For more than a century, Southern Company has been delivering clean, safe, reliable and affordable energy for our customers and communities.

Our commitment to delivering energy and energy solutions includes conserving and protecting the environment for today and for future generations. Southern Company has already made significant progress towards our goal to transition to low- to no-carbon operations by 2050.

We understand the importance of engaging all our stakeholders – including customers and shareholders – in a productive, transparent conversation about how we safely manage risk while delivering value and growth.

In that spirit of transparency, Southern Company participated in the CDP Climate Disclosure for 2018.

Given that the CDP questions only provide a snapshot of data for a single year and do not fully portray our strategies, we encourage everyone to use the resources below to learn more about our business and Southern Company's plans for achieving a low- to no- carbon future and for building a better energy future.

Planning for the Low Carbon Future

Corporate Responsibility Report

EEI ESG Template

The Southern Company - Climate Change 2018
C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Southern Company is a leading energy company, with 46,000 megawatts (MW) of generating capacity and 1,500 billion cubic feet of combined natural gas consumption and throughput volume serving 9 million customers. For more than a century, the Southern Company has been building the future of energy, delivering the energy resources and solutions our customers and communities need to drive growth and prosperity.

No U.S. utility is doing more than Southern Company to assure there is an affordable and reliable path to a low- to no-carbon future for the utility industry and for the U.S. economy as a whole. We are the only U.S. utility developing the full portfolio of generation resources, including carbon-free nuclear, advanced carbon capture technologies, natural gas, renewables such as wind and solar, and energy-efficiency and storage technologies. We are investing more than $20 billion between 2010 and 2020 in this low- and no-carbon full portfolio of generation resources and are the only U.S. utility engaged in a comprehensive research and development (R&D) program that will enable an affordable and reliable transition to low- to no-carbon operations.

Southern Company is committed to meeting customers' current and future energy needs, while setting a long-term goal to transition to low- to no-carbon operations by 2050 and an intermediate goal to reduce carbon emissions from 2007 levels by 50 percent by 2030.
Three key pillars support our approach to reducing carbon dioxide emissions:

- A diverse energy resource portfolio
- Industry-leading, focusing on technologies that lower GHG emissions
- Constructive engagement with policymakers and others to support outcomes that lead to a low-carbon future

We are aggressively growing our investment in renewable energy, modernizing the grid, increasing the use of natural gas, building the first new nuclear generating units in a generation, solving difficult energy challenges through robust R&D, and investing in energy efficiency for savings on both sides of the meter.

We have already made significant progress with a full portfolio approach to electric generation resource diversity, focused on maintaining reliability and affordability while reducing carbon emissions. Since 2010, through our subsidiaries, we have

invested $20 billion in developing low-carbon and carbon-free energy assets and more than 5,000 MW of renewable generating capacity has been added across the system along with approximately 4,200 MW of coal- and oil- related retirements. Our current portfolio of over 12,000 MW of carbon-free and carbon-neutral resource capacity has established a foundation enabling us to continue our carbon reduction efforts.

We've reduced nitrogen oxides emissions by 89 percent since 1990 and sulfur dioxide emissions by 98 percent – while serving a 30 percent greater demand. Since 2007, we have reduced mercury emissions by over 90 percent and GHG emissions by 36 percent.

Our Southern Company Gas subsidiary is a founding member in Our Nation's Energy (ONE) Future and for our natural gas distribution operations, we aspire to remain aligned with ONE Future's 2025 goal. Currently, our natural gas distribution operation's intensity is 0.26, well below ONE Future's 2025 goal of 0.44 percent for local distribution companies.

Transitioning to a low-carbon future will require continued advancement in technology. Opportunities to reduce our carbon emissions include completing construction of Plant Vogtle units 3 and 4, seeking useful life extensions for our existing 3,700-MW nuclear fleet, continuing to grow our sizable renewable energy resources, partnering with the battery industry on energy storage development and continuing to modernize the power grid for greater efficiencies. We also see potential to invest through our PowerSecure subsidiary in new technologies that may emerge.

Our dedicated R&D organization leverages a diverse research portfolio and collaborates with the U.S. government, other utilities, universities and industry in development of new technologies for energy production, delivery and end-use. This leadership is inventing innovative solutions for a low-carbon energy future.

We are engaging with policymakers, investors, customers and other stakeholders to help shape an energy policy that enhances optionality across the entire energy value chain and supports the development and deployment of more carbon-free energy sources, while ensuring that each state we serve retains the ability to adequately plan and deploy resources that meet the needs of its citizens and communities.

We believe we can successfully sustain and evolve our business as we transition to a low-to-no-carbon future. Our carbon reduction goals are a critical step forward for Southern Company. As we work to achieve those goals, we remain committed to our core principles of providing clean, safe, reliable and affordable energy to our customers.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Financial control

C-EU0.7

(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation

Transmission

Distribution

Other divisions

Gas storage, transmission and distribution

Smart grids / demand response
Battery storage
Micro grids

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board Chair	Our Governance Guidelines allow the independent Directors flexibility to split or combine the Chairman and CEO responsibilities, and the independent Directors annually review our leadership structure to determine the structure that is in the best interest of Southern Company and its stockholders. The Board believes that its current leadership structure, which has a combined role of Chairman and CEO counterbalanced by a strong independent Board led by a Lead Independent Director and independent Directors chairing each of the Board committees, is most suitable for the Company at this time and is in the best interest of stockholders because it provides the optimal balance between independent oversight of management and unified leadership.
Board/Executive board	Southern Company believes that corporate governance underpins and enhances the long-term value shareholders seek from their investment. A long-term perspective, executed through a well-governed and highly engaged board, shapes Southern Company's strategy for realizing maximum shareholder value through every risk and every opportunity it faces. Southern Company's Board of Directors is responsible for oversight of strategy, risk, and environmental, social and governance issues. Issues that are the subject of active discussions at Board and Board committee meetings include, among others: carbon-related risk, regulatory compliance, energy efficiency, renewable energy and emerging technology.
Director on board	The Lead Independent Director is elected by the independent Directors of the Board. The Lead Independent Director is responsible for approving the agenda (with the ability to add agenda items) and schedule for Board meetings and information sent to the Board; calling and chairing executive sessions of the non-management Directors; meeting regularly with the Chairman; acting as the principal liaison between the Chairman and the non-management Directors (although every Director has direct and complete access to the Chairman at any time); and communicating any sensitive issues to the Directors, among other duties.
Chief Executive Officer (CEO)	The Board believes that the combined role of Chairman and CEO promotes the development and execution of our strategy, which includes emission reduction goals, and facilitates the flow of information between management and the Board, which is essential to effective corporate governance. The CEO is the Director most familiar with our business and industry, including the regulatory structure and other industry-specific matters, as well as being most capable of effectively identifying strategic priorities and leading discussion and execution of strategy.

Position of individual(s)	Please explain
Other, please specify (Board Directors -OE&S Committee)	The Operations, Environmental, and Safety (OEandS) Committee oversees and reports to the full Board on significant environmental and safety policy and planning issues relevant to Southern Company, including but not limited to programs, policies, and procedures to protect the environment and provide a healthy and safe environment for employees, customers, contractors, and the public. The OEandS Committee receives regular reports on operating units' safety and environmental activities and engages in robust discussions about carbon emissions and carbon risks, strategic planning, and scenario planning and analysis.
Other, please specify (Board Directors – Audit Committee)	The Audit Committee oversees the Company's financial reporting, audit process, internal controls and legal, regulatory and ethical compliance, which encompasses climate-related controls and compliance issues.
Other, please specify (Board Directors – Finance Committee)	The Finance Committee reviews the financial strategy of and the strategic deployment of capital by the Company, which includes the Company's carbon emissions reduction strategy and the associated use of capital to accomplish those goals.
Other, please specify (Board Directors – C&MS Committee)	The Compensation and Management Succession (CandMS) Committee is responsible for reviewing and approving compensation plans and programs, including performance-based compensation programs that incorporate environmental-related metrics. Additionally, the CandMS Committee is responsible for evaluating the performance of the CEO at least annually, discussing this evaluation with the Independent Directors, and approving the CEO's compensation each year for ratification by the Independent Directors. The CandMS Committee also oversees the evaluation and review of the compensation level for the other executive officers. Executive officer compensation, including the CEO, includes environmental-related metrics (as discussed later).
Other, please specify (Board Directors - NG&CR Committee)	The Nominating, Governance, and Corporate Responsibility (NGandCR) Committee oversees and reports to the full Board on the composition and competencies of the Board and its committees and corporate governance policies, including but not limited to, reviewing and making recommendations to the Board regarding Southern Company's practices and positions to advance its corporate citizenship, including environmental, sustainability and corporate social responsibility initiatives. The NGandCR Committee receives updates about Southern Company's ongoing shareholder engagement program and feedback received from shareholders on Environmental, Social, and; Governance (ESG) topics, including climate-related risks and disclosures.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings *Climate-related issues are integrated into all of the governance mechanism listed.*	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets	The OEandS Committee oversees and reports to the full Board on significant environmental and safety policy and planning issues relevant to Southern Company, including but not limited to programs, policies, and procedures to protect the environment and provide a healthy and safe environment for employees, customers, contractors, and the public. The OEandS Committee receives regular reports on operating units' safety and environmental activities and engages in robust discussions about carbon emissions and carbon risks, strategic planning, and scenario planning and analysis.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
	Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The NGandCR Committee oversees and reports to the full Board on the composition and competencies of the Board and its committees and corporate governance policies, including but not limited to, reviewing and making recommendations to the Board regarding Southern Company's practices and positions to advance its corporate citizenship, including environmental, sustainability and corporate social responsibility initiatives. The NGandCR Committee receives updates about Southern Company's ongoing shareholder engagement program and feedback received from shareholders on ESG topics, including climate-related risks and disclosures.
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies	The Audit Committee oversees the Company's financial reporting, audit process, internal controls and legal, regulatory and ethical compliance, which encompasses climate-related controls and compliance issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
	Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Finance Committee reviews the financial strategy of and the strategic deployment of capital by the Company, which includes the Company's carbon emissions reduction strategy and the associated use of capital to accomplish those goals.
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action	The CandMS Committee is responsible for reviewing and approving compensation plans and programs, including performance-based compensation programs that incorporate environmental-related metrics. Additionally, the CandMS Committee is responsible for evaluating the performance of the CEO at least annually, discussing this evaluation with the Independent Directors, and approving the CEO's compensation

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
	Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	each year for ratification by the Independent Directors. The CandMS Committee also oversees the evaluation and review of the compensation level for the other executive officers. Executive officer compensation, including the CEO, includes environmental-related metrics (as discussed later).

C1.2

(C1.2) Below board-level, provide the highest-level management position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Chief Financial Officer (CFO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Chief Operating Officer (COO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other, please specify (VP Environmental & System Planning)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other C-Suite Officer, please specify (Chief Legal Officer & Compliance Officer)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (Executive VP and Pres of Ext. Affairs)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other committee, please specify (Southern Co Management Council)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.

- The CEO reports to the Board of Directors, who have ultimate responsibility for carbon-related issues, strategy, and risks.
- Overall environmental leadership is provided by Southern Company management council, a team of senior officers responsible for setting key strategies and continually improving 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.
- Specific to environmental issues, Southern Company's environmental affairs director is responsible for environmental programs, including carbon 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 CEO.
- The Chief Risk Officer is accountable to the Chief Executive Officer and the Board for ensuring that enterprise risk oversight and management processes are established and operating effectively. Officers and senior managers are responsible for working across the business to manage enterprise-level risk, monitor the performance of risk mitigation strategies and identify emerging risks. They meet routinely and engage regularly with the Board and its committees throughout the year.
- The Vice President, Environmental & System Planning reports to the Chief Operating Officer, who reports to the CEO. The Vice President, Environmental & System Planning is integral to the shareholder outreach and regularly participates in shareholder engagement meetings to provide insight on and discuss Company environmental policies, programs, and progress.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?

Other, please specify (Most employees, CEO & Senior Management)

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction project

Comment

We believe in pay for performance and design our compensation program to attract, engage, competitively compensate, and retain our employees through a mix of base pay and incentive pay. Incentive pay includes an annual incentive program that includes operational and financial goals. Nearly all our employees participate in our annual Performance Pay Program. - Operational Goals: Several operational goals are important to reducing carbon emissions. Nuclear energy is one of the cleanest, most reliable and cost-effective fuel sources available today. Its importance in our portfolio continues to grow with the two new nuclear units being constructed at Plant Vogtle. Annual assessments of nuclear construction progress are part of the operational goals for many of our senior management team, including our CEO. Nuclear plant operations are also part of the operational goals payout for many senior managers and for thousands of employees at key company subsidiaries. We measure safety, reliability, and availability of the nuclear fleet because those metrics are crucial for delivering clean energy at a reasonable price. Customer satisfaction is a key performance metric. Customer satisfaction includes customer feedback on local perceptions of utility service, including the balance between maintaining affordable prices and minimizing environmental impact. Local customer preferences also drive the regulatory process and implementation of renewable resources and energy efficiency programs that could reduce the environmental impact. Generation availability and reliability is a key performance metric. This is important because it allows us to track efficient usage of our entire fleet, which includes a mix of lower emission fuel alternatives. - Financial Goals: Achieving annual financial goals, including EPS and business unit net income goals, is crucial to executing on our customer-centric business model. Maintaining this business model provides the opportunity to effectively respond to future carbon regulations and the potential to succeed in an accelerated transition to a low carbon business environment.

Who is entitled to benefit from these incentives?

Other, please specify (Most employees, CEO & Senior Management)

Types of incentives

Monetary reward

Activity incentivized
Energy reduction project
Comment
We believe in pay for performance and design our compensation program to attract, engage, competitively compensate, and retain our employees through a mix of base pay and incentive pay. Incentive pay includes an annual incentive program that includes operational and financial goals. Nearly all our employees participate in our annual Performance Pay Program. - Operational Goals: Several operational goals are important to reducing carbon emissions. Nuclear energy is one of the cleanest, most reliable and cost-effective fuel sources available today. Its importance in our portfolio continues to grow with the two new nuclear units being constructed at Plant Vogtle. Annual assessments of nuclear construction progress are part of the operational goals for many of our senior management team, including our CEO. Nuclear plant operations are also part of the operational goals payout for many senior managers and for thousands of employees at key company subsidiaries. We measure safety, reliability, and availability of the nuclear fleet because those metrics are crucial for delivering clean energy at a reasonable price. Customer satisfaction is a key performance metric. Customer satisfaction includes customer feedback on local perceptions of utility service, including the balance between maintaining affordable prices and minimizing environmental impact. Local customer preferences also drive the regulatory process and implementation of renewable resources and energy efficiency programs that could reduce the environmental impact. Generation availability and reliability is a key performance metric. This is important because it allows us to track efficient usage of our entire fleet, which includes a mix of lower emission fuel alternatives. - Financial Goals: Achieving annual financial goals, including EPS and business unit net income goals, is crucial to executing on our customer-centric business model. Maintaining this business model provides the opportunity to effectively respond to future carbon regulations and the potential to succeed in an accelerated transition to a low carbon business environment.

Who is entitled to benefit from these incentives?
Other, please specify (Most employees, CEO & Senior Management)
Types of incentives
Monetary reward
Activity incentivized
Efficiency project
Comment
We believe in pay for performance and design our compensation program to attract, engage, competitively compensate, and retain our employees through a mix of base pay and incentive pay. Incentive pay includes an annual incentive program that includes operational and financial goals. Nearly all our employees participate in our annual Performance Pay Program. - Operational Goals: Several operational goals are important to reducing carbon emissions. Nuclear energy is one of the cleanest,

most reliable and cost-effective fuel sources available today. Its importance in our portfolio continues to grow with the two new nuclear units being constructed at Plant Vogtle. Annual assessments of nuclear construction progress are part of the operational goals for many of our senior management team, including our CEO. Nuclear plant operations are also part of the operational goals payout for many senior managers and for thousands of employees at key company subsidiaries. We measure safety, reliability, and availability of the nuclear fleet because those metrics are crucial for delivering clean energy at a reasonable price. Customer satisfaction is a key performance metric. Customer satisfaction includes customer feedback on local perceptions of utility service, including the balance between maintaining affordable prices and minimizing environmental impact. Local customer preferences also drive the regulatory process and implementation of renewable resources and energy efficiency programs that could reduce the environmental impact. Generation availability and reliability is a key performance metric. This is important because it allows us to track efficient usage of our entire fleet, which includes a mix of lower emission fuel alternatives. - Financial Goals: Achieving annual financial goals, including EPS and business unit net income goals, is crucial to executing on our customer-centric business model. Maintaining this business model provides the opportunity to effectively respond to future carbon regulations and the potential to succeed in an accelerated transition to a low carbon business environment.

Who is entitled to benefit from these incentives?
Other, please specify (Almost all employees of So. Gas)
Types of incentives
Monetary reward
Activity incentivized
Emissions reduction project
Comment
For employees of our Southern Company Gas subsidiary, operational goals under the annual Performance Pay Program include leak response performance and pipeline replacement projects that reduce methane emissions.

Who is entitled to benefit from these incentives?
Other, please specify (Almost all employees of So. Gas)
Types of incentives
Monetary reward
Activity incentivized
Efficiency project
Comment

For employees of our Southern Company Gas subsidiary, operational goals under the annual Performance Pay Program include leak response performance and pipeline replacement projects that reduce methane emissions.

Who is entitled to benefit from these incentives?
Other, please specify (Management group, including CEO)
Types of incentives
Monetary reward
Activity incentivized
Emissions reduction project
Comment
Our management group, including our CEO, has a portion of the annual Performance Pay Program incentive tied to the achievement of individual goals. - Depending on the individual's position, individual goals may include environmental matters, energy efficiency, expansion of low- and no-carbon resources, and progress in research and development related to emission reduction efforts, among others. For the CEO, individual performance considered by the Compensation and Management Succession Committee of the Board in determining his annual incentive award included the continued expansion of solar and wind platforms, continued progress towards completion of Plant Vogtle nuclear units, engaging with stockholders on carbon-related topics and continued promotion of energy innovation efforts such as the launch of Smart Neighborhoods and the Alliance for Transportation Electrification.

Who is entitled to benefit from these incentives?
Other, please specify (Management group, including CEO)
Types of incentives
Monetary reward
Activity incentivized
Energy reduction project
Comment
Our management group, including our CEO, has a portion of the annual Performance Pay Program incentive tied to the achievement of individual goals. - Depending on the individual's position, individual goals may include environmental matters, energy efficiency, expansion of low- and no-carbon resources, and progress in research and development related to emission reduction efforts, among others. For the CEO, individual performance considered by the Compensation and Management Succession Committee of the Board in determining his annual incentive award included the continued expansion of solar and wind platforms, continued progress towards completion of Plant Vogtle nuclear units, engaging with stockholders on carbon-

related topics and continued promotion of energy innovation efforts such as the launch of Smart Neighborhoods and the Alliance for Transportation Electrification.

Who is entitled to benefit from these incentives?
Other, please specify (Management group, including CEO)
Types of incentives
Monetary reward
Activity incentivized
Efficiency project
Comment
Our management group, including our CEO, has a portion of the annual Performance Pay Program incentive tied to the achievement of individual goals. - Depending on the individual's position, individual goals may include environmental matters, energy efficiency, expansion of low- and no-carbon resources, and progress in research and development related to emission reduction efforts, among others. For the CEO, individual performance considered by the Compensation and Management Succession Committee of the Board in determining his annual incentive award included the continued expansion of solar and wind platforms, continued progress towards completion of Plant Vogtle nuclear units, engaging with stockholders on carbon-related topics and continued promotion of energy innovation efforts such as the launch of Smart Neighborhoods and the Alliance for Transportation Electrification.

Who is entitled to benefit from these incentives?
Other, please specify (Management group, including CEO)
Types of incentives
Monetary reward
Activity incentivized
Behavior change related indicator
Comment
Our management group, including our CEO, has a portion of the annual Performance Pay Program incentive tied to the achievement of individual goals. - Depending on the individual's position, individual goals may include environmental matters, energy efficiency, expansion of low- and no-carbon resources, and progress in research and development related to emission reduction efforts, among others. For the CEO, individual performance considered by the Compensation and Management Succession Committee of the Board in determining his annual incentive award included the continued expansion of solar and wind platforms, continued progress towards completion of Plant Vogtle nuclear units, engaging with stockholders on carbon-

related topics and continued promotion of energy innovation efforts such as the launch of Smart Neighborhoods and the Alliance for Transportation Electrification.

Who is entitled to benefit from these incentives?
Other, please specify (Senior Management)
Types of incentives
Monetary reward
Activity incentivized
Emissions reduction project
Comment
Our strategy is to maximize long-term value to shareholders through a customer, community, and stakeholder focused business model that produces sustainable levels of return on energy infrastructure, and our long-term incentive program is intended to further this goal by directly tying a portion of compensation to the interests of stockholders. For senior management, a substantial portion of their compensation is tied to the long-term incentive award, which includes measuring total shareholder return over a three-year period. Crucial to creating long-term shareholder value is the effective management of the risks and opportunities presented by carbon emission reductions and successfully sustaining and evolving our business as we transition to a low- to no-carbon future. Our strategy for reducing carbon emissions includes aggressively growing our investment in renewable energy, modernizing the grid to optimize technological advancements, increasing the use of natural gas, building new nuclear units, continuing our industry-leading research and development efforts and investing in energy efficiency for savings on both sides of the meter. While these monetary awards are not specifically tied to emission reductions, effective implementation of these strategies results in direct Scope 1 emission reductions.

Who is entitled to benefit from these incentives?
Other, please specify (Senior Management)
Types of incentives
Monetary reward
Activity incentivized
Energy reduction project
Comment
Our strategy is to maximize long-term value to shareholders through a customer, community, and stakeholder focused business model that produces sustainable levels of return on energy infrastructure, and our long-term incentive program is intended to further this goal by directly tying a portion of compensation to the interests of stockholders. For senior management, a substantial portion of their compensation is tied to the long-term incentive award, which includes measuring total shareholder

return over a three-year period. Crucial to creating long-term shareholder value is the effective management of the risks and opportunities presented by carbon emission reductions and successfully sustaining and evolving our business as we transition to a low- to no-carbon future. Our strategy for reducing carbon emissions includes aggressively growing our investment in renewable energy, modernizing the grid to optimize technological advancements, increasing the use of natural gas, building new nuclear units, continuing our industry-leading research and development efforts and investing in energy efficiency for savings on both sides of the meter. While these monetary awards are not specifically tied to emission reductions, effective implementation of these strategies results in direct Scope 1 emission reductions.

Who is entitled to benefit from these incentives?
Other, please specify (Senior Management)
Types of incentives
Monetary reward
Activity incentivized
Efficiency project
Comment
Our strategy is to maximize long-term value to shareholders through a customer, community, and stakeholder focused business model that produces sustainable levels of return on energy infrastructure, and our long-term incentive program is intended to further this goal by directly tying a portion of compensation to the interests of stockholders. For senior management, a substantial portion of their compensation is tied to the long-term incentive award, which includes measuring total shareholder return over a three-year period. Crucial to creating long-term shareholder value is the effective management of the risks and opportunities presented by carbon emission reductions and successfully sustaining and evolving our business as we transition to a low- to no-carbon future. Our strategy for reducing carbon emissions includes aggressively growing our investment in renewable energy, modernizing the grid to optimize technological advancements, increasing the use of natural gas, building new nuclear units, continuing our industry-leading research and development efforts and investing in energy efficiency for savings on both sides of the meter. While these monetary awards are not specifically tied to emission reductions, effective implementation of these strategies results in direct Scope 1 emission reductions.

Who is entitled to benefit from these incentives?
Other, please specify (Senior Management)
Types of incentives
Monetary reward
Activity incentivized
Behavior change related indicator

Comment

Our strategy is to maximize long-term value to shareholders through a customer, community, and stakeholder focused business model that produces sustainable levels of return on energy infrastructure, and our long-term incentive program is intended to further this goal by directly tying a portion of compensation to the interests of stockholders. For senior management, a substantial portion of their compensation is tied to the long-term incentive award, which includes measuring total shareholder return over a three-year period. Crucial to creating long-term shareholder value is the effective management of the risks and opportunities presented by carbon emission reductions and successfully sustaining and evolving our business as we transition to a low- to no-carbon future. Our strategy for reducing carbon emissions includes aggressively growing our investment in renewable energy, modernizing the grid to optimize technological advancements, increasing the use of natural gas, building new nuclear units, continuing our industry-leading research and development efforts and investing in energy efficiency for savings on both sides of the meter. While these monetary awards are not specifically tied to emission reductions, effective implementation of these strategies results in direct Scope 1 emission reductions.

Who is entitled to benefit from these incentives?

Other, please specify (Almost all employees)

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction project

Comment

Southern Excellence Awards are given to employees for immediate recognition of superior performance. Employees who work to further climate-related initiatives, including emission reductions, R and D that furthers carbon-free and carbon-neutral generation resources, energy efficiency programs, the electrification of transportation and the promotion of our environmental stewardship and sustainable business practices are eligible to receive these awards.

Who is entitled to benefit from these incentives?

Other, please specify (Almost all employees)

Types of incentives

Monetary reward

Activity incentivized

Energy reduction project

Comment

Southern Excellence Awards are given to employees for immediate recognition of superior performance. Employees who work to further climate-related initiatives, including emission reductions, R and D that furthers carbon-free and carbon-neutral generation resources, energy efficiency programs, the electrification of transportation and the promotion of our environmental stewardship and sustainable business practices are eligible to receive these awards.

Who is entitled to benefit from these incentives?
Other, please specify (Almost all employees)
Types of incentives
Monetary reward
Activity incentivized
Efficiency project
Comment
Southern Excellence Awards are given to employees for immediate recognition of superior performance. Employees who work to further climate-related initiatives, including emission reductions, R and D that furthers carbon-free and carbon-neutral generation resources, energy efficiency programs, the electrification of transportation and the promotion of our environmental stewardship and sustainable business practices are eligible to receive these awards.

Who is entitled to benefit from these incentives?
Other, please specify (Almost all employees)
Types of incentives
Monetary reward
Activity incentivized
Behavior change related indicator
Comment
Southern Excellence Awards are given to employees for immediate recognition of superior performance. Employees who work to further climate-related initiatives, including emission reductions, R and D that furthers carbon-free and carbon-neutral generation resources, energy efficiency programs, the electrification of transportation and the promotion of our environmental stewardship and sustainable business practices are eligible to receive these awards.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	2	
Medium-term	2	10	
Long-term	10	30	

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	We have a robust enterprise risk management program that facilitates identification, communication and management of the most significant risks in a formal process. Within this framework, risk governance and oversight are largely embedded in existing organizational and control structures. As part of the governance structure, the Chief Risk Officer is accountable to the CEO and the Board for ensuring that enterprise risk oversight and management processes are established and operating effectively. Officers and senior managers are responsible for working across the business to manage enterprise-level risk, monitor the performance of risk mitigation strategies and identify emerging risks. They meet routinely and engage regularly with the Board and its committees throughout the year. The OEandS Committee of the Board is charged with review and oversight of the significant operating segments and significant environmental and; safety policies and operating matters related to those segments.

C2.2b

(C2.2b) Provide further details on your organization’s process(es) for identifying and assessing climate-related risks.

Enterprise Risk Management, or ERM, generally refers to a comprehensive approach to risk management and oversight throughout an organization that is integrated with strategic planning activities (prioritize risks and allocate resource appropriately to better manage the business and mitigate risk). While Southern Company has a group of employees designated to facilitate and implement its ERM program, it is generally understood that risk management is everyone’s responsibility fro m

the Board of Directors to each Southern Company employee. The goal of ERM at Southern Company is to provide a clear understanding of the risks facing the Company and to ensure that oversight and accountability are appropriately defined. Risk governance and oversight is largely embedded in existing organization and control structure such as normal management oversight, project review processes, internal auditing, legal and regulatory compliance programs, and Sarbanes Oxley compliance programs. ERM governance provides structure to bring together these efforts in order to facilitate communications across entities and functions, promote consistency and the use of best practices, create a unified view of risk, and help incorporate risk into strategy considerations. The ERM program includes a semi-annual risk profile process which is used to identify, assess, and plan for the mitigation of risks throughout the Southern Company system and culminates in formal risk profiles for each participating entity. Participating entities are identified based on their ability to materially affect Southern Company. Southern Company's risk profile process is a bottom-up approach to risk identification and performed from a business unit and functional area perspective for robustness. This approach utilizes the expertise of our employees in identifying the major risks and promotes a risk aware culture across the Company. The risk profile process currently includes approximately 20 participating entities (operating companies, business units and functional areas) and risks of materiality (e.g., cyber/physical attack, environmental regulations/legislation, Vogtle 3&4, etc.). Additionally, information gathered through non-ERM processes, such as disclosures, auditing, and system and financial planning, are used for insight and monitoring of the ERM program. All risks are categorized and evaluated and ultimately the top risks are consolidated into a Southern Company profile which require the focused attention of the Board and management council. Profiles are used as inputs to various business processes at the entity, corporate, and Board of Director levels. Carbon related risk has been incorporated in Southern's ERM program's risk profile process since early 2000's and with an initial focus on the risk of laws and regulations.
The Board of Directors is responsible for oversight of strategy and risk, including risks related to carbon emissions and related matters. The Board recognizes the potential impacts on our business and the transitional risks and opportunities the utility industry faces in a low carbon future. The Board regularly assesses the company's short- and long-term business strategy, including the long-term sustainability of its business, in light of these carbon-related risks and opportunities. Issues that are the subject of active discussions at the Board and Board committee meetings include carbon-related risk, regulatory compliance, energy efficiency, renewable energy and emerging technology.

All Board members are actively involved in our risk oversight function. The Board reviews our risk profile and ensures that oversight of each risk is properly designated to an appropriate Board committee or the full Board. Each Board committee provides ongoing oversight for the risk designated to it, reports to the Board on their oversight activities and elevates review of risk issues to the Board as appropriate. Independent Directors chair each Board committee, and each committee has a designated member of executive management as the primary responsible officer for providing information and updates to the Board committee related to significant risks. There is regular, open communication between management and the Board on these topics throughout the year.

The Operations, Environmental and Safety (OE&S) Committee of the Board of Directors is charged with broad responsibility for review and oversight of: the Company's significant operating segments, including nuclear operations, electric power generation and transmission facilities and natural gas distribution and storage facilities; and significant environmental and safety policies and operating matters related to these segments. The OE&S Committee receives regular reports on operating units' safety and environmental activities. The committee also engages in robust discussions about carbon emissions and carbon risks to the business, strategic planning and scenario planning analysis.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	All relevant environmental laws and regulations are incorporated and business risk evaluated in the semi-annual risk profile process.
Emerging regulation	Relevant, always included	All relevant environmental laws and regulations are incorporated and business risk evaluated in the semi-annual risk profile process.
Technology	Relevant, always included	R&D, cybersecurity, and generation technology risks are incorporated and business risk evaluated in the semi-annual risk profile process.
Legal	Relevant, always included	Litigation risks are incorporated and business risk evaluated in the semi-annual risk profile process.
Market	Relevant, always included	Financial reporting and controls, financial integrity, long-term growth, demand of securities, and industry transformation are incorporated and business risk evaluated in the semi-annual risk profile process.
Reputation	Relevant, always included	Corporate image, ethics and compliance incidents, safety, and workforce talent and culture are incorporated and business risk evaluated in the semi-annual risk profile process.
Acute physical	Not evaluated	
Chronic physical	Not evaluated	
Upstream	Relevant, always included	Fuel price volatility is incorporated and business risk evaluated in the semi-annual risk profile process.
Downstream	Relevant, always included	Customer reputation is incorporated and business risk evaluated in the semi-annual risk profile process.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

For the energy industry, high-capital, long-life assets require long-term planning. The current transition in the energy industry along with the potential for a low- to no-carbon future is placing new and different pressures on the traditional energy production and delivery model, creating uncertainty and presenting challenges. The investor community recognizes this as potential risk.
Southern Company aims to minimize our exposure to carbon risk across the energy value chain as we make, move and sell energy to a wide customer base. Our business model relies heavily on state-regulated electric and natural gas investments as well as long-term contracted energy infrastructure, which differentiates Southern Company from other businesses. We believe that operating a customer-centric business model provides the opportunity to effectively respond to future carbon regulations and the potential to succeed in an accelerated transition to a low carbon business environment.
By continuing to make major energy decisions that are in the best interest of customers, appropriately consider fuel and carbon risks, and are approved by our state regulators, we expect to continue to receive fair regulatory treatment of our state-regulated investments. We believe that investment risk to these rate-regulated assets is limited.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.
Identifier
Risk 1
Where in the value chain does the risk driver occur?
Direct operations
Risk type
Transition risk
Primary climate-related risk driver
Policy and legal: Mandates on and regulation of existing products and services
Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)
Company- specific description

Costs associated with climate actions could be significant to the utility industry and the Southern Company system. However, the ultimate impact of these environmental laws and regulations will depend on various factors, such as state adoption and implementation of requirements, the availability and cost of any deployed control technology, and the outcome of pending and/or future legal challenges. Because natural gas is a fossil fuel with lower carbon content relative to other fossil fuels, future GHG constraints may create additional demand for natural gas, both for production of electricity and direct use in homes and businesses. The impact is already being seen in the power production sector due to both environmental regulations and low natural gas costs. Future GHG constraints focused on minimizing emissions from natural gas, albeit lower than other fossil fuels, could likewise result in increased costs to the Southern Company system and affect the demand for natural gas as well as the prices charged to customers and the competitive position of natural gas.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium-high

Potential financial impact

Explanation of financial impact

Costs associated with climate actions could be significant to the utility industry and the Southern Company system along with our customers. The ultimate impact of these environmental laws and regulations will depend on various factors, such as state adoption and implementation of requirements, the availability and cost of any deployed control technology, and the outcome of pending and/or future legal challenges.

Management method

Southern has been constructively engaging in GHG policy and rulemaking (see Section C12) and has anticipated and incorporated GHG risk into its scenario planning and enterprise risk management practices for some time. These practices have allowed Southern to properly evaluate and manage the risk around GHG. Southern has also applied substantial resources to the technology necessary to move toward a low-carbon future committed to providing clean, safe, reliable and affordable energy, while transitioning to low- to no-carbon operations by 2050.

Cost of management

0

Comment

No additional management cost currently anticipated due to it being a part of existing governance and management practices.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Technology: Costs to transition to lower emissions technology

Type of financial impact driver

Technology: Costs to adopt/deploy new practices and processes

Company- specific description

The energy sector is rapidly evolving, driven by customer preferences, technology advancements, commodity process, energy security and resiliency efforts, and environmental, social, and governance initiatives. Southern Company is committed to providing clean, safe, reliable and affordable energy, while transitioning to low- to no-carbon operations by 2050.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium-high

Potential financial impact

Explanation of financial impact

Costs associated with a transition to low emission technologies could be significant to the utility industry and the Southern Company system along with our customers. The ultimate impact of this transition will depend on the development of new and more cost-effective energy conversion, delivery and use technologies. Southern Co. has actively engaged in robust, RandD that grows the value of energy services to customers since the 1960s. Nearly all of our current RandD spend is focused on lower-carbon-emitting technologies. Because natural gas is a fossil fuel with lower carbon content relative to other fossil fuels, future GHG constraints may create additional demand for natural gas, both for production of electricity and direct use in homes and businesses. The impact is already being seen in the power production sector due to both environmental regulations and low natural gas costs. Future GHG constraints focused on minimizing emissions from natural gas could result in increased costs.

Management method

Southern has been constructively engaging in GHG policy and rulemaking (see Section C12) and has anticipated and incorporated GHG risk into its scenario planning and enterprise risk management practices for some time. These practices have allowed Southern to properly evaluate and manage the risk around GHG. Southern has also applied substantial resources to the

technology necessary to move toward a low-carbon future committed to providing clean, safe, reliable and affordable energy, while transitioning to low- to no-carbon operations by 2050.

Cost of management

0

Comment

Southern Company's RandD strategy has a goal of at least six revolutionary technological successes: • Beneficial electrification with newly developed and broadly deployed technologies including those for transportation, buildings, industrial processes and food production; • Solar, wind, energy storage and other carbon-free energy resources – supported by advancements in cost and efficiency through RandD - developed and operated in centralized and microgrid configurations, as well as behind the meter as the lowest-cost energy sources; • Resilient, fully integrated energy delivery grids allowing increased use of low- to no-GHG emissions energy; • Cost-effective carbon capture use and storage (CCUS) technologies developed and operating on an efficient, reliable natural gas-fired generation fleet; • New utility business models created from hydrogen production, delivery and end-use technologies; and • Advanced nuclear power generation developed with superior safety benefits and polygene

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Identifier

Risk 3

Where in the value chain does the risk driver occur?

Customer

Risk type

Transition risk

Primary climate-related risk driver

Market: Changing customer behavior

Type of financial impact driver

Technology: Costs to adopt/deploy new practices and processes

Company- specific description

The energy sector is rapidly evolving, driven by customer preferences, technology advancements, commodity process, energy security and resiliency efforts, and environmental, social, and governance initiatives. Customers are seeking options to increase their use of renewable resources. Southern Company and its subsidiaries are committed to finding solutions to customer needs. For example, as a part of Georgia Power's 2016 Integrated Resource Plan, Georgia Power along with Georgia Public Service Commission approval, implemented a new Community Solar Program. This program is designed to provide residential customers with an opportunity to support the development of solar power in Georgia by purchasing a monthly subscription in exchange for receiving a bill credit based on the solar facilities' production.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-high

Potential financial impact

Explanation of financial impact

The ultimate impact of this transition will depend on the development of new and more cost-effective energy conversion, delivery and use technologies. Southern Company has actively engaged in robust, RandD that grows the value of energy services to customers since the 1960s. Nearly all of our current RandD spend is focused on lower-carbon-emitting technologies. Because natural gas is a fossil fuel with lower carbon content relative to other fossil fuels, future GHG constraints may cre ate additional demand for natural gas, both for production of electricity and direct use in homes and businesses. The impact is already being seen in the power production sector due to both environmental regulations and low natural gas costs. Future GHG constraints focused on minimizing emissions from natural gas could likewise result in increased costs to the Southern Company system and affect the demand for natural gas as well as the prices charged to customers for electricity and natural gas.

Management method

Southern has been constructively engaging in GHG policy and rulemaking (see Section C12) and has anticipated and incorporated GHG risk into its scenario planning and enterprise risk management practices for some time. These practices have allowed Southern to properly evaluate and manage the risk around GHG. Southern has also applied substantial resources to the technology necessary to move toward a low-carbon future committed to providing clean, safe, reliable and affordable energy, with the goal of transitioning to low- to no-carbon operations by 2050. Through our planning process and customer partnerships, Southern Company and its subsidiaries will continue to evaluate and develop program designs to meet customers' renewable energy needs.

Cost of management

0

Comment

No additional management cost currently anticipated due to it being part of existing governance and management practices.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact driver

Technology: Costs to adopt/deploy new practices and processes

Company- specific description

Investors and environmental stakeholders are increasingly concerned with environmental impact. In recent years, Southern Company has multiple shareholder resolutions related to environmental matters. We expect this pressure to reduce emissions and transition to lower emitting or carbon free technologies to continue.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Potential financial impact

Explanation of financial impact

The ultimate impact of this transition will depend on the development of new and more cost-effective energy conversion, delivery and use technologies. Southern Company has actively engaged in robust RandD that grows the value of energy services to customers since the 1960s. Nearly all of our current RandD spend is focused on lower-carbon-emitting technologies. Because natural gas is a fossil fuel with lower carbon content relative to other fossil fuels, future GHG constraints may create additional demand for natural gas, both for production of electricity and direct use in homes and businesses. The impact is already being seen in the power production sector due to both environmental regulations and low natural gas costs. Future GHG constraints focused on minimizing emissions from natural gas could likewise result in increased costs to the Southern Company system and affect the demand for natural gas as well as the prices charged to customers and the competitive position of nat. gas.

Management method

We place great importance on consistent dialogue with all our stakeholders, including customers, employees, and investors. We regularly engage in discussions with, and provide comprehensive information for, constituents interested in our citizenship, stewardship and environmental compliance. We are receptive to stakeholder concerns, and we are committed to transparency and proactive interactions with our investors. We regularly communicate with our shareholders to better understand their viewpoints, gather input on our business strategy and execution and obtain feedback regarding other matters of investor interest.

Cost of management

0

Comment
No additional management cost currently anticipated due to it being part of existing governance and management practices.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.
Identifier
Opp1
Where in the value chain does the opportunity occur?
Direct operations
Opportunity type
Resource efficiency
Primary climate-related opportunity driver
Use of more efficient modes of transport
Type of financial impact driver
Increased production capacity, resulting in increased revenues
Company- specific description
The transportation sector accounted for 36 percent of the total U.S. energy-related CO_2 emissions in 2016. Transitioning this sector from the heavy use of fossil fuels presents the largest opportunity in realizing a carbon-free future. With overall carbon reductions as the objective, emissions reductions in the electricity sector can provide important motivation for further electrification of the remaining end-use sectors. We are exploring opportunities for carbon reductions from the transportation sector through our electric vehicle (EV) and hydrogen research efforts.
Time horizon
Medium-term
Likelihood
Very likely
Magnitude of impact

Medium-high

Potential financial impact

Explanation of financial impact

The ultimate impact of electrifying the transportation sector will depend on various factors, such as state adoption and implementation of requirements, tax incentives, vehicle cost, and the advancement of electric vehicles and/or battery technology.

Strategy to realize opportunity

We are also actively engaged in advancing the electrification of transportation, which will reduce transportation costs for customers while reducing carbon emissions. This includes: Promoting customer education and awareness. Working with vehicle manufacturers and EPRI to bring viable on-road EV technologies to market. Helping develop charging infrastructure and improve vehicle/grid integration plans for efficient distribution. Offering lower electricity rates and programs for off-peak usage, which helps commercial and industrial customers reduce their operating costs and environmental impact. Accelerating the growth of the U.S. EV infrastructure as a member of the Alliance for Transportation Electrification.

Cost to realize opportunity

Comment

Cost to realize the opportunity is dependent on speed of regulatory and tax drivers and the speed and volume of electric vehicle acceptance.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Type of financial impact driver

Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon

Company- specific description

To date, none of the four states where we operate electric utilities has enacted legislation or regulations to specifically regulate CO_2 emissions or mandates for certain levels of renewable resources. But we understand our customers' needs and preferences for clean, safe, reliable and affordable energy, as well as a continuing desire of many of our stakeholders to reduce our carbon emissions. We will work within each state's regulatory framework – with support from customers, state regulators, and

environmental agencies – to ensure that our carbon reduction efforts are supportive of customers' needs and preferences. We are committed to nuclear energy as an integral component of the full portfolio strategy for low- to no-carbon operations. Georgia Power, with its co-owners, is constructing two new nuclear units at the Plant Vogtle site in Burke County, Georgia. Upon completion, Plant Vogtle Units 3 and 4 is expected to provide a total of 2,200 MW (approximately 1,000 MW for Georgia Power). Once completed, Plant Vogtle units 3 and 4 will be part of a 4,700 MW carbon-free nuclear generation fleet. We have also been awarded up to $40 million from the DOE to explore, develop and demonstrate advanced nuclear reactor technologies.

Time horizon

Current

Likelihood

Likely

Magnitude of impact

High

Potential financial impact

Explanation of financial impact

The opportunity for capital investment in low-emitting energy sources could be significant to the utility industry and the Southern Company system. The ultimate impact of low- to no-emission resources will depend on various factors, such as technology development and availability, cost and regulatory and tax drivers.

Strategy to realize opportunity

The energy sector is rapidly evolving, driven by customer preferences, technology advancements, commodity process, energy security and resiliency efforts, and environmental, social, and governance initiatives. Southern Company is committed to providing clean, safe, reliable and affordable energy, with a goal of transitioning to low- to no-carbon operations by 2050. We are the only energy company in the nation to partner with the Army, Navy, Marine Corps and Air Force to develop innovative renewable energy generation projects on 19 military bases. Through March 2018, 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. This partnership with the Department of Defense helps meet the military's goals to support the development of new renewable generation resources nationwide. Alabama Power, Georgia Power and Gulf Power have purchased more than 900 MW of wind generation from Oklahoma and Kansas. The companies receive all the renewable energy credits from these projects, which they may use to serve customers with wind energy or sell to third parties for the benefit of customers. Our state-regulated electric utilities utilize over 5,000 MW of existing renewable resources. Through our planning process and customer partnerships, Southern Company and its subsidiaries will continue to evaluate and develop program designs to meet customers' renewable energy needs.

Cost to realize opportunity

Comment

Cost is dependent on the speed of new low- to no- emission resource development, installation costs, and customer acceptance.

Identifier
Opp3
Where in the value chain does the opportunity occur?
Direct operations
Opportunity type
Products and services
Primary climate-related opportunity driver
Development of new products or services through R&D and innovation
Type of financial impact driver
Better competitive position to reflect shifting consumer preferences, resulting in increased revenues
Company- specific description
We have more than 20 research and development projects underway across our system to determine the potential of different renewable resources and technologies. Research areas include solar photovoltaic (PV) deployment, operation and maintenance, solar resource forecasting, wind generation, biomass-fueled power generation and bulk-power system integration of variable generation sources. Over the past 10 years, we have made major investments in smart grid technologies including deploying approximately 4.6 million smart meters, or advanced metering infrastructure, helping customers better manage their energy use and save money. We are also conducting collaborative, industry-wide research with EPRI, for the ongoing development of transmission system monitoring, diagnostics and visualization tools that will facilitate decisions and mitigation measures to enhance system performance, efficiency and reliability. Our long and successful history of incorporating distributed generation into our energy mix began in the late 1970s and continues today. In April 2017, PowerSecure extended its distributed infrastructure offering by acquiring Power Pro-Tech Services, a distributed power system service provider that specializes in distributed power systems including fuel cells, solar inverters and controls that can be used to create microgrids for use by customers. In addition, Gulf Power is operating a 1 MWh Tesla lithium-ion battery energy storage system in a research demonstration with Southern Company R&D and EPRI. The integration of cost effective energy storage with intermittent renewable generation is one of the key options that can help lower carbon emissions.
Time horizon
Current
Likelihood
Very likely
Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact

The opportunity for capital investment in new products and services that meet customer preferences could be significant to the utility industry and the Southern Company system. Cost is dependent on the speed new low- to no- emission resource development, installation costs, and customer preferences.

Strategy to realize opportunity

Continue our industry-leading RandD, as well as active participation in the Electric Power Research Institute (EPRI), with particular focus on technologies that lower GHG emissions

Cost to realize opportunity

Comment

Cost is dependent on the speed of development and deployment of new products and services and the pace of customer preference changes.

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact driver

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

Company- specific description

We are a leader in offering innovative electric and natural gas energy efficiency programs that help our customers use energy more wisely. These programs have been successful because across our state-regulated electric utilities, since 2000, energy efficiency and demand response programs have helped reduce peak demand for electricity by more than 5,300 MW (which equates to 17 percent of our 2017 peak load) and avoid more than 3 billion kWh of energy use. Additionally, over the past 16 years, Southern Company Gas' energy efficiency programs have helped reduce demand by more than 90 million therms and reduced customers' emissions. Looking forward, we are on a path to finding more ways for our customers to save money while also reducing GHG emissions. Energy efficiency programs and associated customer savings will remain a focus of the Company.

Time horizon

Current

Likelihood

Very likely

Magnitude of impact

Medium

Potential financial impact

Explanation of financial impact

The opportunity for capital investment in new products and services that meet customer preferences could be significant to the utility industry and the Southern Company system. Cost is dependent on the speed of new low- to no- emission resource development, installation costs, and customer preferences.

Strategy to realize opportunity

Continue our industry-leading RandD, as well as active participation in the Electric Power Research Institute (EPRI), with particular focus on technologies that lower GHG emissions.

Cost to realize opportunity

Comment

Cost is dependent on the speed of development and deployment of new products and services and the pace of customer preference changes.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	Beyond providing clean, safe, reliable, and affordable energy to our customers, we are ensuring that our customers can efficiently use our product. In May 2016, we acquired PowerSecure, a proprietary distributed infrastructure, energy efficiency and utility infrastructure solutions company. With over 1.5 gigawatts (GW) of distributed energy resources under management, PowerSecure has a national footprint and continues to grow. In October 2016, PowerSecure and Bloom Energy formed a strategic venture where Bloom servers (fuel cells) are paired with PowerSecure's energy storage solutions for a portfolio of customers. In June 2017, PowerSecure and Advanced Microgrid Solutions announced a strategic alliance with the goal of accelerating the cost-effective deployment of distributed energy resources. We believe this alliance positions us to serve a nationwide base of customers on both sides of the meter more reliably and efficiently. Southern Company is a primary partner in Energy Impact Partners (EIP). EIP is a private equity firm that strategically invests in innovative technologies, services and products throughout the electricity supply chain from generation to consumption. Through close collaboration with its investors base, EIP seeks to bring the best companies' buying power and vision in the industry to bear on the emerging energy landscape. We are a leader in offering innovative electric and natural gas efficiency programs that help our customers use energy more wisely. These programs have been successful across our state-regulated electric utilities, since 2000, energy efficiency and demand response programs have helped reduce peak demand of electricity by more than 5,300 MW (which equates to 17 percent of our 2017 peak load) and avoid more than 3 billion kWh of

	Impact	Description
		energy use. Additionally, over the past 16 years, Southern Company Gas' energy efficiency programs have helped reduce demand by more than 90 million therms and reduced customers' emissions. Looking forward, we are on a path to finding more ways for our customers to save money while also reducing GHG emissions by investing in energy efficiency for electric customers and natural gas customers. Energy efficiency programs and associated customer savings will remain a focus of the Company.
Supply chain and/or value chain	Not yet impacted	
Adaptation and mitigation activities	Impacted	Southern Company is committed to providing clean, safe, reliable and affordable energy, with a goal of transitioning to low- to no-carbon operations by 2050. We have already made significant progress with an "all of the above" approach to electric generation resources diversity. For the first time, in 2018, we set enterprise-wide emissions reduction goals (50% GHG reduction by 2030 and low- to no-carbon operations by 2050) that are aligned with our long-term business strategy. Our path to 2050 includes the following actions: • We do not intend to invest further in our existing thermal coal fleet, unless the investment ensures safety, affordability or reliability to serve customers or to comply with federal or state laws • In each of our state-regulated jurisdictions, we will continue to propose and seek approval of low-carbon and carbon-free resources that are in the best interest of our customers as energy deployment options in the resource planning process • We will work within the regulatory framework in each of our states to ensure that our carbon reduction efforts support customers' needs and preferences • We will continue our industry-leading RandD efforts seeking to drive technology advancements that lead to GHG reductions across the energy value chain • As a consumer and distributor of natural gas, we will continue our participation in the ONE Future program with a goal to achieve an average rate of methane emissions across the entire natural gas value chain that is one percent or less of total natural gas production.
Investment in R&D	Impacted	Southern Company has actively engaged in robust, proprietary RandD that grows the value of energy services to customers since the 1960s. Nearly all our current RandD spend is focused on lower carbon-emitting technologies. We are also an active participant and a significant funder of EPRI, whose membership includes utilities throughout the world. Our RandD strategy seeks at least six revolutionary technological successes: • Beneficial electrification with newly developed and broadly deployed technologies including those for transportation, buildings, industrial processes and food production. • Solar, wind, energy storage and other carbon-free energy resources – supported by advancements in cost and efficiency through RandD – developed and operated in centralized and microgrid configurations, as well as behind the meter as the lowest-cost energy sources • Resilient, fully integrated energy delivery grids allowing increased use of low- to no-GHG emissions energy • Cost-effective carbon capture, use and storage technologies developed and operating an efficient, reliable natural gas-fired generation fleet • New utility business models created from hydrogen production, delivery and end-use technologies • Advanced nuclear power generation developed with superior safety benefits and polygeneration business opportunities that is cost-competitive with natural gas-fired generation.
Operations	Impacted	We are one of the few energy companies pursuing a full portfolio energy strategy. We believe developing and maintaining a diversified energy portfolio is essential to successfully reducing carbon emissions while maintaining reliability and affordability. Our portfolio was initially founded on hydroelectric generation and has grown to include coal, natural gas, nuclear, biomass, landfill gas, solar, wind, energy efficiency programs, demand response, and distributed resources. Over the last decade, we have significantly transformed our electricity generation mix. Recent generation decisions and environmental compliance strategies have led to the following: • Approximately 4,200 MW of coal- and oil-related retirements since 2010. • Approximately 3,300 MW of coal capacity switched to use natural gas as the primary fuel since 2015. We invest in a diverse portfolio of low-carbon and carbon-free energy assets to serve customers and communities with a focus on maintaining reliability and affordability while reducing carbon emissions. Through our subsidiaries we are investing $20 billion in developing low-carbon and carbon-free resources, and more than 5,000 MW of renewable generating capacity has been added across the system since 2010. Our current portfolio of over 12,000 MW of carbon-free and carbon neutral resource capacity has established a foundation enabling us

	Impact	Description
		to continue our carbon reduction efforts. • Along with our partners, we are building the first new nuclear units in the U.S. in more than 30 years. The units will add 1,000 MW to our existing 3,700 MW portfolio of carbon-free nuclear generation. • We are among the largest solar owner-operators in the U.S. Solar represents a key component of our state-regulated utilities' and Southern Power's 8,500 MW renewable resource portfolio. • Our state-regulated electric operating companies' renewable resource portfolio includes more than 900 MW of wind, 1,000 MW of solar, 3,000 MW of hydroelectric, and nearly 200 MW of biomass. • Our competitive generation subsidiary, Southern Power, owns approximately 1,800 MW of solar, 1,600 MW of wind, and 100 MW of biomass. The trends of additional natural gas-fired and renewable generation are projected to continue. We expect to add an additional 3,000 MW of renewable generation capacity by 2022.
Other, please specify	Please select	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	Our energy infrastructure portfolio of primarily rate-regulated assets and assets under long-term contracts is designed to produce regular, predictable and sustainable earnings. The Southern Company system has made significant investment over the past decade in low- and no-carbon resources. We expect that if our companies continue to make major energy decision that are in the best interest of customers, that consider fuel and carbon risks, and that are approved by the state regulators, each company will receive fair regulatory treatment regarding its regulated assets. We will continue to seek out opportunities outside of our rate-regulated assets to grow our renewable portfolio.
Operating costs	Impacted	As mentioned in Question C2.5, we are investing nearly all our current RandD spend into lower carbon-emitting technologies and expanded our products and services through PowerSecure's strategic partnerships with Bloom and Advanced Microgrid Solutions.
Capital expenditures / capital allocation	Impacted	As mentioned in Question C2.5, through our subsidiaries we are investing $20 billion in developing low-carbon and carbon-free resources and more than 5,000 MW of renewable generating capacity has been added across the system since 2010. Our current portfolio of over 12,000 MW of carbon-free and carbon neutral resource capacity has established a foundation enabling us to continue our carbon reduction efforts.
Acquisitions and divestments	Impacted	As mentioned in Question C2.5, beyond providing clean, safe, reliable, and affordable energy to our customers, we are ensuring that our customers can efficiently use our product. In May 2016, we acquired PowerSecure, a proprietary distributed infrastructure, energy efficiency and utility infrastructure solutions company. With over 1.5 gigawatts (GW) of distributed energy resources under management, PowerSecure has a national footprint and continues to grow. Over the last decade, we have significantly transformed our electricity generation mix. Recent generation decisions and environmental compliance strategies have led to approximately 4,200 MW of coal- and oil-related retirements since 2010 and approximately 3,300 MW of coal capacity switched to use natural gas as the primary fuel switches since 2015.
Access to capital	Not impacted	

	Relevance	Description
Assets	Impacted	We have seen a positive impact to our assets. We invest in a diverse portfolio of low-carbon and carbon-free energy assets to serve customers and communities. Through our subsidiaries, we are investing $20 billion in developing low-carbon and carbon-free resources since 2010.
Liabilities	Not impacted	
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

Southern Company is committed to providing clean, safe, reliable, and affordable energy and reducing emissions of carbon dioxide (CO2) and other greenhouse gases (GHG) by developing the full portfolio of energy resources. Southern Company understands that operating in a CO2-constrained future will be a reality, and we have been planning over a decade for a CO2-

constrained future. Climate change is a challenging issue for our world and our nation, and Southern Company is committed to a leadership role in finding solutions that make technological, environmental and economic sense.
As published in April 2018, we are, for the first time, setting emission reduction goals that are aligned with our long-term business strategy and our commitment to a leadership role in developing solutions that make technological and economic sense. These are enterprise-wide goals that encompass our electric and natural gas operations. Our strategy to achieve these goals includes the continued development and deployment of a diverse portfolio of energy resources to reliably and affordably serve our customers and communities with a focus on reducing CO2, emissions. To do this, we are aggressively growing our investment in renewable energy, modernizing the grid to optimize technology advancements, increasing the use of natural gas, building new nuclear generating units, continuing our industry-leading, robust research and development (R&D) efforts, and investing in energy efficiency for savings on both sides of the meter. Transitioning to a low-carbon future will require continued advancement in technology. We also see potential to invest appropriately in new technologies that may emerge, mature and come to market through our PowerSecure subsidiary. We are also engaging with policymakers, customers and other stakeholders to help shape an energy policy that enhances optionality across the entire energy value chain and supports the development and deployment of more carbon-free energy sources, while ensuring that each state that we serve retains the ability to adequately plan and deploy resources that meet the needs of its citizens and communities.
As we plan for a cleaner energy future, we recognize that our current electric generation portfolio consists of high-capital, long-life assets. Efforts to further diversify our portfolio should be achieved through an orderly transition that accounts for the economic value of our existing assets. Our robust scenario based integrated resource planning process occurs annually, and is a key component that we use to ensure that the right resources are deployed at the right time to maintain safety, reliability and affordability for customers. The planning process allows for updates to a number of assumptions, inputs, and alternatives, including potential CO2, prices, fuel and other commodity prices, as well as economic or other policy indicators. The annual process allows each of our state-regulated utilities to actively work within its regulatory framework to ensure that carbon reduction efforts are in customer's best interests over time.
Today, we are one of the few energy companies pursuing a full portfolio energy strategy. We believe developing and maintaining a diversified energy portfolio is essential to successfully reducing carbon emissions while maintaining reliability and affordability.

C3.1d

(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios	Details
Other, please specify (scenario planning)	Our integrated resource planning process occurs annually – allowing updates to the scenarios and associated CO2 prices, as well as incorporation of the most recent commodity, economic or policy indicators. We use a robust scenario planning process that has two primary components: energy economy modeling and integrated resource planning. • Energy economy modeling, in collaboration with external industry experts, analyzes the implications of diverse futures on multiple sectors of the nation's economy. The two central uncertainties analyzed at a macro, national-level are fuel (e.g., natural gas prices) and CO_2 (e.g., represented as a cost to emit CO_2). Understanding the impacts to individual sectors of the economy and the interaction between sectors at the macro-economy level provides significant insight to informing and identifying broad industry risks and potential business strategies. This scenario format also serves as a basis for integrated resource planning at the state-regulated electric operating companies – and ultimately informs major generation retirement and capital investment decisions. We utilize scenarios that have $10 / metric ton and $20 / metric ton prices on carbon, with these prices escalating at a rate substantially greater than inflation. • Integrated resource planning provides an orderly and reasoned framework where generation supply and demand-side options are analyzed across the state-regulated electric operating companies with the objective of providing reliable and affordable energy that meets customers' needs over the planning horizon. Southern Company's recent scenario planning analysis of the overall U.S. economy shows a reduction of approximately 70 percent in one of the scenarios. It should be noted that this reduction of approximately 70 percent in carbon emissions is close to the U.S. electric sector reductions modeled in IEA's 2DS. However, our recent analysis does not achieve these reductions until 2050. So, while we don't explicitly have a 2DS scenario, we do have a scenario that achieves similar reductions, albeit over a longer time horizon. Our goal of low- to no-carbon emissions by 2050 aligns with the modeled trajectories associated with the 2DS emissions trajectories.

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization's low-carbon transition plan.

Decisions made by an electric operating company regarding its assets, including those requiring state regulator (i.e., Public Service Commission or PSC) approval, must be made in the best interest of its customers, taking into consideration a wide variety of factors, and based on the best information available at the time the decisions are made. Our state-regulated electric operating companies are committed to proposing and seeking approval of energy deployment options in each state jurisdiction's resource planning process that coincide with a transition to a low- to no carbon future. These resources, for example, may include: advanced natural gas generating units, nuclear, renewables, energy efficiency, and demand response. Each state-regulated electric operating company will work within its state's regulatory framework to ensure that carbon reduction efforts are supportive of customers' needs and preferences. To date, none of the four states where we operate electric utilities has enacted legislation or regulations to specifically regulate CO2, emissions or mandates for certain levels of renewable resources. But we understand our customers' needs and preferences for clean, safe, reliable and affordable energy, as well as a continuing desire of many of our stakeholders to reduce our carbon emissions. We will work within each state's regulatory framework - with support from customers, PSCs, and environmental agencies to ensure that our carbon reduction efforts are supportive of customers' needs and preferences. We invest in a diverse portfolio of low-carbon and carbon-free energy assets to serve customers and communities with a focus on maintaining reliability and affordability while reducing carbon emissions. Through

our subsidiaries we have invested $20 billion in developing low-carbon and carbon free resources and more than 5,000 MW of renewable generating capacity has been added across the system since 2010. Our current portfolio of over 12,000 MW of carbon-free and carbon neutral resource capacity has established a foundation enabling us to continue our carbon reduction efforts.
Along with our partners, we are building the first new nuclear units in the U.S. in more than 30 years. These units will add 1,000 MW to our existing 3,700 MW portfolio of carbon-free nuclear generation. We are among the largest solar owner-operators in the U.S. Solar represents a key component of our state-regulated utilities' and Southern Power's 8,500 MW renewable resource portfolio. Our state-regulated electric operating companies renewable resource portfolio includes more than 900 MW of wind, 1,000 MW of solar, 3,000 MW of hydroelectric and nearly 200 MW of biomass. 1 Generally, with respect to renewable energy generated or purchased by the state-regulated electric operating companies, the state-regulated electric operating companies retain the right to use the renewable energy to serve customers or to sell the energy and associated renewable energy credits, together or separately, to third parties for the benefit of customers. Our competitive generation subsidiary, Southern Power, owns approximately 1,800 MW of solar, 1,600 MW of wind and 100 MW of biomass. Our future energy mix is expected to include more low- and no-carbon resources, particularly if natural gas prices remain low and technology costs associated with renewables and storage continue to decrease. The trends of coal unit retirements and additions of natural gas-fired
and renewable generation are projected to continue. We expect to add an additional 3,000 MW of renewable generating capacity by 2022. Nuclear energy is one of the cleanest, most reliable and cost-effective fuel sources available today. It currently accounts for about 15 percent of our electricity generation mix, and its importance in our portfolio continues to grow. As we transition to a low-carbon energy future, we are preparing to bring Georgia Power's Vogtle Units 3 and 4 into operation in 2021 and 2022. We expect to own or otherwise control 16,000 MW of carbon-free and carbon neutral generating capacity by 2022.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?
No target

C4.1c

(C4.1c) Explain why you do not have emissions target and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	2030 goal of 50% reduction of GHG emissions from 2007 levels	In April 2018 we set a long-term goal of low- to no-carbon operations by 2050 on an enterprise-wide basis. On our path to 2050, we have set a goal of 50 percent reduction from 2007 levels in GHG emissions by 2030. Achievement of these goals will be dependent on many factors, including natural gas prices and the pace and extent of improvements in energy technology.

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target

Methane reduction target

KPI – Metric numerator

Methane leak rate from gas distribution.

KPI – Metric denominator (intensity targets only)

Throughput of natural gas.

Base year

2012

Start year

2017

Target year

2025

KPI in baseline year

0.26

KPI in target year

0.22

% achieved in reporting year

0

Target Status

Underway

Please explain

Southern Company Gas is a founding member of the ONE Future program, a coalition of companies across the natural gas value chain focused on identifying policy and technical solutions that yield continuous improvement in the management of methane emissions associated with the production, processing, transmission, and distribution of natural gas. If adopted widely, their system of emissions management could lower total methane emissions to less than one percent of gross production and

delivery – the point at which the use of natural gas for any purpose provides a clean and immediate GHG-reduction benefit as compared to any other fossil fuel in any other application.

Part of emissions target

The methane reduction target would fall under the overall target set in April 2018 to reduce enterprise-wide emissions as noted in question. 4.1c.

Is this target part of an overarching initiative?

Other, please specify (ONE Future Program)

Target

Energy productivity

KPI – Metric numerator

Individual Unit Heat Rate

KPI – Metric denominator (intensity targets only)

Base year

Start year

Target year

KPI in baseline year

KPI in target year

% achieved in reporting year

Target Status

Underway

Please explain

The Southern Company system's electric generating units have annual goals related to heat rate (efficiency metric) of the individual units. Baselines are based on the previous year's operation, and goals are established per unit. Employees responsible for heat rate are incentivized to meet these goals as they are a part of annual performance pay goals. Striving to meet these operational goals ensure the units are operated efficiently.

Part of emissions target

Efficient operation and continued maintenance of the units assists in meeting the Southern Company system's overarching target discussed in C4.1C

Is this target part of an overarching initiative?

Other, please specify (Part of Overall Reduction Goals)

Refer back to Emission and Energy Reduction Goals in C1.3.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*	2	32000
Implementation commenced*		
Implemented*	16	1400000
Not to be implemented		

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Activity type

Fugitive emissions reductions

Description of activity

Oil/natural gas methane leak capture/prevention

Estimated annual CO2e savings (metric tonnes CO2e)

3583

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

Investment required (unit currency – as specified in CC0.4)

Payback period
Please select
Estimated lifetime of the initiative
Ongoing
Comment
Southern Company Gas utilizes excess flow valves to minimize fugitive emissions. In 2017, 58,308 of these valves were installed.

Activity type
Fugitive emissions reductions
Description of activity
Oil/natural gas methane leak capture/prevention
Estimated annual CO2e savings (metric tonnes CO2e)
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Annual monetary savings (unit currency – as specified in CC0.4)
Investment required (unit currency – as specified in CC0.4)
Payback period
Please select
Estimated lifetime of the initiative
Ongoing
Comment
Southern Company Gas actively considers methods that result in reduced methane emissions caused by pipeline blowdowns during pipeline maintenance and repair. As applicable, different methods have been employed, including flaring the blowdown gas, compressing the gas out of the isolated pipeline section into another pipeline section, and lowering the pressure in the isolated section first before blowdown through consumption by end users. The actual savings from these process implementations have not been quantified as different methodologies are utilized by different regions within the Southern Company Gas system. All methods are effective in reducing methane emissions.

Activity type
Low-carbon energy installation

Description of activity
Solar PV
Estimated annual CO2e savings (metric tonnes CO2e)
308000
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Annual monetary savings (unit currency – as specified in CC0.4)
0
Investment required (unit currency – as specified in CC0.4)
Payback period
Please select
Estimated lifetime of the initiative
Ongoing
Comment
In 2017, the Southern Co. system completed 5 solar projects across the country. The energy from some of these solar projects, which are a part of Southern Power's wholesale portfolio, is sold to other companies for resale or delivery to their customers. Because some of these projects do not supply energy or renewable energy credits to Southern Co. subsidiaries in our regulated jurisdictions, they do not result in a reduction in Southern's CO2 emissions associated with Southern's retail electric service. They do however result in avoided emissions for others, specifically the ultimate purchaser of the renewable energy credits. Generally, with respect to renewable energy generated or purchased by the state-regulated electric operating companies, the state-regulated electric operating companies retain the right to use the renewable energy to serve customers or to sell the energy and associated renewable energy credits, together or separately, to third parties for the benefit of customers. For the wholesale projects, Southern Power sells the renewable energy credits generated by the projects to 3rd parties. Southern Company receives regulatory & program approvals through Public Service Commissions in respective retail operating company states prior to entering into any agreements to build or purchase renewable energy. While "voluntary" was selected, it should be noted that in some cases builds & purchases were developed as projects in conjunction with the respective PSCs.

Activity type
Low-carbon energy purchase
Description of activity
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)
124000
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Annual monetary savings (unit currency – as specified in CC0.4)
0
Investment required (unit currency – as specified in CC0.4)
Payback period
Please select
Estimated lifetime of the initiative
Ongoing
Comment
In 2017, Southern began taking delivery on energy from 2 solar projects through Power Purchase Agreements within Gulf Power. Gulf is serving its retail customers with the solar energy generated. Southern Company's retail operating companies receive regulatory approval through public service commissions (PSCs) in respective retail operating company states prior to entering into any agreements to build or purchase renewable energy. While "voluntary" was selected, it should be noted that in some cases builds and purchases were developed in conjunction with the respective PSCs.

Activity type
Low-carbon energy purchase
Description of activity
Solar PV
Estimated annual CO2e savings (metric tonnes CO2e)
113000
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Annual monetary savings (unit currency – as specified in CC0.4)
0
Investment required (unit currency – as specified in CC0.4)

Payback period
Please select
Estimated lifetime of the initiative
Please select
Comment
In 2017, a Southern subsidiary completed Power Purchase Agreements for three solar projects in their retail service territory. Generally, with respect to renewable energy generated or purchased by the state-regulated electric operating companies, the state-regulated electric operating companies retain the right to use the renewable energy to serve customers or to sell the energy and associated renewable energy credits, together or separately, to third parties for the benefit of customers. The ultimate purchaser of the renewable energy credits receives the right to claim all associated emission reductions.

Activity type
Low-carbon energy installation
Description of activity
Other, please specify (Wind)
Estimated annual CO2e savings (metric tonnes CO2e)
590000
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Annual monetary savings (unit currency – as specified in CC0.4)
0
Investment required (unit currency – as specified in CC0.4)
Payback period
Please select
Estimated lifetime of the initiative
Ongoing
Comment
In 2017, Southern Power completed a wind project for 276 MW as a wholesale project. The energy from the wind project is sold to other companies for resale or delivery to their customers. Because this project does not supply energy to the Southern Company system in its regulated jurisdictions, it does not result in a reduction in the Southern Company system’s CO2

emissions associated with retail load service. They do however result in avoided emissions for the retail load of the ultimate purchasers of the renewable energy credits.

Activity type
Low-carbon energy purchase
Description of activity
Other, please specify (Wind)
Estimated annual CO2e savings (metric tonnes CO2e)
501000
Scope
Scope 1
Voluntary/Mandatory
Voluntary
Annual monetary savings (unit currency – as specified in CC0.4)
Investment required (unit currency – as specified in CC0.4)
Payback period
Please select
Estimated lifetime of the initiative
Please select
Comment
In 2017, Southern completed a Power Purchase Agreement for one wind project in the retail service territory. Gulf is serving its retail customers with the wind energy generated. Southern Company's operating companies receive regulatory approval through Public Service Commissions in respective retail operating company states prior to entering into any agreements to build or purchase renewable energy. While "voluntary" was selected, it should be noted that in some cases builds and purchases were developed in conjunction with the respective Public Service Commissions.

Activity type
Fugitive emissions reductions
Description of activity
Oil/natural gas methane leak capture/prevention
Estimated annual CO2e savings (metric tonnes CO2e)
16000
Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

Investment required (unit currency – as specified in CC0.4)

Payback period

Please select

Estimated lifetime of the initiative

Ongoing

Comment

Our natural gas utility companies have been leading the industry in pipeline replacement since the 1990s. To achieve important safety and reliability objectives, we've replaced much of our older pipe with state-of-the-art corrosion resistant pipes, and we report our progress each year through Public Service Commissions and other government agencies.

Activity type

Energy efficiency: Building services

Description of activity

Other, please specify (EE Services and Renewable Generation)

Estimated annual CO2e savings (metric tonnes CO2e)

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

Investment required (unit currency – as specified in CC0.4)

Payback period

Please select

Estimated lifetime of the initiative

Please select

Comment

In early 2018, Southern Company and its Alabama Power and Georgia Power subsidiaries officially announced Smart Neighborhood initiatives that will provide customers with state-of-the-art home, construction, distributed energy resources – including solar and battery energy storage- and smart home appliances and technologies. The first-of-a-kind Smart

Neighborhoods – located in Atlanta and suburban Birmingham, Alabama – will benefit customers through improved reliability, increased use of distributed energy resources and lower costs. These communities have the potential to further enable the smart grid and help the Southern Company system better meet customers 'evolving energy needs. Construction was underway on both in 2017. For more information and links to the sites for both projects, see the article: https://www.southerncompany.com/newsroom/2018/feb-2018/smart-neighborhoods.html

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Decisions made by an electric operating company regarding its assets, including those requiring specific state regulator (i.e., public service commissions) approval, must be made in the best interest of its customers, taking into consideration a wide variety of factors, and based on the best information available at the time of the decision. EPA regulations governing emissions from existing electric generators could drive investment in the future.
Dedicated budget for energy efficiency	Across our state-regulated electric utilities, since 2000, energy efficiency and demand response programs have helped reduce peak demand for electricity by more than 5,300 MW (which equates to 17 percent of 2017 peak load) and avoid more than 3 billion KWh of energy use. Additionally, over the past 16 years, Southern Company Gas' energy efficiency programs have helped reduce demand by more than 90 million therms and reduced customers' emissions. Looking forward, we are on a path to finding more ways for our customers to save money while also reducing GHG emissions by investing more than $1 billion in energy efficiency for electric customers between 2010 and 2020 and more than $16 million in energy efficiency for natural gas customers by 2021.
Dedicated budget for low-carbon product R&D	Southern Company has actively engaged in robust, proprietary RandD that grows the value of energy services to customers since the 1960s. Nearly all of our current RandD spend is focused on lower carbon-emitting technologies.
Internal price on carbon	Our integrated resource planning process occurs annually – allowing updates to the scenarios and associated CO2 prices, as well as incorporation of the most recent commodity, economic or policy indicators. We use a robust scenario planning process that has two primary components: energy economy modeling and integrated resource planning.
Partnering with governments on technology development	Southern Company RandD has worked for almost 50 years to develop new technologies across the production, delivery, and end-use of energy. Since its formation, the U.S. Department of Energy (DOE) has been a major research partner with Southern Company in defining RandD needs, leveraging public-private funding, and understanding and implementing results. In addition to DOE and its national laboratories, Southern Company RandD actively collaborates with other utilities, universities, technology developers and industry organizations, highly leveraging both funding and expertise. These long-standing partnerships address the industry's most significant challenges – including the reduction of carbon emissions – and advance the most promising technology options for the energy sector. Furthermore, this collaborative model allows the matching of internal research investments – on average, dollar for dollar – through public-private partnerships and other forms of external cost-sharing. As a result, Southern Company's RandD organization has delivered significant benefits across the enterprise that, over the last 10 years, have averaged at least 10 times its investment.
Other	Southern Company is an industry leader in the research and development of emerging energy technologies. Founded in the 1960s, its RandD organization manages a diverse research portfolio to ensure that Southern Company, its subsidiaries and the energy industry have

Method	Comment
	the capabilities and knowledge to successfully deploy technologies to meet customers' needs while planning for a low-carbon future. Current research areas include carbon capture, utilization and storage (CCUS); renewables, storage and distributed generation; advanced nuclear and hydrogen-based energy systems; energy end-use; generating fleet modernization; and smart power delivery systems. Supporting Southern Company's goal of low- to no-carbon operations by 2050, Southern Company Rand;D is focused on six technology aspirations: • Next-generation nuclear non-light water reactor power generation operating at natural gas combined-cycle costs • Cost-effective CCUS operating in an efficient, reliable fossil-fueled fleet • Hydrogen utility business models created from its production, delivery and end-use • Efficient electrification with broadly deployed technologies including those for transportation, buildings, industrial processes and food production • Distributed energy economy with dispatchable solar, wind, storage and other energy resources operating in microgrid and centralized configurations • Resilient, fully integrated delivery grids allowing unrestricted creation and use of low- to no-carbon emissions energy A key tactic of Southern Company's RandD strategy is the formation of RandD "centers," where researchers test, break and reinvent energy technologies in a neutral environment. One example of this concept is the National Carbon Capture Center (NCCC), a DOE-sponsored research facility accelerating the commercialization of technologies to reduce greenhouse gas emissions from fossil-fueled power plants. Managed and operated by Southern Company, the NCCC has worked with over 30 government, industry and university organizations from seven countries. Through pilot testing of over 60 technologies, the NCCC has directly participated in reducing the projected cost of carbon capture by one-third. While its technology development has focused on post-combustion carbon capture for coal-fired power plants, infrastructure is being expanded to test carbon capture technologies for natural gas power gen.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

Residential and commercial energy efficiency programs offered by retail electric operating companies which reduce electricity and therefore reduce emissions. These services include incentives to increase use of high efficiency appliances, home improvement incentives, energy check-up services, and many other programs.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify (Reduction in peak and overall demand)

% revenue from low carbon product(s) in the reporting year

Comment

These programs have helped avoid more than 3 billion kWh of energy use.

Level of aggregation

Product

Description of product/Group of products

Our primary product is electricity sold to customers. To the extent that we lower our total system emissions and emissions rate, our customers also directly lower their total emissions.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

% revenue from low carbon product(s) in the reporting year

0

Comment

By electrifying other sectors of the economy, we are able to reduce net carbon emissions. Focus areas of our Research and Development include technologies related to transportation, buildings, industrial processes and food production.

Level of aggregation

Product

Description of product/Group of products

Southern Company and its subsidiaries offer specific customer programs in states where there is interest to support development of renewable generation assets including wind and solar generation.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

% revenue from low carbon product(s) in the reporting year

Comment

Our state-regulated electric utilities utilize over 5,000 MW of existing renewable resources. We expect that number to grow through programs like Georgia Power’s Renewable Energy Development Initiative (REDI). The REDI, along with other programs and projects, was proposed by Georgia Power as a part of its 2016 IRP and approved by the Georgia PSC,

representing up to an additional 1,600 MW by 2021. Through our planning process and customer partnerships, Southern Company and its subsidiaries will continue to evaluate and develop similar program designs to meet customers' renewable energy needs.

Level of aggregation
Group of products
Description of product/Group of products
Southern Company Gas' natural gas energy efficiency programs offer customers a wide array of energy savings 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.
Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product
Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify
% revenue from low carbon product(s) in the reporting year
Comment
Since 2011, energy efficiency programs have helped Southern Company Gas' natural gas system reduce demand and customers' emissions from natural gas usage by more than 108 million therms or the equivalent of approximately 574,000 metric tons of CO2.

Level of aggregation
Group of products
Description of product/Group of products
By managing and operating the National Carbon Capture Center (NCCC) for the U.S. Department of Energy, Southern Company provides a unique test bed for government, industry, university and technology partners to advance the next generation of carbon capture technologies for both natural gas and coal power generation to commercial scale. The NCCC hosts a variety of national and international technology developers, fostering the scale-up, large-scale demonstration and eventual commercialization of new materials and processes that can meet the need for the sustainable production and use of a diverse energy supply (while limiting the increased cost of electricity) and meet environmental goals. The NCCC exposes the tested technology to the requirements and rigors of real plant operating conditions and allows them to be scaled-up with confidence for commercial demonstration.
Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product and avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Please select
% revenue from low carbon product(s) in the reporting year
Comment

C-EU4.6

(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your electricity generation activities.
Southern Company is a founding member of ONE Future. The ONE Future Coalition is a group of natural gas companies working together to voluntarily reduce methane emissions across the natural gas supply chain. It is a unique coalition of leading companies who recognize that excessive methane emissions can potentially erode the benefits of natural gas relative to other fossil fuels and therefore prudent development and operations are vital to ensuring the industry can support the energy needs of the nation and the world in a sustainable manner. With operations across every part of the natural gas value chain, ONE Future is focused on identifying policy and technical solutions that yield continuous improvement in the management of methane emissions associated with the production, processing, transmission and distribution of natural gas. ONE Future was formed when 8 companies came together in 2014 with a focus to collectively achieve a science-based average rate of methane emissions across our facilities equivalent to one percent (or less) of total natural gas production. Since its formation, it has grown to 13 companies accounting for the some of the largest natural gas producers, transmission and distribution companies in the U.S. ONE Future members operate in 11 out of the 19 production basins and other segments of the value chain operate in multiple regions of the country, hence ONE Future's data represent a geographically diverse and material share of the U.S. natural gas supply chain. Its members include Antero Resources, Apache, BHP, EQT Hess, Kinder Morgan, National Grid, Jonah, Southwestern Energy, Summit Utilities, Statoil and TransCanada. If adopted widely, the system of emissions management could lower total methane emissions to less than one percent of gross production - the point at which the use of natural gas for any purpose provides clear and immediate GHG reduction benefits as compared to any other fossil fuel.

The improvements put into place across the whole value chain will positively influence the supply side for our electric utilities. To achieve ONE Future's collective one percent target, ONE Future has identified sectoral performance targets for each of the four major industry sectors (Exploration & Production; Gathering & Processing; Transmission & Storage, and Distribution & Retail) that would cumulatively add up to the overall one percent goal. ONE Future has worked to set these performance targets in rough proportion to each industry sectors' respective share of current emissions, considering reduction potentials given current regulatory barriers. These sectoral targets serve both to benchmark company progress toward goals, but also to facilitate comparisons amongst diverse companies as each strives for optimal performance.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1 2007

Base year end

December 31 2007

Base year emissions (metric tons CO2e)

152337347

Comment

Estimated GHG emissions for the Electricity Sector, no Southern Company Gas (GAS) emissions included. Calculation includes CO2, CH4, N2O, and SF6.

Scope 2 (location-based)

Base year start

January 1 2007

Base year end

December 31 2007

Base year emissions (metric tons CO2e)

3508184

Comment

Estimated GHG emissions for the PPA non-affiliates (5,950,951 MWhr). Applied a RY2007 eGRID US National Emission Factor to determine CO2e. Provided link to eGRID tables: (https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid-questions-and-answers#egrid1)

Scope 2 (market-based)

Base year start

January 1 2007

Base year end

December 31 2007

Base year emissions (metric tons CO2e)

771382

Comment

Estimated GHG emissions for the PPA non-affiliates (1,708,147 MWhr). Applied a RY2007 eGRID reported emission factor for each facility under PPA with SoCo.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Mandatory Greenhouse Gas Reporting Rule

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

97534302

End-year of reporting period

<Not Applicable>

Comment

Based on Financial Control for tracked and reported emissions under the GHGRP (40CFR98). Includes Electricity and Gas business divisions (APC, GPC, MPC, Gulf, SPC, SEGCO, Transmission and Distribution, PowerSecure, GAS, SoNatGas, and; Williams)

Row 2

Gross global Scope 1 emissions (metric tons CO2e)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

<Not Applicable>

Row 3

Gross global Scope 1 emissions (metric tons CO2e)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

<Not Applicable>

Row 4

Gross global Scope 1 emissions (metric tons CO2e)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

<Not Applicable>

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

The methodology used to calculate Scope 2 emissions is a combination of location-based methodology using national EPA eGRID emissions factors (to calculate emissions from spot purchases and null energy for renewables) as well as a market-based methodology for PPAs.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Row 1

Scope 2, location-based

3931613

Scope 2, market-based (if applicable)

2701183

End-year of reporting period

<Not Applicable>

Comment

This total only considers electricity business. Total includes non-associated power purchases which is combination of market-based (fossil PPAs) and location-based (renewable PPAs in which the RECs are retained) and Spot purchases (location-based) .

Row 2

Scope 2, location-based

<Not Applicable>

Scope 2, market-based (if applicable)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

<Not Applicable>

Row 3

Scope 2, location-based

<Not Applicable>

Scope 2, market-based (if applicable)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

<Not Applicable>

Row 4

Scope 2, location-based

<Not Applicable>

Scope 2, market-based (if applicable)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

<Not Applicable>

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

The Scope 1 Emissions from company vehicles are not included. The Scope 2 emissions provided only include emissions from non associated long term power purchase agreements (PPAs) and spot market purchases for the SoCo retail territory. Purchased electricity for power needs outside of our retail territory are not included in the Scope 2 emissions.

Relevance of Scope 1 emissions from this source

Emissions are not evaluated

Relevance of location-based Scope 2 emissions from this source

Emissions are not evaluated

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not evaluated

Explain why the source is excluded

Scope 1 emissions include all tracked emissions under the GHGRP (40CFR98). Emissions from company vehicles would be considered minimal compared to the Southern Company system's overall Scope 1 emissions and therefore would not materially change the company's GHG emissions profile. Purchased electricity for power needs outside of our retail territory are not included in the Scope 2 emissions due to systems not currently being in place to track those electricity purchases and evaluate those emissions. Furthermore, emissions from these sources would be considered minimal compared to Southern Company's overall Scope 2 emissions and therefore would not materially change the company's GHG emissions profile.

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Capital goods
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
Fuel-and-energy-related activities (not included in Scope 1 or 2)
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
Upstream transportation and distribution
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
Waste generated in operations
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
Business travel
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Employee commuting

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Upstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

34630131

Emissions calculation methodology

As reported under 40CFR98 subpart NN.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

These are end user / customer emissions from combusted natural gas.

Processing of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Use of sold products
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
End of life treatment of sold products
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
Downstream leased assets
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
Franchises
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology
Percentage of emissions calculated using data obtained from suppliers or value chain partners
Explanation
Investments
Evaluation status
Not evaluated
Metric tonnes CO2e
Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Other (upstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Other (downstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.482

Metric numerator (Gross global combined Scope 1 and 2 emissions)

102852358

Metric denominator

megawatt hour generated (MWh)

The intensity reported only pertains to the electric side of the business. Emissions from gas operations are not included here.

Metric denominator: Unit total

213433603

Scope 2 figure used

Market-based

% change from previous year

Direction of change

<Not Applicable>

Reason for change

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	96389633.32	Other, please specify (GWP Table A-1 to Subpart A of Part 98)
CH4	741867.06	Other, please specify (GWP Table A-1 to Subpart A of Part 98)
N2O	327604.89	Other, please specify (GWP Table A-1 to Subpart A of Part 98)
SF6	72051	Other, please specify (GWP Table A-1 to Subpart A of Part 98) *Global Warming Potentials (GWP100 yr) Chemical Specific GWPs are: CO2 1, CH4 25, N2O 298, SF6 22800*

C-EU7.1b

(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	11590.1	18067.46	3.16	533633.08	
Combustion (Electric utilities)	95943.63	7774.55		96529958.13	N2O: 1098.52 MTons N2O
Combustion (Gas utilities)	434544.99	95736.81			286.34 MTons N2O
Combustion (Other)					
Emissions not elsewhere classified					

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	97531156.27

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division
By facility

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Alabama Power Company	37348370
Georgia Power Company	29609727
Mississippi Power Company	8090131
Gulf Power Company	7358627
SEGCO	878637
Southern Power Company	13157760

Business division	Scope 1 emissions (metric ton CO2e)
T and D	72052
Power Secure	14655
GAS	631481
SoNat Gas	362850
Williams	10016

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Barry	6699824	31.0069	-88.0103
Gadsden	178037	34.0128	-85.9708
Gorgas	4646423	33.6446	-87.2003
Green Co.	350945	32.6017	-87.7811
Miller	19949601	33.6319	-87.0597
Theodore	718178	30.5248	-88.1289
Washington Co.	504132	31.2622	-88.0052
SABIC	309572	32.3102	-86.5242
Boulevard	130	32.0111	-81.1385
Bowen	13875360	34.1256	-84.9192
Hammond	650504	34.2533	-85.3456
McDonough	6013223	33.8244	-84.475
McIntosh	70808	32.3558	-81.1683
McIntosh CCs	3378315	32.3478	-81.1828
McManus	12749	31.2125	-81.5458
Robins	15379	32.5806	-83.5831
Scherer	3223161	33.0583	-83.8072
Wansley	2050837	33.4124	-85.0345

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Yates	315255	33.4622	-84.8986
Wilson	4002	33.138	-81.748
Crist	3448256	30.5661	-87.2289
Pea Ridge	76097	30.7357	-87.0134
Perdido	74	30.57	-87.39
Scholz	0.2	30.6689	-84.8869
Smith	1589281	30.2689	-85.7003
Daniel	4139014	30.5335	-88.5574
Watson	914799	30.4408	-89.0265
Chevron	811746	30.34	-88.492
Sweatt	1836	32.2925	-88.7461
Ratcliffe	2029620.08	32.6538	-88.7574
Addison	174958	32.911	-84.3059
Cleveland	481880	35.1706	-81.4161
Dahlberg	227194	34.0386	-83.3972
Franklin	4620042	32.6094	-85.0961
Harris	1988566	32.3814	-86.5736
Mankato	302459	44.1965	-94.0099
Nacoqdoches	1601	31.8326	-94.9006
Oleander	97414	28.3661	-80.7947
Stanton	378917	28.4881	-81.1675
Rowan	1632148	35.7325	-80.6019
Wansley CCs	3252581	33.4063	-85.0373
Gaston	3991658	33.2442	-86.4567

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	96529959	<Not Applicable>	Based on Financial Control for tracked and reported facilities. Includes Electricity business division only (APC, GPC, MPC, Gulf, SPC, SEGCO TandD, PowerSecure)
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	3931613	2701183		

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Alabama Power Company	677104	404309
Georgia Power Company	2057594	301942
Mississippi Power Company	47768	0
Gulf Power Company	0	1994932
Southern Company System	1149147	0

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

This is our first year of reporting, so we cannot compare to last year

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 55% but less than or equal to 60%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes

	Indicate whether your organization undertakes this energy-related activity
Consumption of purchased or acquired electricity	No
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	15284459	151264116	166548575
Consumption of purchased or acquired electricity	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>		<Not Applicable>	
Total energy consumption	<Not Applicable>	15284459	151264116	166548575

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)
Coal
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
60132002
MWh fuel consumed for the self-generation of electricity
4298685
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
MWh fuel consumed for self-generation of cooling
<Not Applicable>
MWh fuel consumed for self- cogeneration or self-trigeneration

---

Fuels (excluding feedstocks)
Landfill Gas
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
110258
MWh fuel consumed for the self-generation of electricity
1370
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
MWh fuel consumed for self-generation of cooling
<Not Applicable>
MWh fuel consumed for self- cogeneration or self-trigeneration

---

Fuels (excluding feedstocks)
Fuel Oil Number 2

Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
73929
MWh fuel consumed for the self-generation of electricity
4768
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
MWh fuel consumed for self-generation of cooling
<Not Applicable>
MWh fuel consumed for self- cogeneration or self-trigeneration

---

Fuels (excluding feedstocks)
Natural Gas
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
91058184
MWh fuel consumed for the self-generation of electricity
2735801
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
MWh fuel consumed for self-generation of cooling
<Not Applicable>
MWh fuel consumed for self- cogeneration or self-trigeneration

---

Fuels (excluding feedstocks)
Wood Waste
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
98767
MWh fuel consumed for the self-generation of electricity

9076

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

---

Fuels (excluding feedstocks)

Other, please specify (Solar)

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

4239169

MWh fuel consumed for the self-generation of electricity

0

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

---

Fuels (excluding feedstocks)

Other, please specify (Wind)

Heating value

Please select

Total fuel MWh consumed by the organization

5388118

MWh fuel consumed for the self-generation of electricity

0

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

---

Fuels (excluding feedstocks)
Other, please specify (Hydro)
Heating value
HHV (higher heating value)
Total fuel MWh consumed by the organization
5448147
MWh fuel consumed for the self-generation of electricity
834009
MWh fuel consumed for self-generation of heat
MWh fuel consumed for self-generation of steam
MWh fuel consumed for self-generation of cooling
<Not Applicable>
MWh fuel consumed for self- cogeneration or self-trigeneration

---

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.
Acetylene
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Agricultural Waste
Emission factor
<Not Applicable>
Unit
<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Alternative Kiln Fuel (Wastes)
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Animal Fat
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Animal/Bone Meal
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Anthracite Coal
Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Asphalt

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Aviation Gasoline

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Bagasse

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Bamboo

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Basic Oxygen Furnace Gas (LD Gas)

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Biodiesel

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Biodiesel Tallow

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Biodiesel Waste Cooking Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Bioethanol
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Biogas
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Biogasoline
Emission factor

<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Biomass Municipal Waste
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Biomethane
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Bitumen
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment

<Not Applicable>

Bituminous Coal

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Black Liquor

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Blast Furnace Gas

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Brown Coal Briquettes (BKB)

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Burning Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Butane
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Butylene
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Charcoal
Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Coal

Emission factor

93.28

Unit

kg CO2 per million Btu

Emission factor source

40 CFR Appendix Table C-1 to Subpart C of Part 98

Comment

For Bituminous the above factor was used. For Subbituminous, the factor 97.17 kg CO2/mmBTU was used.

Coal Tar

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Coke

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Coke Oven Gas

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Coking Coal

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Compressed Natural Gas (CNG)

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Condensate

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Crude Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Crude Oil Extra Heavy
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Crude Oil Heavy
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Crude Oil Light
Emission factor

<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Diesel
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Distillate Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Dried Sewage Sludge
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment

<Not Applicable>
Ethane
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Ethylene
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Fuel Gas
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Fuel Oil Number 1
Emission factor
<Not Applicable>
Unit
<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Fuel Oil Number 2
Emission factor
73.96
Unit
kg CO2 per million Btu
Emission factor source
40 CFR Appendix Table C-1 to Subpart C of Part 98
Comment
Fuel Oil Number 4
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Fuel Oil Number 5
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Fuel Oil Number 6
Emission factor
<Not Applicable>

Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Gas Coke
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Gas Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Gas Works Gas
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>

GCI Coal

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

General Municipal Waste

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Grass

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Hardwood

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>
Comment
<Not Applicable>
Heavy Gas Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Hydrogen
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Industrial Wastes
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Isobutane
Emission factor
<Not Applicable>

Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Isobutylene
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Jet Gasoline
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Jet Kerosene
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>

Kerosene

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Landfill Gas

Emission factor

52.07

Unit

kg CO2 per million Btu

Emission factor source

Appendix Table C-1 to Subpart C of Part 98

Comment

Light Distillate

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Lignite Coal

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment
<Not Applicable>
Liquefied Natural Gas (LNG)
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Liquefied Petroleum Gas (LPG)
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Liquid Biofuel
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Lubricants
Emission factor
<Not Applicable>
Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Marine Fuel Oil

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Marine Gas Oil

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Metallurgical Coal

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Methane

Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Motor Gasoline
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Naphtha
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Natural Gas
Emission factor
53.06
Unit
kg CO2 per million Btu
Emission factor source
40 CFR Appendix Table C-1 to Subpart C of Part 98

Comment

Natural Gas Liquids (NGL)

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Natural Gasoline

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Non-Biomass Municipal Waste

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Non-Biomass Waste

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Oil Sands
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Oil Shale
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Orimulsion
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Other Petroleum Gas
Emission factor

<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Paraffin Waxes
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Patent Fuel
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
PCI Coal
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment

<Not Applicable>

Peat

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Pentanes Plus

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Petrochemical Feedstocks

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Petrol

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Petroleum Coke
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Petroleum Products
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Pitch
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Plastics
Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Primary Solid Biomass

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Propane Gas

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Propane Liquid

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Propylene

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Refinery Feedstocks

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Refinery Gas

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Refinery Oil

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Residual Fuel Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Road Oil
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
SBP
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Shale Oil
Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Sludge Gas

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Softwood

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Solid Biomass Waste

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>
Special Naphtha
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Still Gas
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Straw
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Subbituminous Coal
Emission factor
<Not Applicable>
Unit
<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Sulphite Lyes
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Tar
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Tar Sands
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Thermal Coal
Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Thermal Coal Commercial

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Thermal Coal Domestic

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Thermal Coal Industrial

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Tires

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Town Gas

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Unfinished Oils

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Vegetable Oil

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Waste Oils
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Waste Paper and Card
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Waste Plastics
Emission factor
<Not Applicable>
Unit
<Not Applicable>
Emission factor source
<Not Applicable>
Comment
<Not Applicable>
Waste Tires
Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

White Spirit

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Wood

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Wood Chips

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Wood Logs

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Wood Pellets

Emission factor

<Not Applicable>

Unit

<Not Applicable>

Emission factor source

<Not Applicable>

Comment

<Not Applicable>

Wood Waste

Emission factor

93.8

Unit

metric tons CO2 per million Btu

Emission factor source

Appendix Table C-1 to Subpart C of Part 98

Comment

Other

Emission factor

Unit

Please select

Emission factor source

Comment

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	166548575	7883709	15284459	844455
Heat				
Steam				
Cooling				

C-EU8.2e

(C-EU8.2e) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

Coal – hard

Nameplate capacity (MW)

13457.1

Gross electricity generation (GWh)

60132

Net electricity generation (GWh)

55833.3

Absolute scope 1 emissions (metric tons CO2e)

58904678.2

Scope 1 emissions intensity (metric tons CO2e per GWh)

1055

Comment

Capacity of units is included based on their primary fuel type. Some units may have dual fuel capability.

Lignite

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Oil

Nameplate capacity (MW)

1407.7

Gross electricity generation (GWh)

73.9

Net electricity generation (GWh)

69.2

Absolute scope 1 emissions (metric tons CO2e)

17388.5

Scope 1 emissions intensity (metric tons CO2e per GWh)

251

Comment

Capacity of units is included based on their primary fuel type. Some units may have dual fuel capability.

Gas

Nameplate capacity (MW)

22184.4

Gross electricity generation (GWh)

91058.2

Net electricity generation (GWh)

88322.4

Absolute scope 1 emissions (metric tons CO2e)

37519575.6

Scope 1 emissions intensity (metric tons CO2e per GWh)

424.8

Comment

Capacity of units is included based on their primary fuel type. Some units may have dual fuel capability.

Biomass

Nameplate capacity (MW)

1115.5

Gross electricity generation (GWh)

98.9

Net electricity generation (GWh)

89.7

Absolute scope 1 emissions (metric tons CO2e)

1601

Scope 1 emissions intensity (metric tons CO2e per GWh)

17.8

Comment

The information provided in response to this question and question C2.8e reflects Southern Company's total generation based upon financial control only, not upon load service by any retail operating companies. To the extent that there are renewable energy credits or other environmental attributes (collectively "RECs") associated with generation reported, the contracted owner of the RECs (whether a Southern Company affiliate or a third party) maintains all rights and ownership, including the right to claim the RECs, utilize the RECs for purposes of associating the environmental benefits of such generation with its electric load or sell such RECs to third parties.

Waste (non-biomass)

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Nuclear

Nameplate capacity (MW)

3679.9

Gross electricity generation (GWh)

32285.6

Net electricity generation (GWh)

30847.5

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Geothermal
Nameplate capacity (MW)
Gross electricity generation (GWh)
Net electricity generation (GWh)
Absolute scope 1 emissions (metric tons CO2e)
Scope 1 emissions intensity (metric tons CO2e per GWh)
Comment
Hydroelectric
Nameplate capacity (MW)
2755.6
Gross electricity generation (GWh)
5448.1
Net electricity generation (GWh)
4614.1
Absolute scope 1 emissions (metric tons CO2e)
0
Scope 1 emissions intensity (metric tons CO2e per GWh)
0
Comment
The information provided in response to this question and question C2.8e reflects Southern Company's total generation based upon financial control only, not upon load service by any retail operating companies. To the extent that there are renewable energy credits or other environmental attributes (collectively "RECs") associated with generation reported, the contracted owner of the RECs (whether a Southern Company affiliate or a third party) maintains all rights and ownership, including the right to claim the RECs, utilize the RECs for purposes of associating the environmental benefits of such generation with its electric load or sell such RECs to third parties.
Wind
Nameplate capacity (MW)
1448.3
Gross electricity generation (GWh)
5388.1
Net electricity generation (GWh)
5388.1
Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

The information provided in response to this question and question C2.8e reflects Southern Company's total generation based upon financial control only, not upon load service by any retail operating companies. To the extent that there are renewable energy credits or other environmental attributes (collectively "RECs") associated with generation reported, the contracted owner of the RECs (whether a Southern Company affiliate or a third party) maintains all rights and ownership, including the right to claim the RECs, utilize the RECs for purposes of associating the environmental benefits of such generation with its electric load or sell such RECs to third parties.

Solar

Nameplate capacity (MW)

2032.4

Gross electricity generation (GWh)

4239.2

Net electricity generation (GWh)

4239.2

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

The information provided in response to this question and question C2.8e reflects Southern Company's total generation based upon financial control only, not upon load service by any retail operating companies. To the extent that there are renewable energy credits or other environmental attributes (collectively "RECs") associated with generation reported, the contracted owner of the RECs (whether a Southern Company affiliate or a third party) maintains all rights and ownership, including the right to claim the RECs, utilize the RECs for purposes of associating the environmental benefits of such generation with its electric load or sell such RECs to third parties.

Other renewable

Nameplate capacity (MW)

13.2

Gross electricity generation (GWh)

110.3

Net electricity generation (GWh)
108.9
Absolute scope 1 emissions (metric tons CO2e)
14652.1
Scope 1 emissions intensity (metric tons CO2e per GWh)
134.56
Comment
Information included for Landfill Gas.
Other non-renewable
Nameplate capacity (MW)
Gross electricity generation (GWh)
Net electricity generation (GWh)
Absolute scope 1 emissions (metric tons CO2e)
Scope 1 emissions intensity (metric tons CO2e per GWh)
Comment
Total
Nameplate capacity (MW)
47094
Gross electricity generation (GWh)
198834.2
Net electricity generation (GWh)
189512.4
Absolute scope 1 emissions (metric tons CO2e)
96457895.4
Scope 1 emissions intensity (metric tons CO2e per GWh)
508.98
Comment

C-EU8.4

(C-EU8.4) Does your electric utility organization have a global transmission and distribution business?
Yes

C-EU8.4a

(C-EU8.4a) Disclose the following information about your global transmission and distribution business.

Country/Region
United States of America
Voltage level
Transmission (high voltage)
Annual load (GWh)
199122
Scope 2 emissions (basis)
Please select
Scope 2 emissions (metric tons CO2e)
0
Annual energy losses (% of annual load)
4.5
Length of network (km)
45087
Number of connections
61
Area covered (km2)
320345
Comment
Southern Company's transmission has no Scope 2 emissions (purchased or acquired electricity). All Southern Company Scope 2 emissions (purchased electricity) reported in prior question. The annual load (199,122 GWh) provided is for Southern Company's combined transmission and distribution system. Number of connections (61) represents the total number transmission tie lines to the system. Area covered (320,345 km2) represents the total Southern Company regulated electric utility footprint. Loss calculations are performed using data used in the Open Access Transmission Tariff (OATT) but will differ from the results presented therein due to the exclusion of the projected loss data that is incorporate into OATT.

Country/Region
United States of America
Voltage level
Distribution (low voltage)
Annual load (GWh)
199122

Scope 2 emissions (basis)
Please select
Scope 2 emissions (metric tons CO2e)
0
Annual energy losses (% of annual load)
2.9
Length of network (km)
263071
Number of connections
4588710
Area covered (km2)
320345
Comment
Southern Company's distribtution has no Scope 2 emissions (purchased or acquired electricity). All Southern Company Scope 2 emissions (purchased electricity) reported in prior question. The annual load (199,122 GWh) provided is for Southern Company's combined transmission and distribution system. Number of connections (4,588,710) represents the systems total number of customers. Area covered (320,345 km2) represents the total Southern Company regulated electric utility footprint. Distribution loss number is presented as a system composite similar to other reporting that Southern Company does, despite being operated as 4 separate and distinct systems.

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C-EU9.5a

(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Coal – hard	5500000000	30.5	2022	Since 2010, we have retired approximately 4,200 MW of coal and oil-fired generating units.We do not intend to invest further in our existing thermal coal fleet, unless the investment ensures safety, affordability or reliability to serve customers or to comply with federal or state laws. Most of the capital expenditure shown here is related to compliance with environmental regulations.
Oil	750000	0	2022	
Gas	2300000000	12.75	2022	
Nuclear	6300000000	34.94	2022	
Hydroelectric	409000000	2.27	2022	
Wind	2700000000	14.97	2022	Since 2010, Southern Power's growth focus has been primarily on renewable investment, creating a premier renewable portfolio with over 39 operating assets from coast to coast.
Solar	800000000	4.44	2022	Since 2010, Southern Power has invested more than $10.5 billion in capital investments related to its renewable portfolio. Southern is among the largest solar owner-operators in the U.S.

C-EU9.5b

(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Home systems		15000000	1.4	2022
Energy management services		8600000	0.8	2022
Electric vehicles	EV Initiatives	2000000	0.2	2022
Charging networks	Electric transport initiatives	11200000	1.1	2022
Lighting	Outdoor lighting	838000000	78.2	2022

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Smart grid	Smart Grid Developments	60310000	5.6	2022
Other, please specify (Camera & other equip. for power delivery)	Cameras and other equipment related to power delivery	136000000	12.7	2022

C-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date

January 1 2017

Investment end date

December 31 2017

Investment area

R&D

Technology area

Carbon capture and storage/utilisation

Investment maturity

Pilot demonstration

Investment figure

6721228

Low-carbon investment percentage

100

Please explain

This program supports the development of economic carbon capture technology, demonstrates secure CO2 storage within the Southern Company territory, engages in stakeholder outreach to ensure support for technology deployment and promotes the development of new systems, tools, modeling capabilities and business models to support commercial deployment. The focal point of these efforts is the U.S. Department of Energy's National Carbon Capture Center (NCCC), a world-class neutral research facility working to advance technologies to reduce greenhouse gas emissions from natural gas- and coal-based power plants. Other projects include a carbon capture, transportation and storage demonstration as well as geologic resource

assessments for commercial storage. As with most Southern Company R&D projects, significant value is derived as the NCCC's funding is highly leveraged through partnership with the U.S. government and industry. The center has worked with over 30 government, industry and university organizations from seven countries. Through pilot testing of over 60 technologies, the NCCC has directly participated in reducing the projected cost of carbon capture by one-third. While its technology development has focused on post-combustion carbon capture for coal-fired power plants, infrastructure is being expanded to test carbon capture technologies for natural gas power generation.

Investment start date
January 1 2017
Investment end date
December 31 2017
Investment area
R&D
Technology area
Other, please specify (Power Delivery)
Investment maturity
Applied research and development
Investment figure
2398969
Low-carbon investment percentage
90
Please explain
This program focuses on power delivery technology issues and improvements. Southern Company and the Electric Power Research Institute are developing a full suite of sensors, tools and devices to monitor power delivery assets to increase situational awareness on transmission and distribution assets, provide the ability to perform condition-based maintenance, provide greater visualization for grid modernization efforts, and reduce operations and maintenance costs. Examples include: edge of network grid optimization (ENGO), a utility-scale energy storage demonstration, radio frequency identification sensors, a "Transformer of the Future" development and Smart Grid Visualization and Analytics Center.

Investment start date
January 1 2017
Investment end date
December 31 2017

Investment area
R&D
Technology area
Other, please specify (Grid R&D)
Investment maturity
Basic academic/theoretical research
Investment figure
346297
Low-carbon investment percentage
90
Please explain
This grid operations research is focused on supporting transmission owners in planning and operating the bulk power system reliably and economically to provide safe and environmentally responsible sources of electric power.

Investment start date
January 1 2017
Investment end date
December 31 2017
Investment area
R&D
Technology area
Other, please specify (End use technologies)
Investment maturity
Applied research and development
Investment figure
3616360
Low-carbon investment percentage
80
Please explain
End-use RandD focuses on identifying and hardening technologies that meet industrial, commercial and residential customers' evolving energy needs. Initiatives in this research program include: the Alabama Power and Georgia Power Smart Neighborhoods, next-generation heat pump research centers, electric vehicles, market opportunities for electric alternatives,

advanced HVAC technologies, indoor agriculture evaluations, industrial and additive manufacturing, as well as energy efficiency and demand management tips, tools and programs.

Investment start date
January 1 2017
Investment end date
December 31 2017
Investment area
R&D
Technology area
Other, please specify (Generation Fleet Modernization)
Investment maturity
Applied research and development
Investment figure
986718
Low-carbon investment percentage
100
Please explain
This RandD is focused on improving all components of the existing fossil generation fleet, with primary work in areas that include natural gas turbines, cooling systems, advanced materials and instruments and controls. Projects work to maximize fleet flexibility, availability and performance; analyze, develop and demonstrate advanced generation concepts with lower carbon footprints for retrofit or greenfield applications; and provide generation technology assessment for system planning. Work includes projects to improve the efficiency of fossil-based power plants and improve heat rate.

Investment start date
January 1 2017
Investment end date
December 31 2017
Investment area
R&D
Technology area
Other, please specify (Generation Fleet Enviro Compliance)
Investment maturity

Applied research and development

Investment figure

2025964

Low-carbon investment percentage

25

Please explain

Southern Company RandD is exploring new technologies to improve reliability and efficiency of environmental controls on fossil plants, leading to decreased material usage and higher reliability. Activities focus on wastewater, solid waste, advanced particulate, sulphur oxides (SOx), nitrogen oxides (NOX), CO2, mercury and air toxics management technologies. RandD is also working on developing technologies that ensure water and fuel resources are utilized as efficiently as possible.

Investment start date

January 1 2017

Investment end date

December 31 2017

Investment area

R&D

Technology area

Other, please specify (Adv Energy Syst./ Next Gen Nuclear)

Investment maturity

Basic academic/theoretical research

Investment figure

4559551

Low-carbon investment percentage

98

Please explain

Southern Company is engaged in efforts to advance Generation IV nuclear - key technologies in reaching carbon reduction goals. This collaborative between Southern Company, TerraPower, the Electric Power Research Institute and Vanderbilt University is focused on development of the Molten Chloride Fast Reactor (MCFR). The MCFR has the potential to produce high-quality, sustainable energy at low cost with inherent safety and reliability, a low waste profile, polygeneration benefits and enhanced security.

Investment start date

January 1 2017

Investment end date

December 31 2017

Investment area

R&D

Technology area

Other, please specify (Adv Energy Syst./ Hydrogen)

Investment maturity

Basic academic/theoretical research

Investment figure

293748

Low-carbon investment percentage

100

Please explain

Southern Company is engaging domestically and internationally through hydrogen RandD projects and collaboration with the International Energy Agency Hydrogen Implementing Agreement, the Electric Power Research Institute, technology developers, industrial gas companies and hydrogen users. Focus areas include hydrogen production and markets, liquid hydrogen carrier to meet system hydrogen needs and meeting hydrogen energy needs of emerging markets.

Investment start date

January 1 2017

Investment end date

December 31 2017

Investment area

R&D

Technology area

Other, please specify (Renew., Energy storage and Distrib. Gen)

Investment maturity

Pilot demonstration

Investment figure

1825661

Low-carbon investment percentage

100

Please explain
Southern Company's renewables, storage, and distributed generation RandD portfolio represents a collaborative effort between the Generation and Retail Marketing business units of the Southern Company system to develop technologies associated with renewable resources (wind, solar, biomass), energy storage and distributed generation. Objectives include providing technical, economic and operational research to evaluate, develop and demonstrate future technology options for the company and its customers.

Investment start date
January 1 2017
Investment end date
December 31 2017
Investment area
R&D
Technology area
Other, please specify (R&D/ Cross-cutting Technologies)
Investment maturity
Applied research and development
Investment figure
162440
Low-carbon investment percentage
50
Please explain
This program area facilitates enhanced RandD value through internal and external collaboration across strategic areas – Generation, Environmental, and Power Delivery and Utilization – by leveraging funds, finding and exploiting synergies, and applying common results. RandD is conducted in the instrumentation, controls, materials, analytics, and sensors areas, which can lead to more efficient operation of generating units and the grid and subsequently lower carbon emissions.

Investment start date
January 1 2017
Investment end date
December 31 2017
Investment area
R&D

Technology area
Other, please specify (R&D Portfolio Management)
Investment maturity
Basic academic/theoretical research
Investment figure
1245628
Low-carbon investment percentage
75
Please explain
Southern Company has worked for almost 50 years to develop new technologies across the production, delivery, and end-use of energy. Founded in the 1960s, its RandD organization manages a diverse research portfolio to ensure that Southern Company, its subsidiaries and the energy industry have the capabilities and knowledge to successfully deploy technologies to meet customers' needs while planning for a low-carbon future. Current research areas include carbon capture, utilization and storage (CCUS); renewables, storage and distributed generation; advanced nuclear and hydrogen-based energy systems; energy end-use; generating fleet modernization; and smart power delivery systems. Southern Company's centralized RandD organization provides industry-leading expertise, strategic planning, budgeting and leadership to accomplish the internal and external goals of Southern Company. The organization works with experts from across the system to identify, evaluate and demonstrate future technology options, and quantify their value in anticipation of the changing business needs of the operating companies. Results of the RandD program are routinely applied in decision-making for the deployment of new technologies into the Southern Company system’s future portfolio. Southern Company RandD also actively collaborates with other utilities, universities, technology developers and industry organizations, highly leveraging both funding and expertise. These long-standing partnerships allow the matching of internal research investments (on average, dollar for dollar) through public-private partnerships and other forms of external cost-sharing. As a result, Southern Company’s RandD organization has delivered significant benefits across the enterprise that, over the last 10 years, have averaged at least 10 times its investment.

Investment start date
January 1 2017
Investment end date
December 31 2017
Investment area
R&D
Technology area
Other, please specify (Industry R&D Collaborations)

Investment maturity
Applied research and development
Investment figure
15322434
Low-carbon investment percentage
67
Please explain
Southern Company's model for RandD includes active collaboration with the U.S. government, other utilities, universities and technology developers - a strategy that highly leverages both funding and expertise. Through these long-standing partnerships, Southern Company advances the most promising technology options for the energy sector in a low-carbon future. Furthermore, this collaborative approach allows the matching of internal research investments – on average, dollar for dollar – through public-private partnerships and other forms of external cost-sharing. As a result, Southern Company's RandD organization has delivered significant benefits across the enterprise that, over the last 10 years, have averaged at least 10 times its investment. This program includes Southern Company's more than 40-year membership in the Electric Power Research Institute. Through EPRI, Southern Company collaborates with the entire electricity sector and its stakeholders to solve significant industry issues. The company's engagement happens at all levels of EPRI, including advisory, council and board positions. Southern Company's annual membership in EPRI gains access to the institute's entire research portfolio – which delivers a funding leverage of approximately 28:1. In addition, EPRI invests in Southern Company RandD through research center funding, research projects, host sites and demonstrations, exceeding $170 million since 1998.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, we are waiting for more mature verification standards and/or processes

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Navigate GHG regulations
Stakeholder expectations
Change internal behavior
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope

Scope 1

Application

The Southern Company system applies its CO2 price paths in its analyses supporting investment decision-making for the current and future generating plants of all its retail electricity businesses.

Actual price(s) used (Currency /metric ton)

20

Variance of price(s) used

The Southern Company system considers three different paths of future CO2 price. One path maintains the current $0 price; one path has a price that starts at $10; and one path starts at $20. The latter two paths increase at a rate above inflation.

Type of internal carbon price

Other, please specify (CO2 price paths in scenario analysis)

Southern Company uses its CO2 price paths in scenario analyses. The analyses consider both the evolution of the US energy economy and the least-cost evolution of the Southern Company generating portfolio. In different scenarios, different paths for future CO2 prices are assumed. The price path is assumed to arise from a future market-based CO2 control policy such as a carbon tax or cap-and-trade program.

Impact & implication

The Southern Company system's annual integrated resource planning process, which includes two primary components: energy economy modeling and integrated resource planning, provides for an understanding of the impacts to individual sectors of the economy and the interaction between sectors at the macro-economy level which provides significant insight to informing and identifying broad industry risks and potential business strategies. This scenario format also serves as a basis for integrated resource planning at the state regulated electric operating companies – and ultimately informs major generation retirement and capital investment decisions.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Other, please specify (Work with industry to reduce emissions)

% of suppliers by number

% total procurement spend (direct and indirect)

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

Southern Company Gas is a founding member of ONE Future. ONE Future was formed with a focus to collectively achieve a science-based average rate of methane emissions across our facilities equivalent to one percent (or less) of total natural gas production. With operations across every part of the natural gas value chain, we are focused on identifying policy and technical solutions that yield continuous improvement in the management of methane emissions.

Impact of engagement, including measures of success

To achieve ONE Future's collective one percent target, we have identified sectoral performance targets for each of the four major industry sectors (Exploration and Production; Gathering and Processing; Transmission and Storage, and Distribution and Retail) that would cumulatively add up to our overall one percent goal. ONE Future has worked to set these performance targets in rough proportion to each industry sectors' respective share of current emissions, considering reduction potentials given current regulatory barriers. These sectoral targets serve both to benchmark company progress toward their goals, but also to facilitate comparisons amongst diverse companies as each strives for optimal performance.

Comment

ONE Future's members begin with a focus on the outcome we want to achieve. In the case of methane emissions, our desired outcome is to collectively achieve an average rate of emissions across all facilities that is equivalent to one percent (or less) of total produced and delivered natural gas. With one goal in mind, each member company has the flexibility to deploy their capital where it will be maximally effective in reducing emissions. For one company that may be deploying an innovative technology, for another modifying a work practice, or another retiring an asset. To demonstrate credible and measurable results, ONE Future companies agree to measure their emissions and track their progress over time according to uniform, EPA-approved reporting protocols. This is effective, because most studies demonstrate that the majority of methane emissions come from a small fraction of sources. Our approach allows companies to focus their resources on identifying and addressing those sources.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

Size of engagement

100

% Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

Energy efficiency programs and products are made available to all customers served by each of the electric operating companies. There are specific programs and products targeted at residential and commercial customers to increase the efficiencies of their homes and businesses and ultimately decrease energy usage. Programs include appliance incentives for upgrading to new more efficient models, home energy check-ups, Home Energy Improvement Programs, and behavior analysis programs focused on reducing energy usage and available to all customers. 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.

Impact of engagement, including measures of success

The programs are all facilitated by individual retail operating companies, and success is measured in various ways for each program including but not limited to tracking of rebates for appliance installations and tracking participation in auditing and behavioral programs. The most telling measure of success is the reduction in electricity usage of 3 billion kWh of energy from our electric utility Since 2011, energy efficiency programs have helped Southern Company Gas' natural gas system reduce demand and customers' emissions from natural gas by more than 108 million therms, or the equivalent of approximately 574,000 metric tons of CO2.

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

Size of engagement

100

% Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

Southern Company electric operating companies each have programs and services available to all customers related to renewable generation including but not limited to programs such as Community Solar and Simple Solar programs offered by

Georgia Power and the Greener State Program offered by Alabama Power. Due to multiple program offerings, Georgia Power, for example, offers solar education and analysis to assist all customers in determining which solar option is best for them.

Impact of engagement, including measures of success

The programs are all facilitated by individual retail operating companies, and success is measured in various ways for each program. In 2017, Georgia Power came out with multiple new solar program offerings for customers. Programs were made available to all ~ 2.4 million GPC customers. More than 1,000 customers began participating in one or more programs throughout 2017.

C12.1c

(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers
Trade associations
Funding research organizations
Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Energy efficiency	Support with minor exceptions	Southern Company actively seeks direct, open communication with various policymakers, regulators, and stakeholders. Southern Company 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 will continue to support energy efficiency policies where cost effective measures can be achieved.
Clean energy generation	Support with minor exceptions	Southern Company actively seeks direct, open communication with various policymakers, regulators, and stakeholders. Southern Company has a presence in Washington, D.C., that enables a constructive dialogue with policymakers in the	Southern Company will continue to support growth in lower-emitting generation and continued development and deployment of a diverse portfolio of energy

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
		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.	resources to reliability and affordably serve customers with a focus on reducing CO2 emissions.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Edison Electric Institute (EEI)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EEI is supportive of regulating greenhouse gases under the Clean Air Act absent any federal climate legislation. http://www.eei.org/issuesandpolicy/environment/climate/Pages/dompolicyinitiatives.aspx An independent, nonprofit organization, EPRI conducts R&D to help address challenges in electricity, including reliability, efficiency, health, safety and the environment. EPRI's members represent over 90 percent of the electricity generated and delivered in the U.S. and international participation extends to 40 countries.

How have you, or are you attempting to, influence the position?

Southern Company serves on multiple committees and in leadership positions in EEI.

Trade association

American Gas Association (AGA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

AGA advocates for government rules and policies that protect the environment while allowing its natural gas utility members to continue to deliver clean, affordable natural gas to customers, safely and reliably. https://www.aga.org/policy/environment/

How have you, or are you attempting to, influence the position?
Southern Company serves on the Board of Directors

Trade association
Nuclear Energy Institute (NEI)
Is your position on climate change consistent with theirs?
Consistent
Please explain the trade association's position
NEI promotes a low-carbon economy using clean energy sources, such as nuclear energy, which produces carbon free electricity along with being supportive of advanced technologies.
How have you, or are you attempting to, influence the position?

Trade association
U.S. Chamber of Commerce
Is your position on climate change consistent with theirs?
Consistent
Please explain the trade association's position
The U.S. Chamber of Commerce supports the reduction of greenhouse gases through technology and innovation. http://www.eei.org/issuesandpolicy/environment/climate/Pages/dompolicyinitiatives.aspx
How have you, or are you attempting to, influence the position?
Southern Company is a member of the U.S. Chamber of Commerce and actively engages on multiple issues taken up by the membership. Southern Co. may not agree with the U.S. Chamber on every issue or have influence over various issues but we find it valuable to continue our participation.

Trade association
Business Roundtable
Is your position on climate change consistent with theirs?
Consistent
Please explain the trade association's position
The Business Roundtable is made up of member company CEOs of leading U.S. companies that promote access to reliable affordable energy, national and economic security and a clean, healthy environment. Business Roundtable supports policies that capitalize on America's strengths in technology and energy diversity to maximize U.S. energy options and preserve

environmental quality and believes the business community has a special obligation to step forward and help build an environmentally and economically sustainable future.

How have you, or are you attempting to, influence the position?

Southern Company's CEO is a member of the Business Roundtable.

Trade association

American Coalition for Clean Coal Electricity (ACCCE)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

ACCCE advocates at the federal and state levels on behalf of coal-fueled electricity and the coal fleet and supports regulating greenhouse gases under the Clean Air Act where it does not threaten the reliability and resiliency of the electric grid.

How have you, or are you attempting to, influence the position?

Southern Company is a member of the ACCCE and actively engages on multiple issues taken up by the membership. Southern Co. may not agree with the ACCCE on every issue or have influence over various issues but we find it valuable to continue our participation.

Trade association

Alliance to Save Energy

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Alliance to Save Energy focuses on using energy more productively to achieve economic growth, a cleaner environment and greater energy security, affordability and reliability.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on energy efficiency issues and serves at the board level.

Trade association

Alliance for Transportation Electrification

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Alliance for Transportation Electrification advocates the acceleration of transportation electrification nationwide. The Alliance believes that a multi-stakeholder coalition educating and promoting the benefits of transportation electrification is necessary and will benefit the public welfare in the States for many reasons. Alliance for Transportation Electrification supports increased electrification measures that ultimately result in reduced greenhouse gas emissions.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on electric transportation issues and serves at the board level.

Trade association

Electric Drive Transportation (EDTA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Electric Drive Transportation Association focuses on investing in energy and economic security with a consistent policy environment for electric vehicles and infrastructure. Increased electrification measures ultimately result in reduced greenhouse gas emissions.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on electric transportation issues and serves at the board level.

Trade association

Interstate Natural Gas Association of America (INGAA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

INGAA promotes low-carbon emissions through reduced methane leaks in the natural gas pipeline system to deliver clean, abundant, affordable natural gas.

How have you, or are you attempting to, influence the position?

Southern Company is a member of INGAA and actively engages on multiple issues taken up by the membership.

Trade association

Southeast Energy Efficiency Alliance (SEEA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

SEEA provides regional context and technical expertise to advance energy efficiency policy. SEEA serves as a resource to state energy offices, public service commissions, environmental agencies and other state-based stakeholders, providing technical expertise on priority issue areas within our states.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on energy efficiency issues and serves at the board level.

Trade association

Consortium on Energy Efficiency

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Consortium on Energy Efficiency promote programs that involve seeding the market with a mix of financial incentives, technical assistance, product or service promotion, and other innovative means to encourage energy saving design strategies, affect purchasing decisions, and shape consumer behaviors. Support of increased energy efficiency measures ultimately result in reduced greenhouse gas emissions.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on energy efficiency issues to accelerate the development and availability of energy efficient products and services for our customers.

Trade association

American Wind Energy Association (AWEA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

AWEA is the premier national trade association that represents the interests of America's wind energy industry representing hundreds of member organizations that drive wind energy demand and to make it as cost-competitive as possible.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on wind energy issues to implement policies that help with deployment and operations. Southern Co. served at the board level.

Trade association

Energy Storage Association (ESA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The ESA believes that energy storage is a fundamental part of a secure energy future and an effective, "all-of-the-above" national energy strategy support of energy storage tax incentives, research and development, and broader awareness campaigns.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged in energy storage issues.

Trade association

American Council on Renewable Energy

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

American Council on Renewable Energy's policy work focuses on key tax, finance, grid modernization and other issues that are important for renewable energy expansion that ultimately result in reduced greenhouse gas emissions.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on renewable energy investment and deployment.

Trade association

Smart Electric Power Association (SEPA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

SEPA focuses on clean energy (solar, demand response, energy storage and electric transportation) and grid modernization that ultimately result in reduced greenhouse gas emissions.

How have you, or are you attempting to, influence the position?

As a member, Southern Company is actively engaged on energy efficiency issues and serves on the advisory board.

Trade association

Southeastern Wind Coalition

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Southeastern Wind Coalition focuses on education and outreach to advance the wind industry in the Southeast U.S.

How have you, or are you attempting to, influence the position?
As a member, Southern Company is actively engaged on wind energy issues to implement policies that help with deployment and operations. Southern Company serves at the board level.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?
No

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

Southern Company places great importance on consistent dialogue with all our stakeholders, including customers, employees, and investors. We regularly engage in discussions with, and provide comprehensive information for, constituents interested in our corporate governance citizenship, stewardship and environmental compliance. We are receptive to stakeholder concerns, and we are committed to transparency and proactive interactions with our investors. We regularly communicate with our shareholders to better understand their viewpoints, gather input on our business strategy and execution and obtain feedback regarding other matters of investor interest. Our management team participates in numerous investor meetings each year to discuss our business, our strategy and our financial results. These meetings include in-person, telephone, and webcast conferences. Since 2011, we have held regular environmental stakeholder forums, webinars, calls and meetings covering a range of topics, including regulatory and policy issues, system risk and planning related to renewables, energy efficiency and greenhouse gas matters. Members of senior management participate in these events. We began a more systematic approach to shareholder outreach with respect to ESG topics in 2014 that involved members of our senior management. The shareholder outreach team expanded in 2016 to include independent Directors. The NG&CR Committee currently oversees the shareholder engagement program on behalf of the Board.
In 2017 and early 2018, we reached out to our 100 largest shareholders representing more than 35 percent of our outstanding shares and to our shareholders that are not among our 100 largest but expressed an interest in engaging with us. We requested meetings to discuss ESG topics, as well as any other topics of interest to shareholders. We received positive responses from, and had meetings by telephone or in person with, shareholders representing more than 31 percent of our outstanding shares, including index funds, union and public pension funds, actively managed funds and socially responsible investment funds. Participants in calls and meetings with our largest shareholders included one or more independent Directors, the Chief Executive Officer, the Chief Financial Officer, the General Counsel, the Chief Human Resources Officer and the Vice President for Environmental and System Planning. Shareholder feedback is reported to our Board committees throughout the year.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

To ensure consistency, Southern Company's policy organizations evaluate our membership and/or funding of relevant organizations through regular and consistent communication with our individual operating companies' management and staff. In addition to serving at the leadership level in multiple organizations, many Southern Company subject matter experts advise the organizations in multiple instances.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

Other, please specify (Communications regarding carbon issues)

Status

Complete

Attach the document

Planning-for-a-low-carbon-future.pdf

Planning-for-a-low-carbon-future.pdf

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

C14. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chairman, President, and Chief Executive Officer	Board chair

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Please select

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Please select

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

Please select

SC3.1

(SC3.1) Do you want to enroll in the 2018-2019 CDP Action Exchange initiative?

Please select

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2017-2018 Action Exchange initiative?

Please select

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services, if so, what functionality will you be using?

Please select

SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?

Please select