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The Southern Company - Climate Change 2020

C0. Introduction

C0.1

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

Southern Company is a leading energy company, which, through its subsidiaries, has 42,000 megawatts (MW) of generating capacity and 1,500 billion cubic feet of combined natural gas consumption and throughput volume serving 9 million customers. We provide clean, safe, reliable and affordable energy through electric operating companies in three states, natural gas distribution companies in four states, a competitive generation company serving wholesale customers across America, a leading distributed energy infrastructure company, a fiber optics network and telecommunications services. For more than a century, 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.

Southern Company is a holding company that conducts its business through its subsidiaries. Accordingly, unless the context otherwise requires, references in this document to Southern Company's operations refer to those operations conducted through its subsidiaries. In this document, the terms we, us, our, Southern, SO and the Company all refer to the Southern Company system.

We are the only electric-gas combination utility in the U.S. 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 portfolio of generation resources and are one of the few U.S. utilities engaged in a comprehensive research and development (R&D) program that has a goal of delivering an affordable and reliable net zero energy system.



ate goal to reduce carbon emissions from 2007 levels by 50 percent by 2030. Current projections now indicate that we could achieve our 50% reduction goal a full five years early, by 2025.

Three key pillars support our approach to reducing carbon dioxide emissions:

- A diverse energy resource portfolio to include low-carbon and carbon-free resources, negative carbon solutions and energy efficiency resources
- Industry-leading R&D, focusing on technologies that lower greenhouse gas (GHG) emissions
- Constructive engagement with policymakers and others to support outcomes that lead to a net zero future

Our path toward net zero will include continued coal transition, utilization of natural gas to enable fleet transition, aggressively growing our investment in renewable energy, modernizing the grid, building the first new nuclear generating units in a generation, solving energy challenges through robust R&D, incorporating negative carbon solutions, 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 2007, we have significantly transformed the Southern Company system's electricity generation mix, with coal decreasing from 69% to 22% and renewables/other increasing from 1% to 12% of our annual energy mix. Our current portfolio of more than 13,500 MW of carbon-free generation capacity has established a foundation enabling us to continue our carbon reduction efforts.

Our subsidiary, Southern Company Gas, 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. Our natural gas distribution operation's fugitive methane intensity for 2019 using the ONE Future methodology is 0.135 percent, well below ONE Future's 2025 goal of 0.44 percent for local distribution companies.



gies for energy production, delivery and use. This leadership is inventing innovative solutions for a net-zero 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.

As we work to achieve a net zero carbon future, we remain committed to our core principles of providing clean, safe, reliable and affordable energy to our customers.

Our responses contain forward-looking information. For cautionary statements regarding forward-looking information, please go to Section 15, (C-FI).

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
Reporting year	January 1 2019	December 31 2019	No	<Not Applicable>

C0.3

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

United States of America



(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 chosen approach for consolidating your GHG inventory.

Equity share

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



C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board Chair	<p>The Board Chair, who also serves as Chief Executive Officer (CEO) of the Company, has direct responsibility for climate-related issues including setting the strategy to decarbonize the Southern Company system. Key elements include leading strategic resource planning and associated capital allocation, setting annual budgets, evaluating unregulated low-carbon investments, leading climate-related risk assessments, investing in R&D, and assessing climate-related controls and compliance. The Chair engages with investors and stakeholders on climate-related topics, including the Climate Action 100 investor initiative, which provides valuable insight into investors' climate-related priorities and positions. The Chair takes this input into consideration in evaluating strategic priorities. For example, the Chair, in conjunction with senior executives and in consultation with the Board, led the analysis, recommendation and decision to set, in April 2018, GHG reduction goals for our electric and gas operations of 50% by 2030 and a 2050 goal. The Chair developed a three-pronged strategy to achieve the goals: (1) pursue a diverse energy resource portfolio that includes low-carbon and carbon-free resources and energy efficiency resources; (2) continue our industry-leading R&D, focusing on technologies that lower GHG emissions; and (3) constructively engage with policymakers, regulators, investors, stakeholders and customers to support outcomes that lead to a low-carbon future. Further, during 2019 and into 2020, the Chair, in conjunction with senior executives and in consultation with the Board, led a continuing discussion on Southern's decarbonization efforts that evolved to incorporate concepts related to negative carbon solutions. In May 2020, the Chair formally announced that Southern has updated its long-term GHG emissions reduction goal to net zero emissions by 2050 and stated that Southern is expected to meet its 2030 reduction goal ahead of schedule, and possibly as early as 2025.</p>
Director on board	<p>The Board's Lead Independent Director (LID) also served as a member of the Operations, Environmental and Safety (OES) Committee in 2019. Throughout 2019, the LID (and other members of the Board) received reports on a broad range of climate-related topics at each Board meeting. Quarterly reports on progress in achieving our GHG emission reduction goals are provided and discussed. There is quarterly reporting on Plant Vogtle Units 3 and 4 construction progress (new carbon-free nuclear generation) and robust discussions around integrated resource planning, scenario planning and analysis and its underlying assumptions. During 2018 and 2019, the LID directly engaged with a number of our investors on climate-related topics, including investors representing the Climate Action 100 initiative, which provides valuable insight into climate-related priorities and positions. The LID takes this input into consideration in evaluating and overseeing climate-related strategic priorities. In addition, starting in 2019 and continuing into 2020, the LID was involved in leading Board discussions on incorporating concepts related to negative carbon solutions into Southern's decarbonization efforts, as well as understanding investor and stakeholder interests in net zero. These discussions ultimately resulted in the May 2020 announcement that Southern has updated its long-term GHG emissions reduction goal to net zero emissions by 2050. The LID played a leadership role in developing the updated target of net zero emissions by 2050. In addition, the LID provided input and oversight in the development of Southern's Implementation and Action Toward Net Zero report, which is planned for release in 2020.</p>



Executive Officer (CEO)	<p>setting the strategy to decarbonize the Southern Company system. Key elements include leading strategic resource planning and associated capital allocation, setting annual budgets, evaluating unregulated low-carbon investments, leading climate-related risk assessments, investing in R&D, and assessing climate-related controls and compliance. The CEO engages with investors and stakeholders on climate-related topics, including the Climate Action 100 investor initiative, which provides valuable insight into investors' climate-related priorities and positions. The CEO takes this input into consideration in evaluating strategic priorities. For example, the CEO, in conjunction with senior executives and in consultation with the Board, led the analysis, recommendation and decision to set, in April 2018, GHG reduction goals for our electric and gas operations of 50% by 2030 and low- to no-GHG emissions by 2050. The CEO developed a three-pronged strategy to achieve the goals: (1) pursue a diverse energy resource portfolio that includes low-carbon and carbon-free resources and energy efficiency resources; (2) continue our industry-leading R&D, focusing on technologies that lower GHG emissions; and (3) constructively engage with policymakers, regulators, investors, stakeholders and customers to support outcomes that lead to a low-carbon future. Further, during 2019 and into 2020, the CEO, in conjunction with senior executives and in consultation with the Board, led a continuing discussion on Southern's decarbonization efforts that evolved to incorporate concepts related to negative carbon solutions. In May 2020, the CEO formally announced that Southern has updated its long-term GHG emissions reduction goal to net zero emissions by 2050 and stated that Southern is expected to meet its 2030 reduction goal ahead of schedule, and possibly as early as 2025.</p>
Board-level committee	<p>The OES Committee oversees strategy on climate-related and environmental and safety policy and planning issues, including business strategies designed to reduce carbon emissions, as well as programs and policies to protect the environment for employees, customers, contractors, and the public. The Committee receives regular reports on a range of climate-related topics at each Committee meeting. The Committee receives regular reports on operating units' safety and environmental activities and engages in robust discussions about carbon emissions, carbon risks and strategic planning. There is quarterly reporting on Plant Vogtle Units 3 and 4 construction progress (new carbon-free nuclear generation) and robust discussions around integrated resource planning, scenario planning and analysis and its underlying assumptions. Quarterly reports on progress in achieving our GHG emission reduction goals are provided and discussed. In addition, starting in 2019 and continuing into 2020, the OES Committee began regular discussions on incorporating concepts related to negative carbon solutions into Southern's decarbonization efforts, as well as understanding investor and stakeholder interests in net zero. These discussions ultimately resulted in the May 2020 announcement that Southern has updated its long-term GHG emissions reduction goal to net zero emissions by 2050. As part of its oversight of Southern's GHG reduction goals, the OES Committee played a leadership role in developing the updated target of net zero emissions by 2050. In addition, the OES Committee provided input and oversight in the development of Southern's Implementation and Action Toward Net Zero report, which is planned for release in 2020.</p>
Board-level committee	<p>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. In this role, the Audit Committee reviews and guides risk management policies that include climate-related risks.</p>
Board-level committee	<p>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 the 2030 and 2050 GHG emission reduction goals. In this role, the Finance Committee reviews and guides annual budgets and business plans and oversees major capital expenditures with respect to climate-related issues.</p>



committee	<p>proving compensation plans and programs, including performance-based compensation awards that incorporate carbon reduction and other environmental-related metrics. The CMS Committee worked directly with the OES Committee to establish a new CEO incentive compensation award granted in 2019 for the three-year performance period from 2019-2021 that ties ten percent of the CEO’s long-term equity incentive compensation to progress towards the achievement of the Company’s 2030 and 2050 GHG emission reduction goals using quantitative and qualitative metrics. The long-term equity incentive compensation award concept was again utilized for the 2020-2022 performance period. Through the award, the CMS Committee has set performance objectives and monitors implementation and achievement of those objectives with respect to execution of our business strategy related to reducing GHG emissions. The CMS Committee regularly assesses the goal rigor of the award metrics as Southern continues to decarbonize its system. In 2020, the CMS Committee raised the stretch goal for 2020, meaning that it is more challenging to reach the maximum payout for the 2020-2022 performance period.</p>
Board-level committee	<p>The Nominating, Governance, and Corporate Responsibility (NGCR) Committee oversees and reports to the full Board on the composition and competencies of the Board and its corporate governance policies. The Committee ensures directors have appropriate climate-related expertise. The Committee oversees the Company’s practices and positions to advance its corporate citizenship, including environmental, sustainability and corporate social responsibility initiatives. The Committee receives quarterly updates on Southern Company’s ongoing stockholder engagement program and feedback received from stockholders on Environmental, Social, and Governance (ESG) topics, including climate-related risks and disclosures.</p>
Board-level committee	<p>The Business Security and Resiliency (BSR) Committee reviews and evaluates cyber and physical risks posed to the Southern Company system’s facilities and operations, including risks posed by severe weather events and the Southern Company system’s ability to withstand, mitigate and recover from the effects of any such events. In this role the Committee oversees efforts to secure the grid and maintain safe and reliable delivery of energy to customers in multiple risk scenarios, including climate-related risks.</p>

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	Scope of board-level oversight	Please explain



Climate-related issues are a scheduled agenda item	Climate-related issues are integrated	Oversight	
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	<Not Applicable>	Climate-related issues are integrated into all of the governance mechanisms listed. The OES Committee oversees, reviews and guides strategy on climate-related issues and significant environmental and safety policy and planning issues relevant to Southern Company, including but not limited to business strategies designed to address the long-term reduction of carbon emissions and related risks and opportunities across the system, as well as programs, policies, and procedures to protect the environment and provide a healthy and safe environment for employees, customers, contractors, and the public. The OES Committee was responsible for overseeing the setting of performance objectives with respect to the initial 2030 and 2050 GHG emission reduction goals set in 2018 and similarly played an instrumental role in updating the long-term goal to net zero by 2050, as announced in May 2020. In order to monitor the implementation of performance objectives and progress against goals and targets for addressing climate-related issues, the OES Committee receives regular reports on and engages in robust discussion on a range of climate-related topics at each board meeting. For example, regular quarterly reports are provided to and discussed with the OES Committee on the Company's progress in achieving its GHG emission reduction goals for 2030 and 2050. Regular quarterly reporting and robust discussions on the Company's progress with respect to the construction of Plant Vogtle Units 3 and 4 (new carbon-free nuclear generation) are also undertaken, as are regular robust discussions around integrated resource planning, scenario planning and analysis and the underlying assumptions for the scenario analysis. In addition, the OES Committee receives regular reports on operating units' safety and environmental activities and engages in robust discussions about carbon emissions and carbon risks and strategic planning. Starting in 2019 and continuing into 2020, the OES Committee began regular discussions on incorporating concepts related to negative carbon solutions into Southern's decarbonization efforts, as well as understanding investor and stakeholder interests in net zero. These discussions ultimately resulted in the May 2020 announcement that Southern has updated its long-term GHG emissions reduction goal to net zero emissions by 2050. In addition, the OES Committee provided input and oversight in the development of Southern's Implementation and Action Toward Net Zero report, which is planned for release in 2020. Further, the OES Committee has worked directly with the CMS Committee to establish an incentive compensation award that ties ten percent of the CEO's long-term equity incentive compensation to the achievement of the Company's 2030 and 2050 GHG emission reduction goals and supports execution of the business strategy.



Climate-related issues are a scheduled agenda item	Climate-related issues are integrated	oversight	
Scheduled – all meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding risk management policies</p>	<Not Applicable>	<p>The NGCR Committee oversees and reports to the full Board on the composition and competencies of the Board and its committees. Specifically, the Committee considers the qualifications, skills and attributes of the directors and the needs of the full Board to ensure that the skills represented on the Board allow the Board to review and guide strategy and risk management policies. Competencies considered by the Committee include expertise in climate-related matters and environmental policy and regulation, among others. Appropriate climate experience and credibility are specifically considered in this process. The NGCR Committee also oversees 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 NGCR Committee receives quarterly updates about Southern Company’s ongoing stockholder engagement program and feedback received from stockholders on ESG topics, including climate-related risks and disclosures.</p>
Scheduled – all meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p>	<Not Applicable>	<p>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. In this role, the Audit Committee reviews and guides risk management policies that include climate-related risks.</p>
Scheduled – all meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Overseeing major capital expenditures, acquisitions and divestitures</p>	<Not Applicable>	<p>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. In this role, the Finance Committee reviews and guides annual budgets and business plans and oversees major capital expenditures with respect to climate-related issues.</p>



Climate-related issues are a scheduled agenda item	Climate-related issues are integrated	Overight	
Scheduled – all meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding risk management policies</p> <p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<Not Applicable>	<p>The CMS Committee is responsible for reviewing and approving compensation plans and programs, including performance-based compensation awards that incorporate carbon reduction and other environmental-related metrics. The CMS Committee worked directly with the OES Committee to establish a new CEO incentive compensation award granted in 2019 for the three-year performance period from 2019-2021 that ties ten percent of the CEO's long-term equity incentive compensation to the achievement of the Company's 2030 and 2050 GHG emission reduction goals using quantitative and qualitative metrics. The long-term equity incentive compensation award concept was again utilized for the 2020-2022 performance period. Through the award, the CMS Committee has set performance objectives and monitors implementation and achievement of those objectives with respect to execution of our business strategy related to reducing GHG emissions. The CMS Committee regularly assesses the goal rigor of the award metrics as Southern continues to decarbonize its system. In 2020, the CMS Committee raised the stretch goal for 2020, meaning that it is more challenging to reach the maximum payout for the 2020-2022 performance period.</p>
Scheduled – some meetings	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding risk management policies</p>	<Not Applicable>	<p>The BSR Committee reviews and evaluates cyber and physical risks posed to the Southern Company system's facilities and operations, including risks posed by severe weather events and the system's ability to withstand, mitigate and recover from the effects of any such events. In this role the Committee oversees efforts to secure the grid and maintain safe and reliable delivery of energy to customers in multiple risk scenarios, including climate-related risks.</p>

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues



Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Chief Financial Officer (CFO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Other C-Suite Officer, please specify (Executive Vice President (EVP) of Operations)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Other, please specify (Senior Vice President (SVP) Environmental & System Planning)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Other C-Suite Officer, please specify (EVP, Chief Legal Officer & Chief Compliance Officer)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Other C-Suite Officer, please specify (EVP and Pres. of External Affairs)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly
Other committee, please specify (Subsidiary Presidents)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	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 (do not include the names of individuals).

Southern Company's Chairman/CEO has direct responsibility for climate-related issues including setting strategy and oversight of carbon emission reductions. Key elements of this responsibility include, for example, leading strategic resource planning and associated capital allocation, setting annual budgets, evaluating unregulated low-carbon and zero-carbon investments, leading climate-related risk assessments, investing in R&D and innovation, and assessing climate-related controls and compliance.

The CEO leads a team of the most senior officers across the Southern Company system, called the Southern Company Management Council (SCMC). Other members of the SCMC include the Company's CFO; EVP of operations; EVP and president of external affairs; EVP, chief legal officer and chief compliance officer; and the CEOs of each operating company and Southern Company Services.



sues, such as resource planning across the system and at each operating company. Federal and state environmental regulation and policy, and engagement with regulators, customers, stakeholders and stockholders on carbon emission risks and opportunities are also regularly discussed.

For example, in 2019 and into 2020, the Chairman/CEO, in conjunction with the SCMC and in consultation with the Board, led a series of discussions on Southern's decarbonization efforts that evolved to incorporate concepts related to negative carbon solutions. The SCMC began to discuss the potential to revise the long-term goal, reflecting emissions reduction progress to date, expected future resource decisions, and taking into account conversations with a wide variety of external stakeholders. As a result of these discussions, in May 2020, the Chairman/CEO formally announced that Southern has updated its long-term GHG emissions reduction goal to net zero emissions by 2050 and stated that Southern is expected to meet its 2030 reduction goal ahead of schedule, and possibly as early as 2025.

Additional roles and responsibilities in monitoring climate-related issues include the following.

- The CFO also serves as Southern Company's Chief Risk Officer. Responsibilities related to climate change include capital allocation for major projects, enterprise-wide risk assessments and financial disclosures which include environmental risk and carbon-related risks. 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 EVP of Operations and his direct report, the SVP of Environmental and System Planning, have primary responsibility for system planning, which includes a regular full-scale assessment of Southern Company's generation fleet, including long-term planning for generation resources. The EVP of Operations and SVP of Environmental and System Planning are responsible for monitoring and reporting on progress against the GHG reduction goals. The SVP, Environmental and System Planning is integral to investor and stakeholder outreach and regularly participates in investor and stakeholder engagement meetings to discuss the Company's decarbonization progress, the Company's integrated resource planning process, scenario planning and environmental policies, and programs. Southern Company's environmental affairs managers are responsible for environmental programs, including carbon policy activities, for the Southern Company system. The environmental affairs managers report to the SVP, Environmental and System Planning.
- The EVP, Chief Legal Officer and Chief Compliance Officer's responsibilities include legal and ethical compliance programs, interaction with state and federal regulators, and engaging with investors and stakeholders to discuss climate-related issues such as the GHG emission reduction goals and the risks and opportunities to the Company in the transition to a net zero future.



ny's Corporate Responsibility Report and engaging with investors and stakeholders and on carbon and climate policy issues, including transparency on political contributions and lobbying efforts.

- Operating Company CEOs (Alabama Power, Georgia Power, Mississippi Power, Southern Company Gas) are a part of the SCMC and are responsible for interfacing at the state level on resource planning proposals, and outreach to state and federal legislators and their regulators, and directly oversee safety, compliance and risk management programs at their individual utilities.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Details provided below.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment



Executive Officer (CEO)	reward	reduction target	<p>our 2030 and 2050 GHG reduction goals. The Board tied a significant portion of the CEO's long-term equity incentive compensation (LTI) award to achievement of the GHG reduction goals. Ten percent of the CEO's 2019 LTI award is aligned with the goals, equivalent to a potential payout of up to \$2 million based on achieving maximum performance through 2021. The CMS and OES Committees worked together to design the award with a shared desire for a measurable, quantitative component aligned with the 2030 goal of 50% reduction in GHG emissions and a qualitative component to incentivize actions aimed to achieve the 2050 goal. -The quantitative metric is defined in terms of net MW change and is earned by putting new zero-carbon resources into operation and placing coal in retirement or inactive reserve status during the 3-year period from 2019 through 2021, aligning with our 2030 goal. For a target payout, the system must achieve a 3,080 net MW change. For a maximum payout (150% of target), the system must achieve a 3,518 net MW change. No payout is received if the system's net MW change by 2021 is less than 2,204, and a 50% payout is received if the system's net MW change by 2021 is 2,641. -The qualitative metric creates an incentive to achieve our 2050 goal. Factors to be considered include: leadership in energy policy, R&D investment, and new business development (e.g., renewables, distributed generation, distributed infrastructure). Achievement is determined by the Board. For maximum performance, a 30% modifier is applied to the payout determined under the quantitative metric. The CMS Committee has again included the GHG goal as part of the CEO's long-term equity incentive award for the 2020 through 2022 performance period. Quantitative Metric: Performance over the period remains aligned with a trajectory to our 2030. The 150% payout stretch net MW change goal for 2020-2022 has been set about 60% higher than the target net MW change goal, meaning that it is more challenging to reach the maximum payout for the 2020-2022 performance period. Threshold for 2020-2022 has been set to the target level of the 2019-2021 goal, preventing any payout if the target of the 2019-2021 performance period is not reached. Qualitative Modifier: Qualitative payout modifier goal categories remain the same.</p>
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specify (Most employees, CEO & Senior Management)	reward	reduction target Energy reduction target Efficiency project	attract, engage, competitively compensate and retain employees through a mix of base pay and incentive pay. Incentive pay includes an annual incentive program that includes operational & financial goals. Nearly all our employees participate in our annual Performance Pay Program. - Several operational goals are important to reducing carbon emissions. Nuclear energy is net-zero carbon and one of the cleanest, most reliable & cost-effective fuel sources available. Its importance in our portfolio continues to grow with the 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, CFO, & other C-suite officers. Nuclear plant operations are also part of the operational goals' payout for many senior managers & for thousands of employees at key company subsidiaries. We measure safety, reliability, & availability of the nuclear fleet because those metrics are crucial for delivering clean, net-carbon 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 & minimizing environmental impact. Local customer preferences also drive the regulatory process & implementation of renewable resources and energy efficiency programs that reduce the environmental impact. Generation availability and reliability is a key performance metric. it allows us to track efficient usage of our entire fleet, which includes a mix of lower emission fuel alternatives. Energy efficiency has the benefit of both lowering costs for customers and reducing GHG emissions. These benefits attract economic development resulting in job growth for local economies. This development also helps grow the EPS and thereby benefits all employees through the incentive pay plan. - 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 & the potential to succeed in an accelerated transition to a low carbon business environment.
Other, please specify (Almost all employees of So. Gas)	Monetary reward	Emissions reduction project Efficiency project	For employees of our Southern Company Gas subsidiary, including the CEO of Southern Company Gas, operational goals under the annual Performance Pay Program include leak response performance and pipeline replacement projects that reduce methane emissions.
Other, please specify (Management group, including CEO)	Monetary reward	Emissions reduction project Energy reduction project Efficiency project Behavior change related indicator	Our management group, including our CEO, CFO, and other C-suite officers, 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 CMS Committee of the Board in determining his 2019 annual incentive award (and disclosed in Southern Company's proxy statement) included • Productive long-term strategy of transitioning the fleet, including: 2019 energy mix is down to 22% coal; reduced GHG emissions by 44% through 2019 as compared to 2007 levels; continued investments in renewables; retired 1,900 MWs of coal generation • Continued to drive ESG strategy and engage with key stakeholders, including ongoing substantive engagement with environmental stakeholder groups throughout the year • Reached our pre-established major milestones for 2019 at Georgia Power's Plant Vogtle Units 3 and 4 construction project while maintaining costs in line with our approved budget



<p>specify (Senior Management)</p>	<p>reward</p>	<p>reduction project Energy reduction project Efficiency project</p>	<p>customer, community, and stakeholder focused business model that produces sustainable levels of return on energy infrastructure, and our long-term equity incentive program is intended to further this goal by directly tying a portion of compensation to the interests of stockholders. For senior management, including our CEO, CFO, and other C-suite officers, a substantial portion of their compensation is tied to the long-term equity incentive award, which includes measuring total shareholder return over a three-year period. Crucial to creating long-term stockholder 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 net zero future. Our strategy for reducing carbon emissions includes aggressively growing our investment in renewable energy generation, 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.</p>
<p>Other, please specify (Almost all employees)</p>	<p>Monetary reward</p>	<p>Emissions reduction project Energy reduction project Efficiency project Behavior change related indicator</p>	<p>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&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.</p>

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a



Short-term	0	2	
Medium-term	2	10	
Long-term	10	30	

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Risks are identified based on potential substantive financial or strategic impact to the business with levels of impact ranging from 10s of millions of dollars to billions of dollars on the high end of the scale.

Enterprise Risk Management (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 resources appropriately to better manage the business and mitigate risk). These risks include climate-related risks to the enterprise. 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 from the Board of Directors to each 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 structures 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 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 risk profile process which is used to identify, assess, and plan for the mitigation of risks, including climate-related risks, throughout the Southern Company system and culminates in formal risk profiles for each participating entity. 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 18 participating entities (operating companies, business units and functional areas) and 17 risks of materiality, which include climate-related risks such as environmental regulations/legislation as well as grid and generation resiliency.



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 the SCMC. Profiles are used as inputs to various business processes at the entity, corporate, and Board of Director levels. A carbon related risk has been incorporated in Southern's ERM program's risk profile process since the early 2000's and started 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 climate-related matters. The Board recognizes the potential impacts on our business and the transitional risks and opportunities the utility industry faces in a future that places additional pressure on carbon emissions. 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 climate-related risks and opportunities. Issues that are the subject of active discussions at the Board and Board committee meetings include climate-related risks, regulatory compliance, energy efficiency, renewable energy generation 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.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Upstream

Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year



Long-term

Description of process

We have a robust ERM program that facilitates identification, communication and management of the significant potential 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 in consideration of short, medium, and long-term risks. The OES Committee of the Board is charged with review and oversight of the significant operating segments and significant environmental and safety policies, including addressing long-term reduction of carbon emissions. For the energy industry, high-capital, long-life assets require long-term planning. The current transition in the energy industry along with a net zero 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 climate-related 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, that appropriately consider fuel and carbon risks and that 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. Distribution network and generation resilience are focus areas for the Southern Company Board, ensuring processes are in place to minimize physical risks to the Southern Company system. Specific to physical risk assessment, Southern Company routinely assesses our infrastructure resiliency in the face of extreme weather events. Much of our electric generation, transmission and distribution footprint is located within the area of the US at higher risk for impacts from severe storms, including tornados and hurricanes. Based on historical experiences with all extreme weather events, structures throughout the system have been evaluated and hardened to better protect against damages from high winds, flooding and extreme low temperatures (e.g., use of concrete poles, weatherization of generating equipment and strengthening of cooling towers for generation units near the coasts). As a result of major hurricanes, like Hurricane Katrina in 2005, we have evaluated our facilities for flooding potential and instituted changes that have positively affected our ability to weather recent hurricanes, including moving the Mississippi Power Operations Control Center further inland in 2008. This new operations center is located outside of a flood zone and constructed to withstand 200 mile per hour winds and operate independently of public utilities for a few days.



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. For our natural gas distribution business, looking towards the future we are exploring opportunities to use or repurpose the natural gas delivery infrastructure to carry renewable natural gas (RNG), hydrogen or another energy carrier, thus continuing to decrease the carbon intensity of the fuel and utilize the pipeline infrastructure to transport fuels like RNG. These opportunities will be developed in consultation with state policymakers and regulators and our customers. For example, in 2019, Southern Company Gas, in partnership with Electric Power Research Institute, began an investigational project into the usage of existing metering and regulation stations relative to blended natural gas and hydrogen service. Southern Company is one of the anchor sponsors that has committed financial support to the Low-Carbon Resources Initiative (LCRI), a research and development collaboration between EPRI and the GTI. The LCRI is a worldwide collaborative looking at hydrogen technologies and applications, along with other low-carbon carriers. Over the next five years, the LCRI will focus on developing pathways to advance low-carbon technologies for large-scale deployment, including hydrogen and related low-carbon resources. The goal of the initiative is to enable a risk-informed understanding of options and technologies enabling significant, economywide decarbonization, with applications for both our electric and natural gas businesses. 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. Responding to the changing market needs, our wholesale generation mix for 2019 included just 22% coal generation and our renewables/other expanded to 12%. For reference, this compares to 69% coal and 1% renewables/other in 2007, our benchmark year. This annual energy mix for 2019 also includes 50% natural gas and 16% nuclear generation.

C2.2a

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

	Relevance & inclusion	Please explain



Current regulation	Relevant, always included	<p>All relevant environmental laws and regulations are incorporated into our climate-related risk assessments and business risk evaluated in the annual risk profile process. One risk to our business from current regulation is increased costs associated with compliance with unit-specific standards. For example, in 2019, the U.S. Environmental Protection Agency (EPA) published the final Affordable Clean Energy rule (ACE Rule) to repeal and replace the Clean Power Plan (CPP). Because the ACE Rule requires states to develop unit-specific CO2 emission rate standards for existing coal-fired units, Southern Company subsidiaries are reviewing the heat-rate efficiency improvements available at each affected facility, the range of potential unit-level emission rate standards that the states could assign to our units and potential associated compliance options. The potential range of costs associated with ACE Rule compliance are evaluated and incorporated in the annual risk profile process. This example shows how the risk profile process includes assessment of potential costs, where applicable. The ultimate impacts of the ACE Rule to the Southern Company system, however, will depend on state implementation plan requirements and the outcome of associated legal challenges so the ultimate impacts currently remain uncertain.</p>
Emerging regulation	Relevant, always included	<p>All relevant environmental laws and regulations are incorporated into our climate-related risk assessments and business risk evaluated in the semi-annual risk profile process. Southern Company considers emerging regulation in risk assessment by analyzing the potential impacts of proposed regulations. As climate related initiatives remain a focus area of Congress and Federal Agencies, Southern Company relies upon internal and external subject matter experts to understand the risks regulatory changes pose to company operations. A risk from emerging regulation is increased regulation applied to fossil fuels. For example, in reviewing the U.S. House of Representatives Committee on Energy and Commerce's Climate Leadership and Environmental Action for our Nation's Future Act (CLEAN Future Act) discussion draft released January 27, 2020, Southern Company identified several risks associated with the discussion draft and provided comments to the Committee on Energy and Commerce. These comments explain our decarbonization objective as well as the specific risks for our operating companies and their customers, nationwide. In addition to engaging with stakeholders and policymakers to develop constructive policy that balances the principles of clean, safe, reliable and affordable energy, Southern Company considers various regulatory scenarios related to CO2 in its analyses supporting major investment decision-making for the current and future generating plants of all its retail electricity businesses to further account for the risks regulatory changes may pose.</p>
Technology	Relevant, always included	<p>R&D, cybersecurity and generation technology risks are incorporated into our climate-related risk assessments and business risk evaluated in the annual risk profile process. The risk to our business from the incorporation of technology by customers is reduced demand for our primary products, electricity and natural gas. The adoption of technology by customers can have both a positive and negative impacts on sales. Many new technologies utilize less energy than in the past. However, electric and natural gas technologies such as electric and natural gas vehicles can create additional demand. Southern Company uses best available methods and experience to incorporate the effects of changes in customer behavior, state and federal programs, PSC or other applicable state regulatory agency mandates and technology, but Southern Company's planning processes may not estimate and incorporate these effects. Southern Company recognizes and evaluates the risks associated with technology advancements and utilizes these risks as an opportunity to create innovative partnerships. For example, Southern Company brought online a microgrid project on the campus of Georgia Tech that allows Southern Company subsidiary Georgia Power to gain insight on how smart energy management systems can interact with the grid to achieve optimal utilization of energy. Again in 2019, Southern Power announced another partnership with esVolta, a prominent developer and owner of lithium-ion battery storage projects. The partnership includes up to four utility-scale energy storage projects located in California totaling more than 86 MWs and 345-megawatt hours.</p>



Legal	Relevant, always included	Litigation risks associated with compliance to current and emerging environmental regulations are incorporated into our climate-related risk assessments and business risk evaluated in the annual risk profile process. The risk of litigation exists for the Company if it does not comply with climate-related regulation. Southern Company demonstrates this risk assessment by maintaining an Audit Committee as part of its Board. This Committee reviews and guides risk management policies that include environmental compliance and other climate-related risks. In addition, the Company maintains an Environmental Management Council consisting of directors from throughout the enterprise who review risks, communicate compliance options and develop policy. For example, in 2019, Southern Company initiated an external audit of its Risk Management Program to identify and address possible management gaps. Such management gaps could become a litigation risk if left unaddressed.
Market	Relevant, always included	Financial reporting and controls, financial integrity, long-term growth, demand of securities, and industry transformation are incorporated into our climate-related risk assessments and business risk evaluated in the annual risk profile process. Market related risk to our Company includes lower customer demand for our primary products, electricity and natural gas. Changes in customer behaviors in response to energy efficiency programs, changing conditions and preferences, or changes in the adoption of technologies could affect the relationship of economic activity to the consumption of energy. Industry transformation is a climate-related risk with impacts across Southern Company's enterprise. That is why Southern Company subsidiary, PowerSecure, Inc. (PowerSecure), is helping customers improve their energy efficiency. As a proven provider of multi-measure energy efficiency projects, PowerSecure has engineered, installed and commissioned more than \$800 million in energy efficiency projects for customers.
Reputation	Relevant, always included	Corporate image, ethics and compliance incidents, safety, and workforce talent and culture are incorporated into our climate-related risk assessments and business risk evaluated in the annual risk profile process. Southern Company recognizes there is reputational risk if a third party incorrectly infers there is inaction or inadequate action on climate issues by the Company. In 2018 we published the Planning for a Low Carbon Future report to outline how we are taking steps to increase disclosure of our preparations for a low-carbon future. In 2020 we plan to publish an addendum to the 2018 report titled: Implementation and Action Toward Net Zero. In the recent iteration we provide further insights into how we are tackling these tough issues include setting a net zero carbon goal for our 2050 operations. In our state-regulated electric service territories, we work with our Public Service Commissions (PSC) to ensure decisions are in the best interest of our customers. In 2019, Georgia Power's Integrated Resource Planning (IRP) resulted in the approval of an additional 2,260 MW of future renewable generation by 2025. This regulatory process provides customers and stakeholders opportunities to provide input on the direction of the Company. Georgia Power and Alabama Power will have the ability to use the renewable energy to serve their retail customers or sell the renewable energy or the associated renewable energy credits to third parties for the benefit of customers.



Acute physical	Relevant, always included	Infrastructure for generation, transmission and distribution is exposed to physical risks. Preparation includes redundant and flexible operations functions and facilities, as well as coordinating drills for responding to risks such as storms. The BSR Committee of the Board reviews and evaluates physical risks. Acute physical risk could include damage to our generation transmission and distribution systems following a weather-related impact. The Company is committed to continued investment in grid modernization including smart grid technologies like those implemented at the Alabama Power Smart Neighborhood in Birmingham or PowerSecure's Microgrid 360, which is a state-of-the-art microgrid campus that optimized PowerSecure's solutions to include ultra-clean and modular Tier 4 Final engines, a solar array, fuel cells and battery energy storage system. A modern grid and energy storage options allow for minimum disruptions in operations due to acute physical risks. Our gas business actively responds to acute physical demands on its distribution system. In 2019, for example, the Northern Illinois Gas Company (Nicor Gas) territory in northern Illinois experienced record cold for a number of consecutive days. January 30, 2019 had an average temperature for the day of around 16 degrees below zero, about 40 degrees colder than normal. Nicor Gas prepared for the dangerous cold and the preceding storm for days in advance. With a focus on proactive service appointment scheduling, added staffing for the event and constant monitoring of supply lines and reservoirs, Nicor Gas provided safe and reliable natural gas service to its 2.2 million customers with no major service outages during the event.
Chronic physical	Relevant, always included	Hardening and resiliency efforts are a focus for generation facilities, the transmission system and the distribution system. Preparation may include physical strengthening of structures, enclosing equipment, undergrounding of lines and additional tie lines. Business risks are evaluated in the risk profile process. The BSR Committee of the Board reviews and evaluates physical risks. Chronic physical risk to our facilities and infrastructure includes risks from flooding and hurricane-related damages. One of the ways Southern Company recognizes chronic physical risk is annual hurricane preparedness training for all employees responsible for restoration efforts. These programs, conducted throughout the electric service territories at most risk, put employees in the mindset necessary to safely and quickly respond to extreme weather events. Preparedness programs like this allow Southern Company teams to support others during large scale restoration activities such as Hurricane Michael in Georgia, tornados in Alabama and ice storms in the northeast. Southern Company has been recognized by Edison Electric Institute (EEI) with the association's "Emergency Recovery Award" to Georgia Power and Alabama Power for such restoration actions.

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.



Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Costs associated with GHG policies could be significant to the utility industry and the Southern Company system. However, the ultimate impact of these potential policies will depend on various factors, such as the policy approach, framework and stringency, any state-level adoption and implementation requirements, the availability and cost of any deployed compliance strategies and associated technologies, and the outcome of any associated legal proceedings. For example, a hypothetical GHG policy resulting in a fee per metric ton of CO₂ would substantially affect the ways we economically dispatch our generation fleet. Southern Company uses its CO₂ price paths in electric generation resource planning scenario analyses. The analyses consider both the evolution of the U.S. 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 CO₂ control policy such as a carbon tax, clean energy standard, cap-and-trade program or Clean Air Act regulation. 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 across a range of scenarios 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. As of July 2020, the comprehensive scenario resource planning process has resulted in 6,300 MW of coal and oil-fired retirements since 2010. In addition, because of the projected energy benefit realized by renewable energy resources and the ability to use the energy to serve customers with renewables or sell the renewable energy or associated renewable energy credits (RECs) to third parties for the benefit of customers, as of July 2020 more than 6,000 MW of renewable generation has been added since 2010.

Time horizon

Long-term

Likelihood

Likely

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

Potential financial impact figure (currency)

1760000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In 2019, the Southern Company system's Scope 1 GHG emissions were 88 million metric tons of CO₂ equivalent (CO₂e), representing the Company's direct and current exposure to future GHG policies, all things held constant. This exposure, however, is dynamic due to numerous factors – e.g. our electric generating fleet's ability to dynamically dispatch due to changing generation unit-level economics. Based on the Southern Company system's 2019 Scope 1 GHG emissions, a hypothetical GHG policy resulting in a \$20 per metric ton of CO₂e price would have exposed the Southern Company system's customers to approximately \$1.76 billion in higher operating costs in 2019; however, this cost does not account for any mitigation measures that could have materialized—e.g., dispatching our electric generating fleet to reduce GHG emissions—or any opportunities that might offset the higher operating costs. [88 million metric tons CO₂e * \$20/metric ton CO₂e = \$176,000,000,000.] Other potential costs may arise that are not captured in this analysis – e.g., capital costs associated with deploying new assets.

Cost of response to risk

6400000000

Description of response and explanation of cost calculation

Southern Company aims to minimize our exposure across the energy value chain as we make, move and sell energy. We believe that operating a customer-centric business model provides the opportunity to effectively respond to future GHG policies and the potential to succeed in a transition to a net zero business environment. Southern has anticipated and incorporated GHG pressure into its scenario planning and enterprise risk management practices for more than ten years. These practices have allowed Southern Company to evaluate and manage the risk around GHG emissions and make decisions that are in the best interest of the customers. Southern Company has also applied substantial resources to the technology necessary to move toward a low-carbon future and is committed to providing clean, safe, reliable and affordable energy, while transitioning to net zero operations by 2050. The cost of response to this risk is demonstrated using portions of the Company's capex plan for 2020-2024. Specifically, the cost listed is the cost of developing new zero-carbon renewable and nuclear generation in these years. This cost includes capex for nuclear (\$5,000,000,000) + hydropower (\$990,000,000) + solar (\$241,000,000) + other renewables (\$180,000,000) = \$6,400,000,000. The provided cost of response only represents a portion of the possible cost.



control technologies and the outcome of any associated legal proceedings. Additionally, future GHG policies may present opportunities for Southern Company by incentivizing energy efficiency through electrification and natural gas utilization to reduce GHG emissions across the entire economy. The Southern Company system's financial exposure to future GHG policies will ultimately depend on the policy approach, framework and stringency, any state-level adoption and implementation requirements, the availability and cost of any deployed compliance strategies and associated control technologies and the outcome of any associated legal proceedings. Additional management cost would be anticipated; however, without details related to the policy, it is difficult to provide an estimate of the future level of support necessary.

Comment

Southern Company is engaged across the energy value chain as we make, move and sell energy to a wide customer base. Southern Company's business model relies heavily on state-regulated electric and natural gas investments as well as long-term contracted energy infrastructure. Southern Company's wholesale portfolio includes natural gas, coal, nuclear and renewable electric generating assets and energy storage, electric transmission and distribution, local natural gas distribution, midstream natural gas transmission and distributed energy infrastructure. In 2019, the electric generation mix was 22% coal, 50% natural gas, 16% nuclear and 12% renewables/other. Future GHG policies, depending on the approach and structure, could present a range of risks and opportunities. Since the Southern Company system's current portfolio includes assets that rely upon the utilization of carbon-based fuels, future GHG policies could increase the Southern Company system's costs (e.g., operating costs) and, thus, increase customer prices associated with the ultimate delivery of energy. Opportunities include the increase in energy efficiency through electrification and natural gas utilization to reduce GHG emissions across the entire economy.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market	Changing customer behavior
--------	----------------------------

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The energy sector is rapidly evolving, driven by customer preferences, technology advancements, commodity process, energy security and resiliency efforts, and ESG initiatives. South-



bon reduction goals. For example, there is a risk of reduced demand for retail electric services due to customer implementation of distributed generation. Changes in customer behaviors in response to energy efficiency programs, changing conditions and preferences or changes in the adoption of technologies could affect the relationship of economic activity to the consumption of energy. Both federal and state programs exist to influence how customers use energy, and several of the traditional electric operating companies and Southern Company Gas have PSC or other applicable state regulatory agency mandates to promote energy efficiency. Conservation programs could impact the financial results of the Company in different ways. For example, if any traditional electric operating company or Southern Company Gas is required to invest in conservation measure that result in reduced sales from effective conservation, regulatory lag in adjusting rates for the impact of these measures could have a negative financial impact on such traditional electric operating company or Southern Company Gas and Southern Company.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

366000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In 2019, PowerSecure, a Southern Company subsidiary, had annual revenue for energy efficiency and microgrid services of approximately \$366 million. This value was used as a placeholder to estimate the potential annual financial impact due to deployment of microgrids, or similar technologies, to meet customer demand in the retail electric service territory; actual impacts would be expected to vary from this value. 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. Since the 1960s, Southern Company has actively engaged in robust R&D that grows the value of energy services to customers.



Description of response and explanation of cost calculation

In 2016, Southern Company acquired PowerSecure for \$425 million. PowerSecure provides energy solutions to electric utilities and their customers in the areas of distributed generation, energy storage and renewables and energy efficiency. Bringing this subsidiary into the Southern Company system enhances our ability to meet customer demands and provide services within the retail electric footprint and beyond. In addition, retail operating companies continue to work with customers to provide solutions that enhance reliability as well as sustainability, such as the solar panels installed by Georgia Power at the Atlanta Falcons stadium. The Southern Company system is continuing to gain expertise and drive down costs of distributed generation through R&D and practical applications.

Comment

At Southern Company, the R&D program has supported the development of an urban micro-grid test bed in conjunction with Georgia Tech to evaluate how diverse distributed energy resources (DERs) can effectively integrate into and operate as part of the electrical grid. This demonstration features multiple DERs, including an energy storage system, fuel cell and diesel and natural gas generators.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market	Changing customer behavior
--------	----------------------------

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

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 actively seeking options to decrease their energy usage. This includes making their homes more energy efficient. Building codes are evolving, and new homes are constructed to be more energy efficient, decreasing the demand for electricity and natural gas. There is potential for decrease in electricity and natural gas usage by retail customers in years to come. For example, several cities in our service territory have expressed interest in energy efficiency and renewable energy goals. In 2017, Atlanta City Council voted to transition the city towards 100% renewable energy by 2050. Also, in Georgia, the Athens-Clarke County government signed on to a 100% clean energy initiative. In 2018, the mayor of Birmingham, Alabama signed a 100% sustainable energy pledge. These examples of



considering such changes.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

4000000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The ultimate impact of this transition will depend on the level of uptake in the construction arena for new energy efficiency products and techniques that reduce the energy demand for a given home. The estimate provided assumes all existing residential homes in our retail service territory reduce energy use commiserate with the best available energy efficiency technologies overnight. A few additional assumptions were used to develop this high-level estimate: all residential customers are considered single family and all customers have electric heat and electric water heaters. This cost estimate is provided for demonstration purposes and does not reflect actual expected performance. The actual financial impact would be expected to vary greatly from this high-level estimated value. Total revenue assuming energy efficiency is not implemented widely: \$7,000,000,000 Total revenue assuming energy efficiency is implemented broadly: \$3,000,000,000 Total illustrative impact of energy efficiency: \$4,000,000,000

Cost of response to risk

6000000

Description of response and explanation of cost calculation

The cost of management represents the 2019 budget in R&D areas related to end use technologies (approximately \$3,900,000) and distributed generation and storage (approximately \$2,100,000). $\$3,900,000 + \$2,100,000 = \$6,000,000$ R&D budget dollars in 2019 is used as the estimation for the cost of response to risk in 2019. This is not a comprehensive representation of cost of management. Southern Company's R&D portfolio over the past decade has returned benefits exceeding 10 times our investment. A key focus of this research is to provide



energy and utility industries. EIP is a means for the Company to further identify and mitigate some of the market risk by gaining insights into emerging technologies and business models. EIP has invested in 34 portfolio companies since its inception in 2016 and already has achieved several successful exits. These successes include Ring, the smart doorbell maker acquired in 2018 by Amazon, and Greenlots, the leading electric vehicle charging infrastructure company acquired by Shell in 2019. Collaborating with the EIP portfolio companies helps Southern Company remain on the cutting edge of disruptive technology while uncovering new revenue opportunities and identifying potential partnerships. This is just one of the ways we are working to shape the future of energy. By leveraging these partnerships and gaining a foothold in new revenue streams, the Southern Company system can then provide products and services to customers that go beyond meeting their electricity needs.

Comment

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

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues resulting from increased demand for products and services



largest opportunity in realizing a net-zero 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. In the Southern Company retail electric service territory, there are estimated to be over 3.2 million vehicles based on state vehicle registrations from 2017. There is significant opportunity for increased electric vehicle adoption in our service territory. Alabama Power provides EV charging for employees and visitors at more than 135 charging stations at 45 company locations across the state. Georgia Power has installed 37 public community charges across Georgia and 113 chargers for employees across 22 company locations. Mississippi Power has installed 27 electric vehicle chargers at company locations across the service territory. It is important to note that natural gas infrastructure can be used to not only reduce the carbon footprint for energy delivery, but to also prevent GHG release from other economic activity, like transportation. Compressed natural gas (CNG) vehicles reduce GHG emissions on a wellhead-to-wheel basis by 13 - 17% compared to gasoline and diesel. When CNG vehicles are fueled with RNG sourced from landfills, water treatment facilities, agricultural waste, etc., this reduction of GHG emissions increases to 80 – 90%, or even carbon negative in the case of certain animal waste digesters. CNG vehicles reduce nitrogen oxide (NOx) emissions by 95% compared to diesel vehicles. Since 2012, Atlanta Gas Light Company (AGL) has built \$30 million worth of public and private CNG fueling stations for customers in Georgia through our tariff programs and turnkey construction contracts. There are 55 total CNG stations in Georgia, and 40 of these are on AGL's system. These stations range from large transit size stations to smaller installations for a handful of light duty vehicles.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1200000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure



and/or battery technology. To demonstrate the potential financial impact, we considered the impact of converting truck fleets in our electric service territories to fully electric trucks. The figure provided is based on the assumption that our electric power customers electrify their truck fleets at the same rate as the US truck fleet at large, resulting in \$1.2 billion in cumulative revenue through 2040. The assumed rate of US truck fleet electrification was determined based solely on vehicle economics. This estimation considered only one type of fleet truck and did not consider passenger vehicles.

Cost to realize opportunity

1000000

Strategy to realize opportunity and explanation of cost calculation

Cost is reflective only of annual dedicated R&D budget including funding of projects within EPRI. This cost includes more than \$600,000 for manpower and project expenses and nearly \$400,000 towards EPRI funding. There would be additional costs associated with realizing this opportunity that are not estimated here. 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; and Offering lower electricity rates and programs for off-peak usage, which helps commercial and industrial customers reduce their operating costs and environmental impact. Southern Company was a founding member of the Alliance for Transportation Electrification, a collaboration among utilities, original equipment manufacturers and others focused on advocating the acceleration of transportation electrification nationwide. An example of implementation, Will-It-Work™ is a fleet electrification process based on data for Georgia Power customers. The process guides customers through fleet electrification suitability and demonstration, then features a summary report. A multitude of data is collected in the demonstration phase through the use of telematics. The data is analyzed and includes number and type of vehicles in the fleet, miles driven, fuel costs, number of shifts, run-time hours, and environmental impacts to answer the question, Will It Work™. To date, the Will It Work™ program has reduced customers fuel costs by 70% on average, CO2 emissions by 83% and service costs by 40%.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source



Primary potential financial impact

Other, please specify (Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon)

Company-specific description

To date, none of the three 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, state regulators, and environmental agencies – to ensure that our carbon reduction efforts are supportive of customers' needs and preferences. Our subsidiaries are focused on strategically increasing the role of renewables in our generation mix. A pioneer in distributed power systems, PowerSecure, a subsidiary of Southern Company, installed over 2 GW and currently controls 1.6 GW of distributed generation system and is the market leader in microgrid solutions deployment with 85% of the U.S. market share as acknowledged by GreenTech Media Research. One way solar is growing is through our customer renewable programs, such as the Customer Renewable Supply Procurement (CRSP) program. The CRSP program will support commercial and industrial (C&I) customer's sustainability goals through renewable energy subscriptions. This service is designed to help large energy consumers reduce their electric carbon footprint, while maintaining low costs and high reliability. Additionally, in January 2019, Georgia Power filed its 2019 IRP with the Georgia PSC. As ordered in the IRP agreement, 1,000 MW of renewable energy was designated for renewable subscriptions by C&I customers through the CRSP program by 2024. Participating customers may purchase a monthly subscription and receive hourly credits based on the actual production of the portfolio of renewable facilities procured to supply the program. Georgia Power will retire the RECs generated by the renewable portfolio on behalf of the participating customers. This innovative program design allows individual customers to support significant growth of renewable resources as part of the evolution of Georgia Power's reliable and diverse resource mix. Georgia Power purchases only the net energy output from some renewable generating facilities that have contracted to sell that energy to Georgia Power. Ownership of the associated RECs is specified in each respective power purchase agreement. The party that owns the RECs retains the right to use them.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

This financial figure representing 100% of 2019 annual revenue for energy efficiency and microgrid services for PowerSecure is used here as a placeholder for the potential financial impact from increased distributed generation in Southern Company. 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.

Cost to realize opportunity

2100000

Strategy to realize opportunity and explanation of cost calculation

Cost shown is reflective of 100% of the 2019 annual R&D budget dedicated to renewables, energy storage and distributed generation. There would be additional costs associated with realizing this opportunity that are not estimated here. The energy sector is rapidly evolving, driven by customer preferences, technology advancements, commodity process, energy security and resiliency efforts, and ESG initiatives. Southern Company is committed to providing clean, safe, reliable and affordable energy, with a goal of transitioning to net zero carbon operations by 2050. We have partnered with the Army, Navy, Marine Corps and Air Force to develop innovative renewable energy generation projects on 33 Federal sites. Southern Company and its subsidiaries Alabama Power, Georgia Power and Mississippi Power have military solar projects online or under contract totaling more than 400 MW as of 2019. This partnership with the Department of Defense helps meet the military's goals to support the development of new renewable generation resources nationwide while the operating companies, generally, receive the energy and RECs from the projects which they may use to serve customers or sell to third parties for the benefit of customers. Through our planning process and customer partnerships, Southern Company and its subsidiaries will continue to evaluate and develop program designs to meet customers' goals. We also have numerous R&D projects underway to determine the potential of emerging cost-effective renewable resources and technologies.

Comment

Overall, Southern Company's wholesale generation portfolio included more than 9,500 MW of renewable resources online in 2019 and that number will continue to grow as the Company's generating fleet is expected to have nearly 14,000 MW of renewable resources by 2024. It should be noted when the Southern Company system's retail electric utility subsidiaries purchase energy from or build renewable generation sources, if they have the right to the RECs associated with these resources, they retain the ability to use the RECs to serve their cus-

**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

Primary potential financial impact

Other, please specify (Better competitive position to reflect shifting consumer preferences, resulting in increased revenues.)

Company-specific description

Our long and successful history of incorporating distributed generation into our energy mix began in the late 1970s and continues today. The integration of cost-effective energy storage with intermittent renewable generation is one of the key options that can help lower carbon emissions and provide an opportunity for Company growth through the sale of additional products and services. Alabama Power and Georgia Power have developed Smart Neighborhoods in Birmingham, Alabama and Atlanta, Georgia respectively, to evaluate how high-performance homes operate and benefit both customers and the utility. These Smart Neighborhood projects will help to develop new methods to integrate solar, battery storage and controllable devices and could provide a model for developing similar communities throughout the Southeast. Alabama Power's new Smart Neighborhood Builder Program partners with homebuilders to build energy-efficient homes that feature advanced energy products and home automation. 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. We have numerous research and development projects underway across our system to develop technologies associated with renewable resources, energy storage and distributed generation. Research areas include solar photovoltaic (PV) deployment, operation and maintenance, solar resource forecasting, tall tower wind generation, and bulk-power system integration of variable generation sources. These investments in new products and services, smart grid technologies and renewables help both position us to be able to integrate higher penetrations of intermittent renewables and grow earnings for our investors, while maintaining grid stability and reliability.

Time horizon

Short-term

**Magnitude of impact**

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

428000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The financial impact captured here is reflective of the 2019 revenues for energy efficiency and microgrid services from PowerSecure. 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 of capital investments is dependent on the speed of new low- to no- emission resource development, installation costs and customer preferences.

Cost to realize opportunity

3950000

Strategy to realize opportunity and explanation of cost calculation

Cost shown is only reflective of 100% of the 2019 R&D budget related to end-use technologies. There would be additional costs associated with realizing this opportunity that are not estimated here. Southern Company subsidiary, PowerSecure, has cemented its reputation as a leader in the distributed infrastructure market. The Company customizes advanced energy solutions that provide commercial, industrial and institutional customers with resiliency, flexibility and cost efficiencies. Southern Company will also continue our industry-leading R&D, as well as active participation in the EPRI, with particular focus on technologies that lower GHG emissions. A pioneer in distributed power systems, PowerSecure, installed over 2 gigawatts and currently controls 1.6 gigawatts of distributed generation system and is the market leader in microgrid solutions deployment with 85% of the U.S. market share as acknowledged by GreenTech Media Research.

Comment

C3. Business Strategy



(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

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

Yes, qualitative and quantitative

C3.1b

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

Climate-related scenarios and models applied	Details



models applied	
Other, please specify (Internal Scenario Planning)	<p>Our state-regulated electric operating companies' integrated resource planning process occurs annually – allowing updates to the scenarios, which look out over a 30-year horizon, and associated CO₂ prices, as well as incorporation of recent commodity, economic and policy indicators. We use a robust scenario planning process that has two primary components: energy economy modeling and integrated resource planning. We continue to evaluate this process on an annual basis, and it is therefore subject to change. The time horizon for this process is at least 30 years, which is appropriate for our industry based on PSC requirements in our region and considering the life of assets, which exceed 60 years in many cases. 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 CO₂ (e.g., represented as a cost to emit CO₂). 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 – Georgia Power, Alabama Power and Mississippi Power – and ultimately informs major generation retirement and capital investment decisions. For all major retail generation decisions we rely on a set of scenarios that have \$0, \$10 / metric ton, and \$20 / metric ton prices on carbon. • 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 in carbon emissions 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 International Energy Agency's (IEA) 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. In 2019, Georgia Power filed its 2019 IRP. The plan is a result of the in-depth integrated resource plan process, which includes projections of future fuel costs, load and energy forecasts, an analysis of available generation technologies, the 10-year transmission plan and an economic assessment of potential and proposed energy efficiency and demand response programs. The Company also evaluates the cost-effectiveness of its generating resources given changing environmental regulations and emerging technologies and discusses the growing importance of resilience to the electric system. This planning process resulted in the regulatory approval of an IRP which includes 80MW of battery storage and over 2,200 MW of renewable energy resources by 2024. Similar IRP processes at each regulated subsidiary build into our overarching strategy process. In the last decade, Southern's subsidiaries have developed a carbon-free generation mix of approximately 19,000 MW while retiring 6,300 MW of coal- and oil-fired generation as part of its integrated resource planning process. Georgia Power purchases only the net energy output from some renewable generating facilities that have contracted to sell that energy to Georgia Power. Ownership of the associated RECs is specified in each respective power purchase agreement. The party that owns the RECs retains the right to use them.</p>

C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.



	opportunities influenced your strategy in this area?	
Products and services	Yes	<p>Beyond providing clean, safe, reliable, and affordable energy to our customers, we are ensuring that our customers can efficiently use our product. To demonstrate the significant impact of this business area, in May 2016, we acquired PowerSecure, a proprietary distributed infrastructure, energy efficiency and utility infrastructure solutions company. With over 1.6 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, and in some cases, with on-site solar resources. In June 2017, PowerSecure and Advanced Microgrid Solutions announced an alliance with the goal of accelerating the cost-effective deployment of distributed energy resources. We believe we are well positioned 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 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 and, since 2007, Southern Company has invested approximately \$1.2 billion in energy efficiency and demand response. The result of this investment is the ability to reduce peak demands by over 5,600 MW. In 2011, Nicor Gas, a subsidiary of Southern Company Gas, set a goal of achieving annual savings of more than 16 million therms and a corresponding reduction of more than 840,000 metric tons of customers' CO2 emissions. Between 2011 and 2021, Nicor Gas expects to invest more than \$375 million in energy efficiency for its customers. 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 and natural gas customers.</p>
Supply chain and/or value chain	Yes	<p>Southern Company's OES Board Committee reviews significant operations which include fuel cost and availability. In the short term, both Southern Company Gas and Southern Company have updated their natural gas bid selection process to offer a competitive edge to natural gas suppliers committed to GHG reductions in their own businesses. Southern Company Gas has been actively investing in infrastructure modernization and improvements to replace aging natural gas pipelines. Southern Company Gas is a founding member of ONE Future, which has members with a geographically diverse and material share of the U.S. natural gas supply chain, with a goal to collectively achieve a science-based rate of fugitive methane emissions across the entire natural gas supply chain (from production through consumption) equivalent to 1% or less of total natural gas production. Southern Company Gas is engaging in the ONE Future program to also promote the production of natural gas in a more sustainable way from its upstream suppliers. For example, Virginia Natural Gas (VNG), a subsidiary of Southern Company Gas, announced that it aspires to provide its customers with natural gas that is 100% sourced, transported and distributed by companies that have pledged to reduce GHG emissions to less than 1% across the natural gas value chain. This announcement provides an example of the significant importance of supply chain in our business strategy.</p>



	opportunities influenced your strategy in this area?	
Investment in R&D	Yes	<p>Since the 1960s, Southern Company has actively engaged in robust, proprietary R&D that grows the value of energy services to customers. Over the past decade, Southern Company's R&D investment has returned benefits approaching \$5 billion. As part of our approach to reducing carbon emissions, nearly all our current R&D spend is focused on lower carbon-emitting technologies and is a significant portion of our business strategy. We are also an active participant and a significant funder of EPRI, whose membership includes utilities throughout the world, as well as other R&D organizations like GTI. Southern Company R&D has identified critical technology pathways necessary to achieve this outcome, and is further refining its strategy for a net zero future to focus on the following objectives: > Deliver an affordable, reliable, net zero energy system > Optimize energy delivery systems to support sector transformation > Serve customer energy needs holistically</p>
Operations	Yes	<p>No one is doing more in 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. As with R&D, diversification of our energy portfolio is a significant portion of our business strategy around reducing carbon emissions. Our portfolio was initially founded on zero-carbon hydroelectric generation and has grown to include coal, natural gas, nuclear, 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: • Since 2007, we have retired or converted to gas approximately 9,600 MW of coal and oil generating capacity. • We invest in a diverse portfolio of low-carbon and carbon-free generation assets to serve customers and communities with a focus on maintaining reliability and affordability while reducing carbon emissions. Our current portfolio of over 13,500 MW of carbon-free resource capacity has established a foundation enabling us to continue our carbon reduction efforts. We anticipate adding approximately 4,400 MW of additional renewable generation sources by 2024. • 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. Combined with our existing fleet of zero-carbon generation, we have commitments to grow our fleet of zero carbon generation to more than 19,000 MW by 2024. The trends of additional coal generation retirements and natural gas-fired and renewable generation additions are projected to continue. • Investing \$13 billion in capital improvements for our transmission and delivery system to ensure resilient, fully integrated, self-healing energy delivery grids for unrestricted creation and use of low and no carbon energy sources.</p>

C3.1e

(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.



	What have been influenced	
Row 1	<p>Revenues</p> <p>Indirect costs</p> <p>Capital expenditures</p> <p>Acquisitions and divestments</p> <p>Access to capital</p> <p>Assets</p>	<p>Revenues: 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 decisions 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 and energy storage portfolio. Operating costs / Indirect Costs: Our R&D spend, which is more than \$40 million dollars per year, including the EPRI applied dollars, continues to significantly increase its focus on low, zero and negative carbon technologies, and we have expanded our products and services through PowerSecure's strategic partnerships with Bloom Energy and Advanced Microgrid Solutions. Capital expenditures Through our subsidiaries, we are investing in developing low-carbon and carbon-free resources as evidenced by the addition of approximately 1,000 MW of new solar generation in 2019. Our current portfolio of greater than 13,500 MW of carbon-free resource capacity has established a foundation upon which to continue our carbon reduction efforts. In addition to spending more on low carbon generation options, 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. Over a 20-year period from 2008 to 2018, Southern Company Gas invested more than \$2.2 billion in pipeline and infrastructure replacements, and these improvements have reduced fugitive methane emissions. Acquisitions and divestments: As mentioned previously, 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, which provides energy solutions to electric utilities and their customers in the areas of distributed generation, energy storage and renewables and energy efficiency. With over 1.6 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. As of December 2019, generation decisions and environmental compliance strategies have led to approximately 6,300 MW of coal- and oil-related generation retirements since 2010 and approximately 3,300 MW of coal capacity switched to use lower-carbon natural gas as a primary fuel since 2015. Access to capital: impacted Investors and credit bureaus are increasingly focused on ESG issues, including climate-related issues. In 2018, we published our "Planning for a Low Carbon Future" report to enhance the information for investors related to the risks and opportunities in a low-carbon transition. We continue to communicate through disclosures like the CDP, "Planning for a Low Carbon Future" report, and the addendum "Implementation and Action Toward Net Zero" report that we plan to publish in 2020 to transparently convey our progress and forward-looking strategy as well as to ensure the quality of our reputation and creditworthiness. Loss of access to short-term money markets and long-term capital markets would significantly impact our business by reducing project funding options or increasing the cost of borrowing. Assets: We have seen a positive impact to our assets. We invest in a diverse portfolio of low-carbon and carbon-free generation assets to serve customers and communities. Through our subsidiaries, we have invested \$20 billion in developing low-carbon and carbon-free resources since 2010. Liabilities: Not impacted While each electric utility company in the Southern Company system owns and operates its generating resources, Southern Company's retail electric generating fleet is economically dispatched to serve customer needs regardless of the location or company ownership of any specific generation unit. A range of planning scenarios is established, developed and modeled through the work of a coordinated planning team consisting of internal subject matter experts, company planning managers, and external experts that provide input on key parts of the analysis. A major goal of the resource planning process and environmental compliance strategy process is to make fully informed, risk adjusted decisions that are in the best interest of our customers.</p>



(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Climate change is real and we are committed to finding and implementing solutions that meet the needs of the customers and communities we serve. Southern Company is committed to providing clean, safe, reliable and affordable energy and reducing emissions of CO₂ and other GHG by developing the full portfolio of energy resources. Southern Company understands that operating in a CO₂-constrained future will be a reality, and for more than a decade we have been planning and making business decisions with the expectation of a CO₂-constrained future.

In April 2018, we set emission reduction goals that were aligned with strategies designed to address the long-term reduction of carbon emissions and our commitment to a leadership role in developing solutions that make technological and economic sense. The goals established in 2018 were to reduce GHG emissions by 50% (from 2007 levels) by 2030 and to achieve low-to-no GHG emissions by 2050. These were enterprise-wide goals that encompass the Scope 1 emissions from our electric and natural gas operations. In 2020, we revised our long-term goal to Net Zero by 2050. 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 R&D efforts, incorporating negative carbon solutions into our R&D and business plans and investing in energy efficiency for savings on both sides of the meter. Transitioning to a net zero 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. In 2020, we began to incorporate negative carbon concepts into each element of our strategy to facilitate the transition to a net zero future.

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



lows each of our state-regulated utilities to actively work within its regulatory framework to ensure that carbon reduction efforts are in customers' best interests over time.

Nobody is doing more to pursue 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.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Year target was set

2018

Target coverage

Business activity

Scope(s) (or Scope 3 category)

Scope 1

Base year

2007

Covered emissions in base year (metric tons CO2e)

**Scope 3 category)**

100

Target year

2050

Targeted reduction from base year (%)

100

Covered emissions in target year (metric tons CO2e) [auto-calculated]

0

Covered emissions in reporting year (metric tons CO2e)

88213565

% of target achieved [auto-calculated]

43.687608946045

Target status in reporting year

Underway

Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)

In 2018, we set emission reduction goals that were aligned with strategies designed to address the long-term reduction of carbon emissions and our commitment to a leadership role in developing solutions that make technological and economic sense. The goals established in 2018 were to reduce GHG emissions by 50% (from 2007 levels) by 2030 and to achieve low-to-no GHG emissions by 2050. These are enterprise-wide goals that encompass the Scope 1 emissions from our electric and natural gas operations. In 2020, we revised our long-term goal to achieve net zero GHG emissions by 2050. The goals are informed by the results of our integrated resource plans, which are designed to plan for an appropriate mix of generation resources to meet energy and capacity needs at a reasonable cost for our customers. These goals are also consistent with actions needed to potentially limit the global average temperature rise to less than 1.5 degrees Celsius above pre-industrial times--see EPRI's "Grounding Decisions: A scientific foundation for companies considering global climate scenarios and greenhouse gas goals" and "Review of 1.5°C and Other Newer Global Emissions Scenarios: Insights for Company and Financial Climate Low-Carbon Transition Risk Assessment and Greenhouse Goal Setting" reports. Southern Company will continue to use a portfolio approach as we seek to decarbonize. We expect our path to net zero to be comprised of several key elements: continued coal transition, utilization of natural gas to enable the fleet transition, further growth in our portfolio of zero-carbon resources, negative carbon solutions, enhanced energy efficiency initiatives and continued investment in R&D focused on clean energy technologies. Our approach is driven by thoughtful scenario planning, long-term integrated

**Target reference number**

Abs 2

Year target was set

2018

Target coverage

Business activity

Scope(s) (or Scope 3 category)

Scope 1

Base year

2007

Covered emissions in base year (metric tons CO2e)

156650363

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2030

Targeted reduction from base year (%)

50

Covered emissions in target year (metric tons CO2e) [auto-calculated]

78325181.5

Covered emissions in reporting year (metric tons CO2e)

88213565

% of target achieved [auto-calculated]

87.37521789209

Target status in reporting year

Underway

Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)



in 2018 were to reduce GHG emissions by 50% (from 2007 levels) by 2030 and to achieve low-to-no GHG emissions by 2050. These are enterprise-wide goals that encompass the Scope 1 emissions from our electric and natural gas operations. In 2020, we revised our long-term goal to achieve net zero GHG emissions by 2050. The goals are informed by the results of our integrated resource plans, which are designed to plan for an appropriate mix of generation resources to meet energy and capacity needs at a reasonable cost for our customers. These goals are also consistent with actions needed to potentially limit the global average temperature rise to less than 1.5 degrees Celsius above pre-industrial times--see EPRI's "Grounding Decisions: A scientific foundation for companies considering global climate scenarios and greenhouse gas goals" and "Review of 1.5°C and Other Newer Global Emissions Scenarios: Insights for Company and Financial Climate Low-Carbon Transition Risk Assessment and Greenhouse Goal Setting" reports. Southern Company will continue to use a portfolio approach as we seek to decarbonize. We expect our path to net zero to be comprised of several key elements: continued coal transition, utilization of natural gas to enable the fleet transition, further growth in our portfolio of zero-carbon resources, negative carbon solutions, enhanced energy efficiency initiatives and continued investment in R&D focused on clean energy technologies. Our approach is driven by thoughtful scenario planning, long-term integrated resources plans, and constructive regulatory decisions-making. We are also engaging with policymakers, customers and other stakeholders to support outcomes that lead to a net zero future.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to reduce methane emissions

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2014

Target coverage

Business division

**Target type: category & Metric (target numerator if reporting an intensity target)**

Methane reduction target	Other, please specify (Methane leak rate from gas distribution)
--------------------------	---

Target denominator (intensity targets only)

Other, please specify (Throughput of natural gas)

Base year

2012

Figure or percentage in base year

0.52

Target year

2025

Figure or percentage in target year

0.44

Figure or percentage in reporting year

0.135

% of target achieved [auto-calculated]

481.25

Target status in reporting year

Achieved

Is this target part of an emissions target?

The methane reduction target is part of a larger Distribution Sector target which is a part of the overall One Future goal of a natural gas value chain methane intensity that is 1% or less.

Is this target part of an overarching initiative?

Other, please specify (ONE Future Program)

Please explain (including target coverage)

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 of 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.

Target reference number

Oth 2



Business division

Target type: absolute or intensity

Please select

Target type: category & Metric (target numerator if reporting an intensity target)

Please select

Target denominator (intensity targets only)

<Not Applicable>

Base year

Figure or percentage in base year

Target year

Figure or percentage in target year

Figure or percentage in reporting year

% of target achieved [auto-calculated]

<Calculated field>

Target status in reporting year

Underway

Is this target part of an emissions target?

Efficient operation and continued maintenance of generation units assists in meeting the Southern Company's overarching target of 50% reduction in GHG emissions by 2030.

Is this target part of an overarching initiative?

Other, please specify (Part of Overall Reduction Goals)

Please explain (including target coverage)

The Southern Company's electric generating units have annual goals related to heat rate (fuel efficiency) 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 ensures the units continue to operate efficiently. Similarly, Southern Company's nuclear fleet seeks to meet an annual nuclear fleet capability factor on a per site basis. By maximizing operation of these carbon-free resources, we offset the need to run more carbon intensive generating units. Employees responsible for operation of the nuclear fleet are incentivized to meet these goals as they are a part of annual performance pay goals.



**(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 initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	1	0
Implementation commenced*	7	0
Implemented*	26	1033653
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Low-carbon energy generation | Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

131178

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

**Payback period**

No payback

Estimated lifetime of the initiative

>30 years

Comment

In 2019, Southern Company subsidiaries completed 10 solar projects across the country. It should be noted that, 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. Southern Company receives regulatory and program approvals through 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 as projects in conjunction with the respective PSCs. Retail operating companies continue to pursue the development of zero carbon solar PV installations.

Initiative category & Initiative type

Low-carbon energy generation	Solar PV
------------------------------	----------

Estimated annual CO2e savings (metric tonnes CO2e)

493895

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

In 2019, Southern subsidiaries had power purchase agreements for multiple solar projects in their retail service territories. It should be noted that generally, with respect to renewable en-



rately, to third parties for the benefit of customers. The ultimate purchasers of the RECs receive the right to claim all associated emission reductions. Retail operating companies continue to seek suppliers and purchase low and zero carbon energy to diversify the company's fuel portfolio and create cost savings for customers where possible. New capacity is typically contracted for on a multi-year basis, based upon regulatory approval.

Initiative category & Initiative type

Low-carbon energy generation	Wind
------------------------------	------

Estimated annual CO2e savings (metric tonnes CO2e)

408580

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

In 2019, Southern subsidiaries had power purchase agreements for wind projects in their retail service territories. It should be noted that 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 purchasers of the RECs receive the right to claim all associated emission reductions. Retail operating companies continue to seek suppliers and purchase low and zero carbon energy to diversify the Company's fuel portfolio and create cost savings for customers where possible. New capacity is typically contracted for on a multi-year basis, based upon regulatory approval.

**(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 and gas operating company regarding its assets, including those requiring specific state regulatory (i.e., 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 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 5,600 MW and avoid more than 3 billion kilowatt hours (kWh) of energy use. Additionally, since 2011, Nicor Gas's energy efficiency programs have helped reduce demand by more than 160 million therms and reduced customers' emissions. Looking forward, the Southern Company system is 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 \$375 million in energy efficiency for natural gas customers between 2011 and 2021.
Dedicated budget for low-carbon product R&D	Since the 1960s, Southern Company has actively engaged in robust R&D that grows the value of energy services to customers. Nearly all of our current R&D spend is focused on lower carbon-emitting technologies or carbon removal 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 recent commodity, economic or policy indicators. We use a robust scenario planning process that has two primary components: energy economy modelling and integrated resource planning. We continue to evaluate this process on an annual basis, and it is therefore subject to change.
Internal incentives/recognition programs	To demonstrate its commitment to the reduction goals and facilitate the execution of our business strategy to address the long-term reduction of carbon emissions, in 2019 and again in 2020, the Board decided that it would tie a portion of the CEO's LTI award for 2019 and for 2020 to the achievement of the goals. Ten percent of the CEO's 2019 and 2020 LTI awards are aligned with the GHG reduction goals, equivalent to a potential payout of up to \$2 million of incentive compensation.
Partnering with governments on technology development	Southern Company R&D has worked for almost 50 years to develop new technologies across the production, delivery and end-use of energy. Since its formation, the DOE has been a major research partner with Southern Company in defining R&D needs, leveraging public-private funding and understanding and implementing results. In addition to DOE and its national laboratories, Southern Company R&D 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 R&D organization has delivered significant benefits across the enterprise that, over the last 10 years, have averaged at least 10 times its investment.

C4.5



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 the retail electric operating companies and gas distribution company reduce electricity and natural gas usage 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

0

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

These programs have helped avoid more than 3 billion kWh of energy use since 2010.

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 may also directly lower their total emissions. We also supply natural gas to customers, and we are focused on opportunities to lead the industry in the use of renewable natural gas, minimize fugitive methane emissions across

**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 (Reduction in economy wide carbon emissions)

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

0

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

By supporting technologies that help to decarbonize other sectors of the economy, we are able to reduce net carbon emissions. Focus areas of our R&D include technologies related to efficient use of electric and natural gas for transportation, building, industrial processes and food production. Southern Company's retail operating companies have built, own and operate a fleet of low- and zero-carbon facilities and also purchase energy and RECs from zero-carbon facilities owned by third parties. The retail operating companies are generally able to use the RECs from these facilities to offer their customers the option to match some or all of their retail load with RECs, a low-carbon product. The retail operating companies can also sell the unused RECs to third parties for the benefit of customers. Because these resources (both owned and purchased) are part of each company's wholesale portfolio and the sale of energy and RECs (both to retail customers and wholesale customers) are comingled with all other wholesale sales, our subsidiaries do not have a percentage of revenues that can be claimed for these activities for any specific set of customers. These activities are not, however, pursuant or implemented to satisfy any regulatory or other reporting requirements but rather as a means to satisfy customer demand and as an added benefit achieve Company-wide goals to reduce carbon emissions and diversify fuel sources to the benefit of customers.

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

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

0

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

Southern Company's 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. 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. Alabama Power is also working to implement renewable energy programs to provide solar energy to customers who want to drive development of new resources without requiring subsidies from other customers. Alabama Power's residents and businesses have the opportunity to purchase renewable energy credits. Since 2017, over 12,000,000 kilowatt hours of clean energy have been used by participants through Alabama Power's renewable energy programs.

C-EU4.6

(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your activities.

Southern Company Gas has led the natural gas industry in fostering significant progress to minimize fugitive methane emissions. Its distribution system operates at almost 99.9% efficiency in its delivery of natural gas. Intensity is derived from the ONE Future Methane Intensity Protocol (2018). Over a 20-year timeframe, from 1998 to 2018, Southern Company Gas invested more than \$2.2 billion in pipeline and infrastructure replacements, and these improvements have reduced its annual methane emissions for its distribution systems by 50% while accommodating a 20% growth in its distribution system. We continue to invest in methane detection and reduction across the Southern Company Gas footprint.

Southern Company Gas also demonstrates leadership across the value chain as 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. With operations across every part of the natural gas value chain, ONE Future is focused on identifying



for the some of the largest natural gas producers, transmission and distribution companies in the U.S. ONE Future members operate in many of the 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. By increasing suppliers involved in the initiative, Southern Company can increase availability of ONE Future suppliers in our service territory.

For example, in October 2019, Virginia Natural Gas (VNG), a subsidiary of Southern Company Gas, announced its plan to be the first natural gas utility in America to provide its customers with natural gas that is 100% sourced, transported and distributed by companies that have pledged to reduce methane emissions to less than 1% across the natural gas value chain. As a down payment on that pledge, the company began purchasing 20% of its customers' annual natural gas supply from select, low fugitive emission wells operated by gas producers in the ONE Future program, making a "well head to burner tip" supply chain of low fugitive emission gas for customers. Both Southern Company Gas and Southern Company's electric operations have updated their natural gas bid selection process to offer a competitive edge to natural gas suppliers committed to reducing fugitive methane emissions.

The improvements put into place across the whole value chain will positively influence the supply side for our electric and gas utilities. To achieve ONE Future's collective 1% 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).



January 1 2007

Base year end

December 31 2007

Base year emissions (metric tons CO2e)

156650363

Comment

Baseline emissions include equity owned assets for electric operations (including transmission and distribution). Gas operations baseline emissions are not yet available.

Scope 2 (location-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

36845

Comment

Southern Company's Scope 2 emissions are calculated using the equity share approach presented in the WRI/WBCSD GHG Protocol Scope 2 Guidance for its owned facilities. The GHG emissions included in Scope 2 are emissions from electricity purchased for Company consumption at Company-owned locations that are located outside of Southern Company's retail electric service territory. The location-based calculations use regional 2018 EPA eGRID emission factors.

Scope 2 (market-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

35568

Comment

Southern Company's Scope 2 emissions are calculated using the equity share approach presented in the WRI/WBCSD GHG Protocol Scope 2 Guidance for its owned facilities. The GHG emissions included in Scope 2 are emissions from electricity purchased for Company consumption at Company-owned locations that are located outside of Southern Company's retail



C5.2

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

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

The Greenhouse Gas Protocol: Scope 2 Guidance

US EPA Center for Corporate Climate Leadership: Direct Emissions from Mobile Combustion Sources

US EPA Mandatory Greenhouse Gas Reporting Rule

US EPA Emissions & Generation Resource Integrated Database (eGRID)

Other, please specify (ONE Future Methane Intensity Protocol (2018) is used for Southern Company Gas methane intensity numbers provided in section 4. Southern Company Gas non-GHGRP methane sources are calculated consistent with the EPA Greenhouse Gas Inventory)

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

ONE Future Methane Intensity Protocol (2018) is used for Southern Company Gas methane intensity numbers provided in section 4. Southern Company Gas non-GHGRP methane sources are calculated consistent with the EPA Greenhouse Gas Inventory.

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)



<Not Applicable>

End date

<Not Applicable>

Comment

Southern Company's GHG emission goals are calculated using the equity share approach presented in the WRI/WBCSD GHG Protocol for all of its owned facilities. The GHG emissions included are Scope 1 direct facility emissions that are required to be tracked by EPA's Greenhouse Gas Reporting Program (GHGRP) and calculated using methods required by the GHGRP. Additional emissions sources for the gas distribution sector are also included consistent with EPA's GHG Inventory and ONE Future. Company owned mobile vehicle emissions are also included in Scope 1.

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

Southern Company's Scope 2 emissions are calculated using the equity share approach presented in the WRI/WBCSD GHG Protocol Scope 2 Guidance for its owned facilities. The GHG emissions included in Scope 2 are emissions from electricity purchases for company use at company-owned locations that are located outside of Southern Company's retail electric service territory. The location-based calculations use regional 2018 EPA eGRID emission factors. The market-based calculations use a combination of supplier provided emissions factors, where available, and regional 2018 EPA eGRID emission factors.

C6.3

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

**Scope 2, market-based (if applicable)**

35568

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Southern Company's Scope 2 emissions are calculated using the equity share approach presented in the WRI/WBCSD GHG Protocol Scope 2 Guidance for its owned facilities. The GHG emissions included in Scope 2 are emissions from electricity purchased for company consumption at company-owned locations that are located outside of Southern Company's retail electric service territory. The location-based calculations use regional 2018 EPA eGRID emission factors. The market-based calculations use a combination of supplier provided emissions factors, where available, and regional 2018 EPA eGRID emission factors.

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

Scope 1 de-minimis sources

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

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

No emissions from this source



not included in our Scope 1 inventory.

Source

Scope 1 natural gas purchases for comfort heating

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

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

No emissions from this source

Explain why this source is excluded

Southern Company does not currently have processes in place to collect data associated with natural gas purchases for comfort heating at our facilities. In addition, these emissions are expected to be insignificant compared to our total Scope 1 emissions.

C6.5

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

Purchased goods and services**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Scope 1 and Scope 2 emissions have been reported. No material emissions from other purchased goods and services.



Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Scope 1 and Scope 2 emissions have been reported. Any relevant emissions related to capital goods is reflected by those emissions or is otherwise not material.

Fuel-and-energy-related activities (not included in Scope 1 or 2)**Evaluation status**

Relevant, calculated

Metric tonnes CO2e

3423778

Emissions calculation methodology

Emissions calculated from the generation of purchased electricity that is sold to end users including spot and market purchases, power purchase agreements and interchange purchases. Market based emission factors are applied where available, EPA eGRID emission factors are applied for spot and market purchases when the generating source is unknown or where market based emission factors are not available.

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

71

Please explain

These emissions were previously reported to CDP as Scope 2 emissions.

Upstream transportation and distribution**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

**Please explain**

Scope 1 and Scope 2 emissions have been reported. No material emissions from other upstream T&D.

Waste generated in operations**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Compared to Southern Company Scope 1 and Scope 2 emissions, emissions related to Waste Generated in Operations is not material.

Business travel**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

When compared to Scope 1 emissions, emissions related to travel are not material.

Employee commuting**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>



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

<Not Applicable>

Please explain

Compared to Scope 1 emissions provided the emissions related to employee commuting are not material. In addition, there are opportunities for employees to participate in ride share programs. Charging stations for EVs are also provided free of charge at company locations.

Upstream leased assets

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

88879

Emissions calculation methodology

Includes leased vehicle and aircraft emissions calculated using the WRI Mobile Emissions Transport Tool and electricity purchases for leased assets outside of Southern Company's retail electric service territory calculated using the WRI/WBCSD Scope 2 Protocol.

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

100

Please explain

Includes emissions from leased mobile vehicles and aircraft and electricity purchases for leased assets outside of Southern Company's retail electric service territory.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Scope 1 and Scope 2 emissions have been reported. No material emissions from downstream T&D.



Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Electricity is not processed by customers, and emissions from gas distribution are included above in Use of Sold Products.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

35260791

Emissions calculation methodology

This value is determined in accordance with the requirements of 40 CFR Part 98 Subpart NN and therefore does not include emissions from deliveries to customers whose meters register an annual volume greater than 460,000 Mscf of natural gas deliveries.

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

100

Please explain

Emissions reported as required by 40 CFR Part 98 Subpart NN (Suppliers of Natural Gas and Natural Gas Liquids).

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

**Please explain**

Electricity and natural gas require no end of life treatment.

Downstream leased assets**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

There are no downstream emissions from Southern Company's leased assets.

Franchises**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Southern Company does not own any franchises.

Investments**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

**partners**

<Not Applicable>

Please explain

Investments are included in Scope 1 emissions as leveraged leases.

Other (upstream)**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

No other relevant upstream emissions as compared to Scope 1 emissions.

Other (downstream)**Evaluation status**

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

There are no downstream emissions resulting from the use of electricity. Gas emissions are provided above.

C6.7



C6.7a

(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	34711	Biofuel carbon emissions associated with mobile fleet and biomass carbon emissions associated with biomass generating facility.

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

0.46

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

88249113

Metric denominator

megawatt hour generated (MWh)

Metric denominator: Unit total

190528625

Scope 2 figure used

Market-based

% change from previous year

5

Direction of change

Decreased

Reason for change

Due to the change in Scope 2 methodology, Southern Company's Scope 2 emissions decreased. In addition, due to a shift from coal to natural gas and lower emitting generation



Intensity figure

0.004

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

88249133

Metric denominator

Other, please specify (unit total revenue)

Metric denominator: Unit total

21419000000

Scope 2 figure used

Market-based

% change from previous year

31

Direction of change

Decreased

Reason for change

Revenue increased and emissions decreased. Overall, the primary reason for the reduction in intensity is that we are meeting generation demand using lower emitting resources.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

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).



CH4	941815	Other, please specify (Table A-1 to Subpart A of Part 98- Global Warming Potentials (GWP100yr) GWP CH4: 25)
N2O	258534	Other, please specify (Other, please specify Table A-1 to Subpart A of Part 98– Global Warming Potentials (GWP100 yr) Chemical Specific GWPs are: N2O: 298)
CO2	86975217	Other, please specify (Table A-1 to Subpart A of Part 98–Global Warming Potentials (GWP100 yr))
SF6	37999	Other, please specify (Other, please specify Table A-1 to Subpart A of Part 98– Global Warming Potentials (GWP100 yr); GWP 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)	Total gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	2	37999	Fugitive SF6 emissions from Southern Company's transmission and distribution system
Combustion (Electric utilities)	86309983	153528	0	86719946	Includes emissions from Southern Company's electric sector (excludes gas sector and mobile emissions)
Combustion (Gas utilities)	0	0	0	0	Not applicable to electric sector or already included in electric utility combustion
Combustion (Other)	0	0	0	0	Not applicable
Emissions not elsewhere classified	0	0	0	0	Not applicable

C7.2

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



C7.3

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

By business division

By facility

By activity

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	32017068
Georgia Power Company	27457159
Mississippi Power Company	8616339
SEGCO	1569792
Southern Power Company	13434020
Transmission and Distribution	37999
Power Secure	22291
Southern Company Gas	1333536
Leveraged Leases/Southern Company Finance	3600034
Mobile Fleet	122083
Southern Nuclear Company	3244

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	7569764	31.0069	-88.0103
Gaston	3259314	33.2442	-86.4567



Gorgas	547323	33.6446	-87.2003
Green Co.	1024964	32.6017	-87.7811
SABIC	234227	32.3102	-86.5242
Miller	18387618	33.6319	-87.0597
Theodore	720242	30.5248	-88.1289
Washington Co.	504790	31.2622	-88.0052
SEGCO	1569792	33.2442	-86.4567
Boulevard	128	32.0111	-81.1385
Bowen	11161952	34.1256	-84.9192
McDonough	7027839	33.8244	-84.475
McIntosh	63997	32.3558	-81.1683
McIntosh CC	3202644	32.3478	-81.1828
McManus	12127	31.2125	-81.5458
Robins	16755	32.5806	-83.5831
Scherer	3116224	33.0583	-83.8072
Wansley	1479426	33.4124	-85.0345
Yates	1213995	33.4622	-84.8986
Daniel	4242053	30.5335	-88.5574
Watson	1461701	30.4408	-89.0265
Chevron	822013	30.34	-88.492
Ratcliffe	1693441	32.6538	-88.7574
Sweatt	5259	32.2925	-88.7461
Addison	222207	32.911	-84.3059
Cleveland	544120	35.1706	-81.4161
Dahlberg	340516	34.0386	-83.3972
Franklin	4643911	32.6094	-85.0961
Harris	1654879	32.3814	-86.5736
Mankato	851736	44.1965	-94.0099
Rowan	1860198	35.7325	-80.6019
Wansley CC	3301856	33.4063	-85.0373
Nacogdoches	281	31.8433 33	-94.90111 1
Wilson	3244	33.2513 89	86.461111
Ravenswood	637354	40.7594 47	-73.94591 7
RedHills	2962680	33.3825	-89.21944 4
Puna Geothermal	0	19.4783	-154.8883
Power Secure	22291	35.9520 38	-78.51563 3



		33	3
Troy Grove (NIC-TG)	34109	41.4577 78	-89.14361 1
NICOR GAS (LDC)	298678	41.8122 22	-88.2075
Atlanta Gas Light Company (AGLC)	277137	33.79	-84.39083
Chattanooga Gas Company (CGC)	14837	35.0505 56	-85.185
Cherokee LNG (CHK)	12581	34.2686 11	-84.36111 1
Macon LNG (MAC)	12812	32.905	-83.52305 5
Virginia Natural Gas (VNG)	71441	36.8555 56	-76.3
Central Valley Gas Storage, L.L.C. (CVGS)	8615	39.3897 85	-122.0323 04
Jefferson Island Storage & Hub, L.L.C. (JISH)	10955	29.9902 52	-91.99589 3
Golden Triangle Storage (GTS)	15364	30.0230 62	-94.07715 2
Trussville LNG, L.L.C. (TRUSS)	12115	33.5850 26	-86.57591 8
Riverdale LNG (RVD)	10544	33.5420 62	-84.41649 5
Chattanooga (CHATT)	5309	35.0505 56	-85.185
Hudson Storage (NHUD)	7394	40.5938 89	-88.94666 6
Bloomington Storage (NBLM)	5572	40.6866 67	-88.91972 2
Lexington Storage (NLEX)	5354	40.6311 11	-88.83861 1
Pontiac Storage (NPON)	6081	40.8666 67	-88.5475
Pecatonica Storage (NPEC)	898	42.2942 09	-89.32439 5
SNG Station 4020 Bear Creek Storage, LA	40177	31.7366 67	-93.06277 7
SNG Station 4132 Louisville, MS	18559	33.1338 89	-89.07027 7
SNG Station 4140 Reform, AL	11803	33.3661 11	-88.01888 8
SNG Station 4152 Tarrant, AL	15522	33.6002 78	-86.77222 2
SNG Station 4165 DeArmanville, AL	14376	33.6213 88	-85.78583 3



		56	5
SNG Station 5000 Shadyside, LA	7774	29.736111	-91.416666
SNG Station 5010 White Castle, LA	16864	30.206389	-91.104722
SNG Station 5110 Toca, LA	11229	29.867777	-89.839722
SNG Station 5122 Franklinton, LA	7285	30.817777	-90.186666
SNG Station 5130 Pearl River, MS	6370	31.316944	-90.045277
SNG Station 5211 Gwinville, MS	29230	31.740556	-90.055555
SNG Station 5216 Bay Springs, MS	16709	31.959722	-89.321944
SNG Station 5222 Enterprise, MS	42180	32.158333	-88.846944
SNG Station 5230 York, AL	10385	32.326388	-88.193611
SNG Station 5245 Selma, AL	8732	32.533611	-86.938611
SNG Station 5259 Auburn, AL	16753	32.523611	-85.473611
SNG Station 5267 Ellerslie, GA	10595	32.619167	-84.825555
SNG Station 5272 Thomaston, GA	23968	32.790555	-84.257222
SNG Station 5277 Ocmulgee, GA	19796	32.937778	-83.721111
SNG Station 5283 Hall Gate, GA	10084	33.064167	-83.052222
SNG Station 5288 Wrens, GA	10226	33.192222	-82.366944
Transmission Pipeline Facility, Southern Natural Gas Company, L.L.C.	23401	29.75788	-95.36739
Albany CS	4765	31.451667	-84.1425
TP - Bear Creek	535	32.3746	-92.940367
Bell Mills CS	5581	33.64025	-85.44957
Bienville CS	9660	32.304722	-93.057777
Brookman CS	3815	31.21127	-81.70052
Duncanville CS	21	33.07819	-87.47206



		44	6
Fairburn Compressor Station	453	33.5550 6	-84.5027
Gallion CS	7420	32.5058 33	-87.72666 6
Hilliard Compressor Station	23	30.5116 3	-81.94442
Holy Trinity CS	5550	32.2102 6	-85.00087
Lacombe CS	294	30.3686	-89.934
Logansport CS	153	31.9800 3	-93.94417
McConnells CS	2053	33.427	-87.71622
Onward MS	7380	32.7162 9	-90.94066
Pavo CS	407	30.9894 9	-83.65539
Pell City CS	1330	33.6018 8	-86.25405
Pickens CS	5761	32.8781 7	-89.97167
Providence CS	1542	33.4390 5	-87.30378
Rankin CS	5474	32.2891 6	-89.91333
Riceboro CS	5730	31.7527 9	-81.51601
Rincon Compressor Station	11	32.3575	-81.19361 1
Rome CS	1005	34.2555 56	-85.35388 8
Hammond	162073	34.2533	-85.3456
Transco Station 116	19122	33.4863 89	-84.92611 1
Red Lion	14224	39.6119 7	-75.62636
Brookside	91	39.6592 9	-75.74356
Transmission and Distribution	37999	33.7643 3	-84.38825
Mobile Fleet	122083	33.7643 3	-84.38825

**(C7.3c) Break down your total gross global Scope 1 emissions by business activity.**

Activity	Scope 1 emissions (metric tons CO2e)
Electric Stationary Combustion	86719946
Electric Transmission & Distribution	37999
Gas Transmission & Distribution	1333536
Mobile Combustion	122083

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 activities	86757945	<Not Applicable>	Based on equity share for tracked and reported facilities. Includes Electricity business division only (exclude gas sector and mobile emissions)
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 (midstream)	<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>

C7.9

(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?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	87512	Decreased	0.1	Southern Company increased renewable energy with the addition of solar and wind facilities. Calculated by subtracting 2019 renewable net generation (2,528,282 MWh) – 2018 renewable net generation (2,331,982 MWh) and applying a Southern Company system emission factor (0.45 metric tons CO2e/MWh) to the difference. Divided by the total 2018 Scope 1 + 2 emissions (104,374,405 metric tons CO2e) to determine emissions value.
Other emissions reduction activities	15100768	Decreased	14	Southern Company burned less coal by increasing natural gas and non-emitting generation, and also retired 8 coal units. Calculated by subtracting 2019 CO2e emission from coal (42,871,894 metric tons CO2e) - 2019 CO2e emissions from coal (57,972,662 metric tons CO2e). Divided by the total 2018 Scope 1 + 2 emissions (104,374,405 metric tons CO2e) to determine emissions value.



	2019 CO2e)			
Divestment	9485622	Decreased	9	Southern Company sold several coal and gas electric generating assets in January 2019. Also sold gas LDCs in mid-2018. 2019 emissions from these facilities were zero, so the change is the total 2018 CO2e emissions from these facilities. Divided by the total 2018 Scope 1 + 2 emissions to determine the emissions value.
Acquisitions	0	No change	0	Not applicable
Mergers	0	No change	0	Not applicable
Change in output	0	No change	0	Not applicable
Change in methodology	2106562	Decreased	2	Scope 2 emissions were previously calculated and reported as emissions from generation of purchased power to serve our customer load (2,142,130 metric tons CO2e in 2018). However, Scope 2 emissions are now reported as emissions from the electricity purchased for our own company use (35,568 metric tons CO2e in 2019); and purchased power to serve our customer load is now reported as scope 3 emissions.
Change in boundary	0	No change	0	Not applicable
Change in physical operating conditions	0	No change	0	Not applicable
Unidentified	0	No change	0	Not applicable
Other	0	No change	0	Not applicable

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

**(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 undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
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 (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	135198	152053217	152188416
Consumption of purchased or acquired electricity	<Not Applicable>	0	89763	89763
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>	18580166	<Not Applicable>	18580166
Total energy consumption	<Not Applicable>	18715364	152142980	170858345

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 heat	No
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

45215880

MWh fuel consumed for self-generation of electricity

45215880

MWh fuel consumed for self-generation of heat



0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

93.28

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment

bituminous coal 93.28 kg CO2/MMBtu; subbituminous coal 97.17 kg CO2/mmBtu

Fuels (excluding feedstocks)

Landfill Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

75560

MWh fuel consumed for self-generation of electricity

75560

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

52.07

Unit



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

Comment

Fuels (excluding feedstocks)

Light Distillate

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

358988

MWh fuel consumed for self-generation of electricity

112188

MWh fuel consumed for self-generation of heat

193575

MWh fuel consumed for self-generation of steam

53226

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

73.96

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

103240470

**MWh fuel consumed for self-generation of heat**

98882

MWh fuel consumed for self-generation of steam

3274031

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

53.06

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment

Fuels (excluding feedstocks)

Wood Waste

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

14556

MWh fuel consumed for self-generation of electricity

14556

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor



kg CO2 per million Btu

Emissions factor source

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

Comment

Fuels (excluding feedstocks)

Other, please specify (Fuel Cells (NG))

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

45083

MWh fuel consumed for self-generation of electricity

45083

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

53.06

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment

Fuels (excluding feedstocks)

Refinery Gas

Heating value

HHV (higher heating value)

**MWh fuel consumed for self-generation of electricity**

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

209320

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

59

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment

Fuels (excluding feedstocks)

Propane Liquid

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

323

MWh fuel consumed for self-generation of electricity

1

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

322

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration



61.46

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment**Fuels (excluding feedstocks)**

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

283295

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

283295

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

70.2

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment**Fuels (excluding feedstocks)**

Jet Kerosene

**Total fuel MWh consumed by the organization**

370

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

370

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Emission factor

72.22

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment

Fuels (excluding feedstocks)

Lignite Coal

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

2744572

MWh fuel consumed for self-generation of electricity

2744572

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling



0

Emission factor

97.72

Unit

kg CO2 per million Btu

Emissions factor source

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

Comment**C-EU8.2d**

(C-EU8.2d) 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)**

11779

Gross electricity generation (GWh)

45216

Net electricity generation (GWh)

41703

Absolute scope 1 emissions (metric tons CO2e)

43138717

Scope 1 emissions intensity (metric tons CO2e per GWh)

1034

Comment

Capacity of units is included based on their primary fuel type. Some units may have dual fuel capability. Generation includes facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases). Approximately 1,900 MW of coal-fired generation was retired in 2019.

Lignite**Nameplate capacity (MW)**

0

**Net electricity generation (GWh)**

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Not applicable. Power plant capacity, generation, and related emission data is not provided for lignite fuels because the facilities in our system using lignite are leveraged lease facilities. Southern Company does not actually sell the electricity from these facilities and therefore does not include them in our calculations for electric sector emission intensities.

Oil**Nameplate capacity (MW)**

2010

Gross electricity generation (GWh)

111

Net electricity generation (GWh)

106

Absolute scope 1 emissions (metric tons CO2e)

57317

Scope 1 emissions intensity (metric tons CO2e per GWh)

542

Comment

Capacity of units is included based on their primary fuel type. Some units may have dual fuel capability. Generation includes facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases).

Gas**Nameplate capacity (MW)**

20517

Gross electricity generation (GWh)

98273

Net electricity generation (GWh)

95966

Absolute scope 1 emissions (metric tons CO2e)



416

Comment

Capacity of units is included based on their primary fuel type. Some units may have dual fuel capability. Generation includes facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases).

Biomass**Nameplate capacity (MW)**

115

Gross electricity generation (GWh)

15

Net electricity generation (GWh)

15

Absolute scope 1 emissions (metric tons CO2e)

281

Scope 1 emissions intensity (metric tons CO2e per GWh)

19

Comment

Generation and emissions include facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases).

Waste (non-biomass)**Nameplate capacity (MW)**

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Not applicable

Nuclear

**Gross electricity generation (GWh)**

31513

Net electricity generation (GWh)

30099

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment**Fossil-fuel plants fitted with CCS****Nameplate capacity (MW)**

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Not applicable

Geothermal**Nameplate capacity (MW)**

27

Gross electricity generation (GWh)

121

Net electricity generation (GWh)

121

Absolute scope 1 emissions (metric tons CO2e)

14384

Scope 1 emissions intensity (metric tons CO2e per GWh)



Hydropower

Nameplate capacity (MW)

2758

Gross electricity generation (GWh)

6568

Net electricity generation (GWh)

6546

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Generation and emissions include facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases). It should be noted that 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 purchasers of the renewable energy credits receives the right to claim all associated emission reductions.

Wind

Nameplate capacity (MW)

2054

Gross electricity generation (GWh)

6154

Net electricity generation (GWh)

6154

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 equity control only, not upon load service by any re-



tomers or to sell the energy and associated renewable energy credits, together or separately, to third parties for the benefit of customers. The ultimate purchasers of the renewable energy credits receives the right to claim all associated emission reductions. Generation and emissions include facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases).

Solar

Nameplate capacity (MW)

2620

Gross electricity generation (GWh)

5858

Net electricity generation (GWh)

5858

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 equity control only, not upon load service by any retail operating companies. It should be noted that 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 purchasers of the renewable energy credits receives the right to claim all associated emission reductions. Generation and emissions include facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases).

Marine

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)



0

Comment

Not applicable

Other renewable**Nameplate capacity (MW)**

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Not applicable

Other non-renewable**Nameplate capacity (MW)**

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Not applicable

Total**Nameplate capacity (MW)**

45717

**Net electricity generation (GWh)**

186568

Absolute scope 1 emissions (metric tons CO2e)

83119912

Scope 1 emissions intensity (metric tons CO2e per GWh)

446

Comment

Generation and emissions include facilities for which Southern Company owns and sells the energy to customers (i.e. excludes purchased power and leveraged leases).

C-EU8.4

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

Yes

C-EU8.4a

(C-EU8.4a) Disclose the following information about your transmission and distribution business.**Country/Region**

United States of America

Voltage level

Transmission (high voltage)

Annual load (GWh)

163968

Annual energy losses (% of annual load)

3.99

Scope where emissions from energy losses are accounted for

Scope 1

Emissions from energy losses (metric tons CO2e)

0

Length of network (km)



61

Area covered (km2)

320345

Comment

Southern Company does not separately calculate emissions from energy losses from its transmission system because these are already accounted for in Southern's total Scope 1 emissions since it generates and transmits the electricity.

Country/Region

United States of America

Voltage level

Distribution (low voltage)

Annual load (GWh)

113326

Annual energy losses (% of annual load)

2.88

Scope where emissions from energy losses are accounted for

Scope 1

Emissions from energy losses (metric tons CO2e)

0

Length of network (km)

262873

Number of connections

4588710

Area covered (km2)

320345

Comment

Southern Company does not separately calculate emissions from energy losses from its distribution system because these are already accounted for in Southern's total Scope 1 emissions since it generates and distributes the electricity.

C9. Additional metrics

**(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	210000000	19	2024	In 2019 we retired nearly 1,900 additional megawatts of coal and oil-fired generating units as of July 2019. 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.
Gas	255000000	23	2024	Southern Company will continue to use a portfolio approach as we seek to decarbonize. We expect our path to net zero to be comprised of several key elements: continued coal transition, utilization of natural gas to enable the fleet transition, further growth in our portfolio of zero-carbon resources, negative carbon solutions, enhanced energy efficiency initiatives and continued investment in R&D focused on clean energy technologies.
Nuclear	500000000	45.2	2024	Nuclear energy is net-zero carbon and 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.
Hydropower	990000000	8.9	2024	Our diverse portfolio was initially founded on zero-carbon hydroelectric generation.
Solar	241000000	2.2	2024	From 2010-2019, 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.
Wind	191000000	1.7	2024	From 2010-2019, Southern Power has invested more than \$10.5 billion in capital investments related to its renewable portfolio.

C-EU9.5b



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
Distributed generation	Distributed generation such as solar PV	3400000	0.4	2024
Home systems	Surge protection	4807930	0.5	2024
Energy management services	Backup generation projects	96000000	10.5	2024
Charging networks	Electric transport initiatives	30362000	3.3	2024
Lighting	Outdoor lighting	630000000	69	2024
Large-scale storage	Battery technology	25100000	2.7	2024
Other, please specify (Cameras and other equipment related to power delivery)	Cameras and other equipment related to power delivery	62000000	6.8	2024
Micro-grid	Micro-grid installation	62400000	6.8	2024

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Southern Company's 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.

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

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.



		Investment over the last 3 years	the reporting year (optional)	
Carbon capture and storage/utilisation	Pilot demonstration	≤20%	62566636	<p>This program supports the research, development and demonstration of transformational, cost-effective CCUS technologies for fossil-based power generation, explores emerging technologies for CO2 utilization and direct air capture (DAC), demonstrates secure CO2 storage within the Southern Company system service territory, engages in stakeholder outreach to ensure support for CCUS technology deployment and promotes development of new technologies, processes, 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 neutral research facility working to advance technologies to reduce GHG emissions from fossil-based power plants and to promote carbon utilization and DAC innovations. Located in Wilsonville, Alabama, USA, the NCCC has completed over 110,000 hours of testing for developers from seven countries. While its previous technology development focused primarily on post-combustion carbon capture for coal-fired power plants, a major new addition is significantly broadening the NCCC's evaluation of carbon capture technologies for natural gas power generation. Through pilot testing of over 60 technologies, the NCCC has reduced the projected cost of carbon capture from fossil-based generation by one-third, with further cost reductions expected as the NCCC more fully explores carbon capture solutions for natural gas power plants. Future projects are also expected to explore carbon capture technologies for carbon utilization and DAC. The center's work on CO2 utilization technologies will help advance applications where CO2 emissions are captured and used to manufacture value-added products like building materials, fuels, plastics and chemicals – partially offsetting CO2 capture costs from power generation and providing alternatives to traditional manufacturing processes. In the area of DAC, Southern Company is actively pursuing research agreements and opportunities for providing a host site for DAC technologies at the NCCC. Other projects in Southern Company's CCUS program area include geologic resource assessments for commercial storage and fundamental science and pilot demonstrations to clarify the economics, technologies and risks associated with underground storage of CO2.</p>



		Investment over the last 3 years	the reporting year (optional)	
Other, please specify (Power Delivery)	Applied research and development	≤20%	2493351	This program focuses on power delivery technology issues and improvements, including next-generation transmission technologies to improve reliability, reduce cost and modernize the grid; innovative substation technology to enable more reliable, secure and cost-effective design, construction, operation and maintenance of transmission substations; and new distribution grid technologies that increase safety, reliability and efficiency. Projects include deploying a sensor suite, tools and devices to monitor power delivery assets; developing technologies to increase transmission and distribution situational awareness; addressing needs for condition-based maintenance; providing greater visualization for grid modernization efforts; and reducing operations and maintenance costs. Examples include: edge of network grid optimization and radio frequency identification sensors and the new Schatz Grid Visualization and Analytics Center, which offers a variety of capabilities to advance the assessment, adoption and integration of emerging power delivery processes, tools and protocols. These technologies and analytics support a more robust power delivery system that enables a higher penetration of renewables and distributed energy resources.
Other, please specify (Grid R & D)	Basic academic/theoretical research	≤20%	1034926	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.
Other, please specify (End Use Technology)	Applied research and development	≤20%	3951213	End-use R&D 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, electric transportation, market opportunities for electric alternatives, advanced HVAC technologies, indoor agriculture evaluations, industrial and additive manufacturing, as well as energy efficiency and demand management tools and programs.



		Investment over the last 3 years	Reporting year (optional)	
Other, please specify (Generation Fleet Modernization)	Applied research and development	≤20%	1226291	This R&D 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.
Other, please specify (Advanced Energy Systems and Next Generation Nuclear)	Applied research and development	≤20%	5723087	Southern Company is playing an industry-leading role in the development and demonstration of Generation IV nuclear technologies. Southern Company's primary advanced nuclear research is a collaborative with TerraPower, the DOE, EPRI and others, which is focused on development of the Molten Chloride Fast Reactor (MCFR). The MCFR has the potential to produce high-quality, carbon-free energy at low cost with inherent safety and reliability, expanded options for spent fuel disposition or utilization, polygeneration benefits, enhanced security and transformational economics. Through collaboration with DOE and in close coordination with the Nuclear Regulatory Commission, Southern Company is also working to modernize the licensing framework for advanced reactor technologies.
Other, please specify (Renewables, Storage, and Distributed Generation)	Pilot demonstration	≤20%	2086436	Southern Company's renewables, storage and distributed generation R&D program represents a collaborative effort between the Generation and Retail Marketing business units of the Southern Company system to develop and advance emerging technologies associated with renewable resources (wind, solar, biomass), energy storage and distributed generation. Objectives include providing technical, economic and operational research to evaluate, demonstrate and ready future technology options for the Company and its customers. Key current projects include energy storage and microgrid demonstrations; tall tower wind generation evaluation; and probabilistic forecasting to reduce variability and operating costs from photovoltaic solar generation. For example, field demonstrations across the Southern Company system are evaluating technologies and protocols for safely deploying, maintaining and optimizing energy storage in combination with solar resources. Key technologies being evaluated include long-duration advanced flow batteries, compressed and liquid air energy storage and thermal energy storage.



		Investment over the last 3 years	Reporting year (optional)	
Other, please specify (R&D / Cross-Cutting Technologies)	Applied research and development	≤20%	566381	This program area facilitates enhanced R&D value through internal and external collaboration across strategic areas by leveraging funds, finding and exploiting synergies and applying common results. R&D is conducted into instrumentation, controls, advanced materials, analytics, sensors and unmanned aircraft systems, which can lead to more efficient operation of generating units and the grid and subsequently lower carbon emissions.
Other, please specify (R&D Portfolio Management)	Basic academic/theoretical research	≤20%	1135017	Southern Company's R&D organization has worked for more than 50 years to develop new technologies across the production, delivery and use of energy. This R&D 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 and provide affordable energy as the sector transitions to a net-zero future. Current research areas include CCUS; renewables, storage and distributed generation; advanced nuclear and hydrogen-based energy systems; energy end-use; generating fleet; sustainability; and smart power delivery systems. Southern Company's unique, centralized R&D organization provides industry-leading technical expertise, strategic planning, budgeting and leadership to accomplish the internal and external goals of Southern Company. The organization works with experts from across the Southern Company system to identify, evaluate and demonstrate future technology options, and quantify their value in anticipation of the changing business needs of the Company and industry. Results of the R&D program are routinely applied in decision-making for the deployment of new technologies into the Southern Company system's future portfolio. Southern Company R&D 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 R&D organization has delivered significant benefits across the enterprise that, over the last 10 years, have averaged at least 10 times its investment.



		Investment over the last 3 years	in the reporting year (optional)	
Other, please specify (Industry R&D Collaborations)	Applied research and development	21-40%	21900000	<p>Southern Company's model for R&D includes active collaboration with the U.S. government, other utilities, academia 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 the transition to a net-zero carbon future. Furthermore, this collaborative approach magnifies Southern Company's internal research investments through public-private partnerships and other forms of external cost-sharing. As a result, Southern Company's R&D 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 membership in EPRI. Through EPRI, Southern Company collaborates with the entire electricity sector and its stakeholders to solve significant industry issues. Southern Company is a founding member of EPRI, with hundreds of employees from across the Southern Company system engaged at all levels, including advisory, council and board positions. Southern Company's annual membership in EPRI gains access to the institute's entire research portfolio. EPRI member benefits include best practices, better operations, reliability and customer service, access to white papers, as well as independent third-party data for regulators and stakeholders. Furthermore, as one of several anchor sponsors, Southern Company has committed financial support of approximately \$6.25 million to the Low-Carbon Resource Initiative (LCRI), a collaboration between EPRI and GTI. Over the next five years, LCRI will focus on advancing low-carbon technologies for large-scale deployment, including hydrogen and related low-carbon resources. The goal is to establish a risk-informed understanding of options and technologies enabling significant economy-wide decarbonization.</p>



		Investment over the last 3 years	Reporting year (optional)	
Other, please specify (Industry R&D Collaborations)	Applied research and development	61-80%	1577907	In addition, Southern Company Gas, through Nicor Gas, is a member of the Gas Technology Institute: Utilization Technology Development; Emerging Technology Program; and Operation Technology Development Programs. GTI collaborates with gas utilities in North America, leading researchers, government agencies, manufacturers and distributors to create and advance new technologies and products to save consumers money, enable efficient fuel choices and minimize environmental impacts, further integrating natural gas with renewable energy. Nicor Gas allocates funding to GTI's Carbon Management Information Center. Employees from Nicor Gas hold GTI board and advisory positions. GTI's R&D impacts and benefits ratepayers, utilities, other stakeholders and our planet. Southern Company Gas is a member of the NYSEARCH organization. Similar to the GTI, NYSEARCH collaborates across gas utilities to develop new products and technologies for the betterment of the natural gas industry and consumers. Southern Company Gas employees hold board position and serve as technical industry leaders within the organization. Southern Company Gas also collaborates with several national labs and additional research organizations on an ad-hoc basis for technical research projects related to developing the utility infrastructure of the future.

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, but we are actively considering verifying within the next two years

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



Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope

Scope 1

Application

Southern Company applies its CO2 price paths in its analyses supporting resource planning and associated major 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 a range of future CO2 price paths. Path one maintains a \$0 price; path two starts at \$10 per metric ton and escalates annually at a rate above inflation; path three starts at \$20 per metric ton and escalates annually at a rate above inflation.

Type of internal carbon price

Other, please specify (CO2 price paths in resource planning scenario analyses)

Southern Company uses its CO2 price paths in resource planning scenario analyses and to inform all major generation decisions in our retail electric utilities. 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 CO2 control policy such as a carbon tax, clean energy standard, cap-and-trade program, or Clean Air Act regulation .

Impact & implication

Southern Company uses its CO2 price paths in resource planning scenario analyses and to inform all major generation decisions in our retail electric utilities. The analyses consider both the evolution of the U.S. 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 CO2 control policy such as a carbon tax, clean energy standard, cap-and-trade program, or Clean Air Act regulation. Southern Company'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 across a range of scenarios 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. As of July 2020, the comprehensive scenario resource



or associated RECs to third parties for the benefit of customers, as of July 2020 more than 6,000 MW of renewable generation has been added since 2010. Lastly, the scenario planning process resulted in the regulatory approval to construct the nation's first new zero carbon U.S. nuclear generation facilities in 30 years.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers

C12.1a

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

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Climate change performance is featured in supplier awards scheme

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

% of suppliers by number

48

% total procurement spend (direct and indirect)

27

% of supplier-related Scope 3 emissions as reported in C6.5

0

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



ments to reduce methane emissions. Southern Company, along with other ONE Future members, hopes to increase membership in ONE Future to include additional natural gas suppliers and producers which would increase reductions across the entire value chain. Additionally, natural gas suppliers committed to GHG reductions from their own operations have a competitive edge in our natural gas procurement process.

Impact of engagement, including measures of success

The % of suppliers and % of total procurement spend is reflective of spend by the Southern Company electric operations with companies that are either members of ONE Future or part of companies that are engaged in ONE Future. In some cases, an affiliate company is the participating member, and the supplier itself is not a named member of ONE Future. 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 and Production; Gathering and Processing; Transmission and Storage, and Distribution and Retail) that would cumulatively add up to its 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. Success of these engagement efforts will be demonstrated as more companies become a part of ONE Future and as member companies reach their methane reduction goals. Membership in ONE Future grew 33% between 2019 and 2020.

Comment

ONE Future's members begin with a focus on the outcome they 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 for 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. This approach allows companies to focus their resources on identifying and addressing those sources. The percentage of total procurement spend of Southern Company Gas (direct and indirect, but excluding procurement by its subsidiary SouthStar Energy Services LLC) on natural gas commodity, transportation and storage with companies that are either members of ONE Future or part of companies that are engaged in ONE Future is 21%. In some cases, an affiliate company is the participating member, and the supplier itself is not a named member of ONE Future. The percentage of total procurement spend of SouthStar Energy Services LLC (direct and indirect) on natural gas commodity, transportation and storage with companies that are either members of ONE Future or part of companies that are engaged in ONE Future is 32%. In some cases, an affiliate company is the participating member for a supplying company, and the



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)

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

0

Portfolio coverage (total or outstanding)

<Not Applicable>

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's subsidiary Nicor Gas reduce demand by more than 160 million therms, reducing customers' GHG emissions.

Type of engagement



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

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

0

Portfolio coverage (total or outstanding)

<Not Applicable>

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. 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. Alabama Power is also working to implement renewable energy programs to provide solar energy to customers who want to drive development of new resources without requiring subsidies from other customers. Alabama Power's residents and businesses have the opportunity to purchase renewable energy credits. Since 2017, over 12,000,000 kilowatt hours of clean energy have been used by participants through Alabama Power's renewable energy programs.

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. One measure of success is the increased enrollment in such customer engagement programs. For example, Georgia Power recognized an enrollment increase of 29% for the Simple Solar program and 37% in the Community Solar program in 2019.

Type of engagement

Education/information sharing

Details of engagement

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

% of customers by number

5

% of customer - related Scope 3 emissions as reported in C6.5

0

Portfolio coverage (total or outstanding)

<Not Applicable>

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



neutral. This group of customers was selected based on market demand and availability of the program in the area. The scope of engagement includes voluntary enrollment and an associated monthly fee. When enrolled, a customer's GHG emissions are calculated and Georgia Natural Gas purchases and retires carbon offsets to balance the impact of those emissions.

Impact of engagement, including measures of success

The primary measure of success for this program is enrollment, as of July 1, 2020, Georgia Natural Gas had 467,718 customers. The Greener Life program has 3,018 active customers. Greener Life has received Green-e Climate certification from an independent third party, the Center for Resource Solutions. Green-e Climate is the leading certification program for voluntary carbon offset programs.

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.



energy generation	with minor exceptions	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.	continue to support growth in lower-emitting generation and continued development and deployment of a diverse portfolio of energy resources to reliably and affordably serve customers.
Carbon tax	Neutral	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 growth in lower-emitting generation and continued development and deployment of a diverse portfolio of energy resources to reliably and affordably serve customers.

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

Alliance to Save Energy

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

Alliance to Save Energy's vision is a nation that uses more productively to achieve economic growth, a clean environment and greater energy security, affordability and reliability. Alliance to Save Energy's mission is to improve productivity by: leading bipartisan initiatives that drive technological innovation and energy efficiency across all sectors of the economy, through policy advocacy, education, communications and research; and convening and engaging in diverse public private partnerships, collaborative efforts and strategic alliances to optimize



achieve results, including through complementary policies and program helping energy consumers realize savings.

How have you influenced, or are you attempting to influence their position?

As a member, Southern Company is actively engaged on energy efficiency issues.

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 U.S. for many reasons.

How have you influenced, or are you attempting to influence their position?

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

Trade association

American Council on Renewable Energy (ACORE)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The ACORE unites finance, policy and technology to accelerate the transition to a renewable energy economy. The Council supports collaborative advocacy across the renewable energy sector, supported by members spanning renewable energy technologies and constituencies, including developers, manufacturers, top financial institutions, major corporate renewable energy buyers, grid technology providers, utilities, professional service firms, academic institutions and allied nonprofit groups. The Council convenes key stakeholders, facilitates partnerships, educates senior officials on important policies, publishes research and analysis on pressing issues and undertakes strategic outreach on the policies and financial structures essential to renewable energy growth. To stimulate the next phase of renewable growth, ACORE supports simplifying and consolidating federal clean energy tax incentives through the enactment of a technology-neutral tax credit based on carbon emissions, as well as effective forms of carbon pricing.

How have you influenced, or are you attempting to influence their position?

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



Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

AGA is committed to leveraging and utilizing America's abundant, domestic, affordable and clean natural gas to help meet the nation's energy and environmental needs. The AGA promotes the safe, reliable and efficient delivery of natural gas to homes and businesses across the nation. The AGA is committed to reducing GHG emissions through smart innovation, new and modernized infrastructure and advanced technologies that maintain reliable, resilient and affordable energy service choices for consumers.

How have you influenced, or are you attempting to influence their position?

Southern Company serves on the Board of Directors and serves on multiple committees and in leadership positions in AGA.

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 national trade association for the U.S. wind industry. AWEA promotes wind energy as a clean source of electricity for American consumers. AWEA recognizes that climate change poses a substantial threat to human health and the environment, and AWEA supports policies that reduce carbon pollution, including by accurately valuing wind's zero carbon electricity. AWEA has long believed that a price on carbon is important.

How have you influenced, or are you attempting to influence their position?

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

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 an association of chief executive officers of America's leading companies working to promote a thriving U.S. economy and expanded opportunity for all Americans through sound public policy. The Business Roundtable acknowledges access to sustainable, reliable, affordable energy is fundamental to U.S. national and economic securi-



energy sector and preserve environmental quality for the 21st century and beyond. The Business Roundtable recognizes the real and growing threat of climate change and believes that America's business leaders have an obligation to contribute to an environmentally responsible future. Because the consequences of global warming for society and ecosystems are potentially serious and far-reaching, steps to address the risks of such warming are prudent even now, while the science continues to evolve. The Business Roundtable supports collective actions that will lead to the coordinated efforts to address the risks of climate change.

How have you influenced, or are you attempting to influence their position?

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

Trade association

Consortium for Energy Efficiency

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

As the Consortium of Energy Efficiency, United States and Canadian efficiency program administrators develop cutting-edge strategies to accelerate commercialization of energy efficiency solutions to benefit gas and electric customers, utility systems, and the environment.

How have you influenced, or are you attempting to influence their position?

As a member, Southern Company is actively engaged and serves as a board member.

Trade association

Carbon Utilization Research Council (CURC)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

CURC is an industry coalition focused on technology solutions for the responsible use of our fossil energy resources in a balanced portfolio to support our nation's need for reliable and affordable energy in an increasingly carbon-constrained world.

How have you influenced, or are you attempting to influence their position?

As a member, Southern Company is actively engaged and serves as a co-chair.

Trade association

Edison Electric Institute (EEI)

Is your position on climate change consistent with theirs?

Consistent



tal policy challenges this country has ever faced. EEI member companies are committed to addressing the challenge of climate change and have undertaken a wide range of initiatives over the last 30 years to reduce, avoid or sequester GHG emissions. Policies to address climate change should seek to minimize impacts to customers and avoid harm to U.S. industry and the economy.

How have you influenced, or are you attempting to influence their position?

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

Trade association

Electric Drive Transportation Association (EDTA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EDTA is the trade association promoting battery, hybrid, plug-in hybrid and fuel cell electric drive technologies and infrastructure. To advance this mission, EDTA conducts public policy advocacy, education, industry networking, and conferences that engage industry, academia, policymakers and the public. EDTA supports federal policy that can spur innovation by accelerating technology breakthroughs and promoting investment in next-generation electric drive vehicles and infrastructure.

How have you influenced, or are you attempting to influence their position?

As a member, Southern Company is actively engaged on electric transportation issues and serves 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

ESA is the leading national voice that advocates and advances the energy storage industry to realize its 35 GW of new energy storage systems by 2025 goal, resulting in a better world through a more resilient, efficient, sustainable and affordable electricity grid. ESA's mission is to accelerate the widespread use of competitive and reliable energy storage systems in North America. ESA's policy activities focus on three overarching goals to advance the U.S. market for the full range of energy storage technologies: increase revenues available to storage, enhance the competitiveness of storage and ensure grid and market access for storage.

How have you influenced, or are you attempting to influence their position?

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

**Is your position on climate change consistent with theirs?**

Consistent

Please explain the trade association's position

GTI is a leading research, development and training organization addressing global energy and environmental challenges. GTI is dedicated to expanding supplies of affordable and clean energy; ensuring safe, efficient, resilient and reliable energy infrastructure; delivering solutions for efficient and environmentally responsible use of energy; reducing and managing carbon emissions; and advancing energy systems innovations that protect air, land, water and communities while enhancing economic growth. GTI recognizes that common sense, cost-effective solutions that can reduce annual emissions of CO2 and other potential GHG emissions to the atmosphere are needed.

How have you influenced, or are you attempting to influence their position?

As a member, Southern Company is actively engaged and serves on the board.

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 is a trade organization that advocates regulatory and legislative positions of importance to the natural gas pipeline industry in North America. INGAA recognizes climate change as an important issue and the increased use of natural gas as helping combat climate change by lowering CO2 emissions.

How have you influenced, or are you attempting to influence their position?

As a member, Southern Company is actively engaged and serves at the board level

Trade association

National Association of Manufacturers

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Climate change is happening. Human activities are contributing. The NAM supports the objectives of the Paris Climate Agreement to significantly reduce the risks and impacts of global climate change. Manufacturers are committed to helping address climate change while increasing the global competitiveness of U.S. industries. U.S. manufacturers are leading and the results have been unprecedented: we are significantly more carbon efficient than most of our global competitors, and the U.S. has reduced its total GHG emissions more than any other nation. We are committed to being part of the solution and encourage all other sectors of



do their part to limit global GHG emissions. U.S. manufacturers are both creators and users of the technologies that will be vital to reducing global emissions. Accordingly, sound policy for U.S. manufacturers is one that reduces emissions while maintaining their global competitiveness. Policymakers should pursue policies that achieve meaningful, cost-effective GHG reductions while empowering U.S. manufacturers to thrive in the global marketplace and ensuring the affordable, reliable energy supplies needed to keep our economy strong.

How have you influenced, or are you attempting to influence their position?

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

Trade association

Nuclear Energy Institute (NEI)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

NEI supports preserving the current fleet of nuclear power plants, sustaining efficient operations of the existing nuclear fleet through smarter regulations and sharing best practices, innovating new nuclear technologies to help deliver a clean energy future and thriving in the global nuclear energy marketplace. NEI recognizes the need for deep decarbonization to hit climate goals. Protecting and growing the use of nuclear technologies are important ways to make a dent in greenhouse gases and help make meaningful progress to address climate change.

How have you influenced, or are you attempting to influence their position?

As a member, Southern Company is actively involved with employees serving on the board and the Executive Committee.

Trade association

ONE Future

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

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.

How have you influenced, or are you attempting to influence their position?

As a founding member, Southern Company is actively engaged and serves several roles including on the board level and technical committees.

**Is your position on climate change consistent with theirs?**

Consistent

Please explain the trade association's position

SEPA's mission is to facilitate the electric power industry's smart transition to a clean and modern energy future through education, research, standards and collaboration. SEPA focuses on clean energy (solar, demand response, energy storage and electric transportation) and grid modernization that ultimately result in reduced GHG emissions.

How have you influenced, or are you attempting to influence their position?

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

Trade association

Smart Energy Consumer Collaboration (SECC)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

SECC serves as a source of information on consumers' views of grid modernization, energy delivery and usage, and to help consumers understand the benefits of smart energy.

How have you influenced, or are you attempting to influence their position?

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

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's mission is to optimize the use and impact of energy to enhance the quality of life in the Southeast with a vision for all people in the Southeast to live and work in healthy and resilient buildings, utilize clean and affordable transportation, and thrive in a robust and equitable economy. SEEA is committed to supporting the advancement of energy efficiency policy across the Southeast.

How have you influenced, or are you attempting to influence their position?

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

**Is your position on climate change consistent with theirs?**

Consistent

Please explain the trade association's position

The Southeastern Wind Coalition works to advance the wind industry in the Southeast. The mission of the Southeastern Wind Coalition is to advance the wind industry in ways that result in net economic benefits to industry, utilities, ratepayers, and citizens of the Southeast. The Coalition takes an objective, data-driven, and economic development focused approach to ensure the Southeast can take advantage of this clean, low-cost generation source.

How have you influenced, or are you attempting to influence their 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.

Trade association

U.S. Chamber of Commerce

Is your position on climate change consistent with theirs?

Mixed

Please explain the trade association's position

The U.S. Chamber of Commerce recognizes that the climate is changing and humans are contributing to these changes. The Chamber believes that there is much common ground on which all sides of this discussion could come together to address climate change with policies that are practical, flexible, predictable and durable. The Chamber believes in a policy approach that acknowledges the costs of action and inaction and the competitiveness of the U.S. economy.

How have you influenced, or are you attempting to influence their 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 Company 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.

C12.3d**(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

No



(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 stakeholders to better understand their viewpoints, gather input on our business strategy and execution and obtain feedback regarding other matters of interest. The feedback received from our outreach efforts informs discussions in the boardroom.

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 GHG matters. Members of senior management participate in these events, including the Chairman and CEO; CFO; Chief Legal Officer; SVP of Operations and SVP of Environmental and System Planning. At the annual environmental stakeholder forum in May 2019 topics included carbon reduction strategies, energy efficiency and methane. A webinar on Coal Combustion Residuals followed the annual stakeholder meeting as well as in-person engagements with smaller groups of stakeholders throughout the year to discuss issues such as the just transition of our generating fleet.

The Board of Directors places great importance on regularly communicating with our stockholders to better understand their viewpoints and gather feedback. The NGR Committee of the Board oversees our stockholder engagement efforts on behalf of the Board.

In 2019 and early 2020, we reached out to our 100 largest stockholders representing more than 50% of our outstanding shares and offered to engage on ESG-related topics, as well as any other topics of interest. We also reached out to stockholders that are not among our 100 largest but expressed an interest in engaging with us. We received positive responses from, and had engagements with, stockholders representing over 30% of our outstanding shares. We engaged with a broad range of stockholders, including index funds, union and public pension funds, actively managed funds and socially-responsible investment funds, as well as stockholder advisory firms.

Key topics for stockholder engagement included climate-related matters, executive compensation, cybersecurity, leadership development and management succession planning, human cap-



Director, Chair of NGCR Committee and Chair of CMS Committee); Chairman and CEO; CFO; Chief Legal Officer; SVP of Environmental and System Planning; SVP of Human Resources/Total Rewards; VP, Corporate Governance; and Director, Investor Relations. In addition, our investor relations group leads our management team in hundreds of investor meetings throughout the year.

In 2019, Southern Company was recognized by the U.S. Transparency Awards as the winner of the best proxy statement among the top S&P 250 companies, providing investors with the information needed for informed decision-making in advance of the company's annual shareholders meeting.

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.

The policy organizations are aided in this process by the SCMC. The CEO leads a team of the most senior officers across the Southern Company system, called the Southern Company Management Council (SCMC). Other members of the SCMC include the Company's CFO; EVP of operations; EVP and president of external affairs; EVP, chief legal officer and chief compliance officer; and the CEOs of each operating company and Southern Company Services. The SCMC meets monthly to discuss major business decisions with respect to operations, employees and customers. At SCMC meetings, there are regular discussions of climate-related issues, such as resource planning across the system and at each operating company. Federal and state environmental regulation and policy, and engagement with regulators, customers, stakeholders and stockholders on carbon emission risks and opportunities are also regularly discussed. The monthly meetings allow for alignments on direct and indirect activities that influence policy are consistent with the overall climate change strategy.

When the Southern Company's Board evaluates climate-related issues it routinely reviews lobbying expenses to ensure consistency with climate-related business strategy.



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

In voluntary sustainability report

Status

Underway – previous year attached

Attach the document

[Planning-for-a-low-carbon-future.pdf](#)

Page/Section reference

Content elements

Governance

Emissions figures

Emission targets

Other metrics

Comment

In 2018 we published the Planning for a Low Carbon Future report to outline how we are taking steps to increase disclosure of our preparations for a low-carbon future. In 2020 we plan to publish an addendum to the 2018 report titled: Implementation and Action Toward Net Zero. In the recent iteration we provide further insights into how we are tackling these tough issues include setting a net zero carbon goal for our 2050 operations

Publication

Other, please specify (Communication regarding carbon issues)

Status

Complete

Attach the document

[EEI-ESG-Sustainability-Reporting-Template.pdf](#)

[Planning-for-a-low-carbon-future.pdf](#)

Page/Section reference

Content elements

Governance

Strategy

Risks & opportunities

**Comment**

<https://www.southerncompany.com/corporate-responsibility/report-parameters.html> Provides the most recent version of the Corporate Responsibility Report and other environmental reports

Publication

In mainstream reports

Status

Complete

Attach the document

[2020 10-K filing.pdf](#)

Page/Section reference

"Global Climate Issues" starting on page 118, Risks, p 28.

Content elements

Risks & opportunities

Emissions figures

Emission targets

Comment

C15. 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.

Cautionary Note Regarding Forward-Looking Statements:

Certain information contained in this release is forward-looking information based on current expectations and plans that involve risks and uncertainties. Forward-looking information includes, among other things, statements concerning GHG reduction goals, including timing of achievement, costs related to carbon, expected renewable generation growth and capital expenditures. Southern Company cautions that there are certain factors that can cause actual results



of which are outside the control of Southern Company; accordingly, there can be no assurance that such suggested results will be realized. The following factors, in addition to those discussed in Southern Company's Annual Report on Form 10-K for the year ended December 31, 2019, Quarterly Report on Form 10-Q for the quarters ended March 31, 2020 and June 30, 2020 and subsequent securities filings, could cause actual results to differ materially from management expectations as suggested by such forward-looking information: the impact of recent and future federal and state regulatory changes, as well as changes in application of existing laws and regulations; variations in demand for electricity and natural gas; available sources and costs of natural gas and other fuels; the ability to control costs and avoid cost and schedule overruns during the development, construction and operation of facilities or other projects; legal proceedings and regulatory approvals and actions related to construction projects; the ability to construct facilities in accordance with the requirements of permits and licenses, to satisfy any environmental performance standards and the requirements of tax credits and other incentives, and to integrate facilities into the Southern Company system upon completion of construction; advances in technology; performance of counterparties under ongoing renewable energy partnerships and development agreements; state and federal rate regulations and the impact of pending and future rate cases and negotiations; and the ability to successfully operate the electric utilities' generating, transmission, and distribution facilities and Southern Company Gas' natural gas distribution and storage facilities; and the successful performance of necessary corporate functions. Southern Company and its subsidiaries expressly disclaim any obligation to update any forward-looking information.

C15.1

(C15.1) 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 CEO Southern Company	Board chair



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