy-efficient natural gas technologies to the marketplace after conducting technical demonstrations, verifying potential gas savings and providing incentives for market adoption. This effort is intended to support technologies that are nearing commercial viability, are already commercially viable and available or are yet untested or unable to overcome market barriers. This program is jointly administered through the Gas Technology Institute and Southern Company Gas.

Transportation

Electric

As the U.S. economy becomes more electrified, the Southern Company system is helping shape and grow the transportation industry through its electrical vehicle (EV) efforts. EVs are often quieter, cleaner

and more efficient than their fossil fuel counterpart. EVs also offer users the opportunity to save on total costs of operations including fuel and maintenance costs. EVs also play a large role in reducing the environmental impact of transportation emissions and contribute to U.S. energy independence by using a domestically produced source of energy.

The Southern Company's focus encompasses both on-road and non-road vehicles, including passenger cars, delivery vehicles, and transportation at airports, seaports, rail yards, mines, manufacturing plants and distribution centers.

Southern Company is facilitating the electrification of transportation in many ways. This includes providing customer education and awareness to speed adoption, working with vehicle manufacturers and EPRI to bring viable on-road EV technologies to market, helping develop charging infrastructure and improve vehicle/grid integration, planning for efficient distribution, offering lower electricity rates and programs for off-peak usage and helping commercial and industrial customers reduce their operating costs and environmental impact.

Southern Company is also researching fleet applications and technologies and their impacts on grid reliability. This includes electric truck refrigeration units and plug-in hybrid work truck technologies to improve efficiencies and reduce costs in the industrial and commercial sectors. For use in its own operations, the Southern Company system is evaluating plug-in hybrid and fully electric EVs as well as charging technologies.

Southern Company is committed to the research, development and marketing of electric transportation technology and since the 1990s has worked on understanding the economic impact that electric transportation provides.

Compressed Natural Gas

Southern Company Gas, through its Atlanta Gas Light subsidiary, has actively promoted CNG vehicles since the early 1990s. In addition to reducing dependence on petroleum, CNG vehicles reduce CO_2 emissions and urban criteria pollutants like carbon monoxide (CO), NOx and particulate matter. The CO_2 emissions are reduced even further if the natural gas is sourced from renewable natural gas (RNG) supplies like bio-methane from landfills, water treatment plants or agricultural waste digesters.

Atlanta Gas Light builds and maintains CNG fueling stations to help fleet customers like local governments, transit authorities, refuse haulers and delivery companies transition to CNG. Atlanta Gas Light currently owns and/or maintains approximately 40 stations across the states of Georgia and Alabama, and Atlanta Gas Light's CNG team maintains an emergency hotline so it can provide 24-hour emergency response for customers. In addition to the many private CNG stations Atlanta Gas Light built in the 1990s, it received approval in 2011 from the Georgia Public Service Commission to invest $11.5 million to develop publicly accessible CNG stations under a new CNG Infrastructure Program. To date, Atlanta Gas Light has completed construction of four public access stations in Georgia under this program plus two limited access "combination-fill" (time-fill and fast-fill stations) for the City of Atlanta's refuse trucks. This program, combined with other activity that it has helped foster in the state, has greatly increased the number of publicly accessible CNG stations in Georgia; there are now 25 public access CNG stations compared to just one in 2009.

Southern Company Gas' utilities, Elizabethtown Gas, Florida City Gas and Virginia Natural Gas, have also deployed CNG vehicles in their own fleet and have been promoting CNG vehicles for many years. Currently, Southern Company Gas operates more than 400 CNG vehicles across its various jurisdictions, and continues to add CNG vehicles to its fleet.

Liquefied Natural Gas

Southern Company Gas' wholly-owned subsidiary, Pivotal LNG, operates a network of LNG production facilities with the capacity to produce 554,000 gallons of LNG per day and the ability to store more than 96 million gallons. Backed by more than four decades of experience in the production and delivery of LNG, Pivotal LNG has six facilities located

in New Jersey, Tennessee, Alabama and Georgia, and a seventh currently under construction in Florida.. Pivotal LNG operates and maintains each facility to minimize methane emissions.

Pivotal LNG is focused on optimizing underutilized utility LNG assets to serve transportation fuel markets, such as on-highway, marine, rail, power generation and other high-horsepower applications. LNG is a cost-effective alternative to diesel and propane that offers a number of environmental benefits. LNG is a clean burning, domestically produced fuel that produces 30 percent less CO_2 than oil and 50 percent less than coal. Unlike diesel, there is no residue after an LNG spill. Compared to oil-based alternatives used for transportation, LNG emits significantly lower levels of nitrogen oxides, sulfur oxides, particulate matter and CO_2. LNG is a viable solution to meet new emission standards in both the marine and rail industries.

Bio-methane Transportation Rates

Southern Company Gas utility, Atlanta Gas Light, has two rates, TS-1 and TS-2, for transporting bio-methane from sources like landfills, water treatment plants and agricultural waste digesters. These rates enable the beneficial use of methane that would otherwise be emitted into the atmosphere or flared, thereby displacing natural gas from traditional sources and reducing CO_2e emissions.

The TS-1 rate provides for Atlanta Gas Light to accept bio-methane into the distribution system that meets pipeline quality standards. Project developers install the processing equipment to meet the gas quality specifications and then Atlanta Gas Light establishes a receipt point for the gas to be injected into the distribution system, monitors the incoming gas quality and delivers the gas to counterparties who purchase the gas. The environmental attributes of this RNG are recognized under various federal and state emissions trading programs and increase the value of the gas above the price of regular pipeline gas.

The TS-2 rate provides for Atlanta Gas Light to build a dedicated pipeline to deliver gas that does not meet pipeline standards from Point A to Point B, such as from a landfill to an industrial boiler, generator or other process. This dedicated pipeline is not interconnected with Atlanta Gas Light's distribution system so this gas is not co-mingled with the rest of the gas in the system.

Engagement [11]

Southern Company is an investor owned energy company that seeks to provide consistent and predictable returns for its stockholders while keeping customers at the center of everything we do. Part of serving customers and stockholders is engaging in environmental issues with policymakers in both the regulatory and legislative arenas, while advocating for a common-sense national energy policy that prioritizes the full portfolio, energy innovation and the restoration of America's financial integrity. In addition, Southern Company is actively involved in various trade associations and engages with numerous stakeholders.

Policy Makers

Southern Company actively seeks direct, open communication with various policymakers, including EPA and state environmental agencies. For example, the company is regularly engaged with EPA on

[11] *CDP 2017 Climate Change Information Request questions: 2.3, 2.3a, 2.3b, 2.3c, 2.3e, 2.3f*

regulation that could potentially impact a portion of its business and operations. The company provides feedback to agencies on potential regulation by having face-to-face meetings, as well as submitting public comments. Southern Company also has a presence in Washington, D.C., that enables a constructive dialogue with policymakers in the federal government. The company attempts to ensure policymakers are provided accurate information that leads to appropriate discussions, debates and decisions on policy issues that could impact the Southern Company system's business units and customers.

Southern Company also engages with DOE to further action on several issues and challenges, including mitigation of GHG emissions. This engagement happens through projects such as the NCCC, the development of TRIG™ technology and CCUS projects at Plant Barry and around the system.

Trade Associations and Research Organizations

Southern Company is a member of EEI, the association that represents U.S. investor-owned electric companies. EEI represents its members' interests in legislative and policy arenas and provides public-policy leadership, critical industry data and strategic business intelligence. Southern Company's president, chairman and CEO was elected as chairman of the board of EEI in June 2016. Southern Company seeks to provide leadership within EEI by serving on and rotating off boards and committees across a wide range of issues.

Southern Company is a member of the Utility Air Regulatory Group (UARG), which is a voluntary, nonprofit association of electric generating companies and industry trade associations. UARG's purpose is to participate on behalf of its members collectively in EPA's rulemakings and other Clean Air Act proceedings that affect the interests of electric generators and in litigation arising from those proceedings.

Southern Company is also an active participant in EPRI. The members of EPRI include utilities throughout the world. EPRI is an independent nonprofit research group that seeks to pool resources and ideas from all members to advance the development and deployment of technologies impacting the electricity sector. Southern Company was instrumental in forming EPRI as the primary research organization for more than 90 percent of the electric utility industry.

Southern Company Gas is a member of AGA, a trade organization representing more than 200 natural gas supply and delivery companies. AGA works with lawmakers, regulatory bodies, environmental and consumer affairs organizations to inform them about the industry. AGA has worked with the FERC to improve market transparency reporting. Southern Company Gas has been an active partner with AGA since 1920 and the company continues to maintain an active leadership position in the organization.

Stakeholders

Stakeholder engagement has always been a part of the business and is integrated into long-standing processes. For example, as an investor-owned energy company, Southern Company conducts annual and quarterly financial reporting and business planning, including the review of stockholder proposals. The system engages in processes regulated by national, state and local authorities and elected officials. State regulatory agencies within the system's service territory have established mechanisms for assessing the need for rate changes, which leads to an open dialogue among the states, company and other stakeholders. The company also participates in activities that have environmental and community impacts, including local town hall meetings and meetings during plant and transmission licensing and approval processes.

Since 2011, Southern Company's CEO and top executive-level management have actively engaged diverse national and regional stakeholders in

candid, transparent and constructive dialogues on a wide range of issues related to energy and the environment that are important to the company and the nation. Interactions have included forums, webinars, calls and one-on-one meetings covering a range of topics, including regulatory and policy issues, system risk, renewables, energy efficiency, GHG emissions, resource planning, research and innovation and issues affecting energy productivity. This positive engagement has fostered a level of trust and understanding that is necessary to build long-term, constructive relationships.

Through these interactions, Southern Company has set a path forward for discussions, including those on which the company and stakeholders differ. This process has defined priority areas of concern and established a foundation for seeking areas of agreement and opportunities for collaboration. Ongoing dialogue with stakeholders continues to enhance and inform the company's decision-making and long-term strategic view by identifying issues, concerns, strategies and actions.

EPA Regulation of GHGs [12]

EPA is regulating GHG emissions under the Clean Air Act. To date, regulatory actions include: changing the permitting process for stationary sources; promulgating GHG emissions standards for new, modified and reconstructed sources in the oil and gas industry; promulgating CO_2 emission performance standards for new, modified and reconstructed electric generating units; and promulgating CO_2 emission guidelines for existing electric generating units.

Greenhouse Gas Reporting Program

In October of 2009, EPA's mandatory GHGRP was finalized, requiring reporting of GHGs from facilities that emit more than 25,000 metric tons of CO_2e per year. On Nov. 30, 2016, EPA finalized amendments to the petroleum and natural gas system source category (Subpart W) under the GHGRP. The rule added new monitoring methods for detecting leaks from the oil and gas equipment consistent with leak detection methods in the oil and gas performance standards for new, modified and reconstructed sources. It also adds emission factors for leaking equipment to be used in conjunction with the new monitoring methods for reporting GHG emissions. The new monitoring methods and emission factors are reflected in the Southern Company Gas GHG emissions data for 2016.

Permitting

As of Jan. 2011, new and modified stationary sources that produce emissions over certain thresholds, including GHGs, must go through the prevention of significant deterioration permitting process, including installation of the best available control technology for CO_2 and other GHGs. The inclusion of GHG requirements in permits has made permitting more difficult and in some cases imposed new types of emissions and operational limits on power plants. In 2015, as a result of a Supreme Court's decision, sources were no longer required to obtain permits based off GHGs alone, and sources are only required to evaluate GHGs if the source must already obtain a permit for other non-GHG emissions.

CO_2 Emission Performance Standards for New, Modified and Reconstructed Sources

On Oct. 23, 2015, EPA finalized new, modified and reconstructed source standards for CO_2 emissions under section 111(b) of the Clean Air Act. EPA's final standard for new steam electric generating units and IGCC units is 1,400 pounds of CO_2 per gross MWh. EPA based the standard on an efficient new supercritical pulverized coal unit implementing partial CCUS. EPA's final standard for new baseload stationary combustion turbines is 1,000 pounds of CO_2 per gross MWh.

The final rule potentially impacts the operational flexibility of new natural gas combined-cycle units

[12] *CDP 2017 Climate Change Information Request questions: 4.1, 5.1*

and effectively eliminates new coal-fired electric generation without partial CCUS. Southern Company believes meeting customers' electricity needs requires the full portfolio of energy resources – including carbon-free nuclear, 21st century coal, natural gas, renewables and energy efficiency - and creating new products and services. The final rule, however, discourages the development of all of America's energy resources.

Clean Power Plan

On Oct. 23, 2015, EPA finalized CO_2 emission guidelines for existing electric generating units, also known as the Clean Power Plan or 111(d) for the subsection of the Clean Air Act on which it is based. Section 111(d) of the Clean Air Act is premised on EPA creating emission guidelines and individual states developing plans that establish performance standards, compliance frameworks and compliance options for affected sources considering EPA's emission guidelines.

EPA's final CO_2 emission guidelines set national subcategory-specific performance rates (pounds of CO_2 per net MWh) for (1) fossil-steam and IGCC units and (2) natural gas combined-cycle units. EPA based the subcategory-specific performance rates on a best system of emission reduction that consisted of three building blocks: (1) coal unit heat rate improvements, (2) operating natural gas combined-cycle units at a 75 percent capacity factor and displacing fossil-steam generation accordingly, and (3) increasing renewable energy generation and displacing fossil generation accordingly. EPA also finalized state-specific emission rate and mass targets.

After thorough review of EPA's final guidelines, it remains clear that EPA's overreaching and unworkable Clean Power Plan will fundamentally change the ways our nation makes, moves and consumes electricity while increasing electricity costs to hardworking American families. Believing that states can best account for customers' interests, Southern Company remains highly engaged with state environmental agencies, PSCs and environmental organizations regarding the Clean Power Plan. In February 2016, the U.S. Supreme Court issued a stay of the Clean Power Plan while the courts review ongoing legal challenges.

Oil and Gas Performance Standards for New, Modified and Reconstructed Sources

On June 3, 2016, EPA finalized new, modified and reconstructed source standards applicable to the oil and gas sector for both GHGs, mainly methane, and volatile organic compounds. EPA issued emission limits and additional leak detection monitoring requirements.

Additional Information

For additional information related to the Southern Company system's GHG-related activities, please view the following links:

http://www.southerncompany.com/corporate-responsibility/environmental-responsibility.html

http://investor.southerncompany.com/information-for-investors/overview/default.aspx

Cautionary Note Regarding Forward-Looking Statements

Certain information contained in this report is forward-looking information based on current expectations and plans that involve risks and uncertainties. Forward-looking information includes, among other things, statements concerning future GHG emissions, the construction and future performance of the integrated coal gasification combined-cycle project in Kemper County, Mississippi (Kemper IGCC) and Plant Vogtle units 3 and 4, proposed environmental regulations and related estimated expenditures, the purchase of solar and wind energy, capital expenditures, estimated expenditures related to energy efficiency and demand-control programs, and sources and costs of fuels. Southern Company cautions that there are certain factors that could cause actual results to differ materially from the forward-looking information that has been provided. The reader is cautioned not to put undue reliance on this forward-looking information, which is not a guarantee of future performance and is subject to a number of uncertainties and other factors, many of which are outside the control of Southern Company; accordingly, there can be no assurance that such suggested results will be realized. The following factors, in addition to those discussed in Southern Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, and subsequent securities filings, could cause actual results to differ materially from management expectations as suggested by such forward-looking information: the impact of recent and future federal and state regulatory changes, including environmental laws regulating emissions, discharges and disposal to air, water and land, and also changes in tax and other laws and regulations to which Southern Company and its subsidiaries are subject, including potential tax reform legislation, as well as changes in application of existing laws and regulations; current and future litigation, regulatory investigations, proceedings or inquiries; the effects, extent and timing of the entry of additional competition in the markets in which Southern Company's subsidiaries operate; variations in demand for electricity and natural gas, including those relating to weather, the general economy and recovery from the last recession, population and business growth (and declines), the effects of energy conservation and efficiency measures, including from the development and deployment of alternative energy sources such as self-generation and distributed generation technologies; available sources and costs of natural gas and other fuels; limits on pipeline capacity; effects of inflation; the ability to control costs and avoid cost overruns during the development, construction and operation of facilities, which include the development and construction of generating facilities with designs that have not been finalized or previously constructed; the results of Westinghouse Electric Company LLC and its affiliate (collectively, Contractor), WECTEC Global Project Services Inc. (formerly known as CB&I Stone & Webster, Inc.), formerly a subsidiary of The Shaw Group Inc. and Chicago Bridge & Iron Company N.V., bankruptcy filing and the impact of any inability or other failure of Toshiba Corporation to perform its obligations under its guarantee of certain payment obligation of the Contractor, including any effect on the construction of Plant Vogtle Units 3 and 4, as well as the engineering, procurement and construction agreement for Plant Vogtle Units 3 and 4 and Georgia Power's DOE loan guarantees; the ability to construct facilities in accordance with the requirements of permits and licenses, to satisfy any environmental performance standards and the requirements of tax credits and other incentives, and to integrate facilities into the Southern Company system upon completion of construction; advances in technology; ongoing renewable energy partnerships and development agreements; state and federal rate

regulations and the impact of pending and future rate cases and negotiations, including rate actions relating to fuel and other cost recovery mechanisms; legal proceedings and regulatory approvals and actions related to Plant Vogtle Units 3 and 4, including Georgia Public Service Commission (PSC) approvals and Nuclear Regulatory Commission actions; actions related to cost recovery for the Kemper IGCC; the ability to successfully operate the electric utilities' generating, transmission and distribution facilities and Southern Company Gas' natural gas distribution and storage facilities and the successful performance of necessary corporate functions; the inherent risks involved in operating and constructing nuclear generating facilities; the inherent risks involved in transporting and storing natural gas; the performance of projects undertaken by the non-utility businesses and the success of efforts to invest in and develop new opportunities; internal restructuring or other restructuring options that may be pursued; potential business strategies, including acquisitions or dispositions of assets or businesses, which cannot be assured to be completed or beneficial to Southern Company or its subsidiaries; the possibility that the anticipated benefits from the acquisition of Southern Company Gas cannot be fully realized or may take longer to realize than expected, the possibility that costs related to the integration of Southern Company and Southern Company Gas will be greater than expected, the ability to retain and hire key personnel and maintain relationships with customers, suppliers or other business partners, and the diversion of management time on integration related issues; the ability of counterparties of Southern Company and its subsidiaries to make payments as and when due and to perform as required; the ability to obtain new short- and long-term contracts with wholesale customers; the direct or indirect effect on the Southern Company system's business resulting from cyber intrusion or terrorist incidents and the threat of terrorist incidents; interest rate fluctuations and financial market conditions and the results of financing efforts; changes in Southern Company's and any of its subsidiaries' credit ratings; the impacts of any sovereign financial issues; the ability of Southern Company's electric utilities' to obtain additional generating capacity (or sell excess generating capacity) at competitive prices; catastrophic events such as fires, earthquakes, explosions, floods, tornadoes, hurricanes and other storms, droughts, pandemic health events such as influenzas, or other similar occurrences; and the direct or indirect effects on the Southern Company system's business resulting from incidents affecting the U.S. electric grid, natural gas pipeline infrastructure or operation of generating or storage resources. Southern Company expressly disclaims any obligation to update any forward-looking information.

Southern Company's Climate Change Policy Statement

Climate change is a challenging issue for our world and our nation. Southern Company is committed to a leadership role in finding solutions that make technological, environmental and economic sense. The focus of this effort must be on developing and deploying technologies that reduce greenhouse gases while making sure that energy remains reliable and affordable. Southern Company believes that this is the most responsible approach to meeting the needs of the environment, the system's customers and our shareholders.

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