



**Deloitte & Touche LLP**  
191 Peachtree St NE  
Suite 2000  
Atlanta, GA 30303  
USA  
Tel: +1 404 220 1500  
[www.deloitte.com](http://www.deloitte.com)

## INDEPENDENT ACCOUNTANT'S REPORT

Management of The Southern Company:

We have reviewed management of The Southern Company's (the "Company") assertion that the accompanying Statement of Greenhouse Gas ("GHG") Emissions for the year ended December 31, 2022 (the "2022 Statement of GHG Emissions") is presented in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) published by the World Resources Institute/World Business Council for Sustainable Development (the "criteria"). The Company's management is responsible for its assertion. Our responsibility is to express a conclusion on management's assertion based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to management's assertion in order for it to be fairly stated. The procedures performed in a review vary in nature and timing from and are substantially less in extent than an examination, the objective of which is to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. We believe that the review evidence obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements related to the engagement.

The procedures we performed were based on our professional judgment. In performing our review, we performed analytical procedures, inquiries, and other procedures as we considered necessary in the circumstances. For a selection of the emissions, we performed tests of mathematical accuracy of computations, compared amounts to underlying records, or inspected supporting documentation regarding metering calibration results.

The preparation of the 2022 Statement of GHG Emissions requires management to interpret the criteria, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect the reported information. Measurement of Scope 1 and Scope 2 GHG emissions may include estimates and assumptions that are subject to inherent measurement uncertainty, including, for example, the accuracy and precision of GHG emission conversion factors. Obtaining sufficient appropriate review evidence to support our conclusion does not reduce the inherent uncertainty in the amounts and disclosures. The selection by management of different but acceptable measurement methods, input data, or assumptions, may have resulted in materially different amounts or disclosures being reported.

Our review was limited to the disclosures within the 2022 Statement of GHG Emissions. Any information relating to periods prior to the year ended December 31, 2022 were not subjected to our review and, accordingly, we do not express a conclusion or any form of assurance on such information.

Based on our review, we are not aware of any material modifications that should be made to management of The Southern Company's assertion in order for it to be fairly stated.

*Deloitte & Touche LLP*

July 28, 2023

## STATEMENT OF GREENHOUSE GAS EMISSIONS FOR THE YEAR ENDED DECEMBER 31, 2022

Management of Southern Company (the “Company”) is responsible for the completeness, accuracy, and validity of the Company’s Statement of Greenhouse Gas (“GHG”) Emissions for the year ended December 31, 2022 (the “2022 Statement of GHG Emissions”). Management is also responsible for the collection, quantification and presentation of the disclosures included in the 2022 Statement of GHG Emissions and for the selection of the criteria, which management believes provides an objective basis for measuring and reporting. Management of Southern Company asserts that the Company’s Statement of GHG Emissions for the year ended December 31, 2022, is prepared in accordance with the Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard (Revised Edition), published by the World Resources Institute/World Business Council for Sustainable Development (the “GHG Protocol”).

<i>All emissions in Thousand Metric Tonnes CO<sub>2</sub>e</i>	<b>2022</b>	<b>Base Year<sup>1</sup></b>
Total Scope 1 GHG Emissions	84,875	156,471
Total Scope 2 GHG Emissions (market-based)	216	188 <sup>2</sup>
Total Scope 2 GHG Emissions (location-based)	236	207 <sup>2</sup>
<b>Total GHG Emissions (market-based)</b>	<b>85,091</b>	-
<b>Total GHG Emissions (location-based)</b>	<b>85,111</b>	-
Biogenic CO <sub>2</sub> Emissions	5	-

### NOTES TO THE 2022 STATEMENT OF GHG EMISSIONS

#### Note 1: Company background

Southern Company is a leading energy company, which, through its subsidiaries, has 43,000 megawatts (MWs) of generating capacity and 822 billion cubic feet of natural gas throughput volume serving nine million customers. The Company provides clean, safe, reliable, and affordable energy through electric operating companies in three states, natural gas distribution companies in four states and complementary natural gas businesses, a competitive generation company serving wholesale customers across America, a leading distributed energy infrastructure company, a fiber optics network, and telecommunications services business. 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 committed to meeting customers’ current and future energy needs, with setting a long-term goal to transition to net-zero GHG emissions from enterprise-wide operations by 2050 and an intermediate goal to reduce GHG emissions from 2007 levels by 50% by 2030.<sup>3</sup> In 2022, Southern Company reduced its Scope 1 GHG emissions by 46% from 2007 levels.

Three key pillars support our approach to reducing GHG 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 benefit customers and lower GHG emissions
- Constructive engagement with policymakers and others to support outcomes that lead to a net zero future

## Note 2: Basis for preparation and presentation

The 2022 Statement of GHG Emissions has been prepared based on a reporting year of January 1 to December 31. This is the same as the Company's financial reporting period. The disclosures included are prepared in accordance with the GHG Protocol.

A summary of the key disclosure guidelines is set out in Notes 3 - 7.

## Note 3: Base year GHG emissions<sup>1</sup>

The base year for Scope 1 GHG emissions is 2007 because it was a typical demand year and most representative of Southern Company's generating assets, with no significant weather events or economic recession impacting demand. The methodology used to calculate the base year emissions is consistent with the methodology used for 2022; however, data for some immaterial emissions sources, such as 40 CFR Part 98 Subpart C units and emissions from Southern Company Gas are not available, and therefore, not included in the base year emissions. The assets included in Southern Company's 2007 base year are those assets that Southern Company owned at the time the base year was set (April 2018). Due to the complicated accounting nature of base year adjustments, potential lack of data associated with acquisitions, and in an effort to maintain accuracy, Southern Company considers recalculating its base year emissions only in the event of a significant structural change (an acquisition or divestiture of assets resulting in greater than 10% change in base year emissions). No adjustments have been made to date for acquisitions or divestitures because no changes to date have exceeded the 10% threshold.

The Scope 2 GHG emissions base year is 2019, the first year Southern Company calculated Scope 2 emissions.<sup>4</sup> Southern Company's emissions reduction goal of 50% from 2007 levels by 2030 includes only its Scope 1 GHG emissions. Southern Company's Scope 2 GHG emissions are not a material driver of its overall emissions profile, consistently representing less than 0.5% of the total GHG emissions. Southern Company believes its Scope 2 GHG emissions would represent an immaterial addition to the base year emissions.

## Note 4: Greenhouse gases

All Scope 1 and 2 GHG emissions figures are in metric tonnes of carbon dioxide equivalents (CO<sub>2</sub>e) and include five of the seven greenhouse gases covered by the Kyoto Protocol – carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), and hydrofluorocarbons (HFCs). Perfluorocarbons (PFCs) and nitrogen trifluoride (NF<sub>3</sub>) emissions have been omitted from Southern Company's reporting as they are not material sources of greenhouse gases for the business.

<i>All emissions in Thousand Metric Tonnes CO<sub>2</sub>e</i>	<b>Scope 1</b>	<b>Scope 2 (market-based)</b>	<b>Scope 2 (location-based)</b>
Carbon Dioxide (CO <sub>2</sub> )	83,215	210	235
Methane (CH <sub>4</sub> )	1,339	1	0
Nitrous Oxide (N <sub>2</sub> O)	241	5	1
Sulfur Hexafluoride (SF <sub>6</sub> )	61	0	0
Hydrofluorocarbons (HFCs)	19	0	0
<b>Total</b>	<b>84,875</b>	<b>216</b>	<b>236</b>

## Note 5: GHG reporting scope and boundary

The 2022 Statement of GHG Emissions includes Scope 1 and Scope 2 GHG emissions that were reported for operations within the organization boundary described below.

Specifically:

- Scope 1 GHG emissions include direct emissions from Southern Company’s owned assets. Emissions are calculated using methods required by 40 CFR Part 98, as applicable. Additional emission sources not subject to 40 CFR Part 98 include the following:
  - Direct GHG emissions from sources within the gas distribution sector are included consistent with EPA’s GHG Inventory (“GHGI”) and Our Nation’s Energy (“ONE”) Future
  - Southern Company’s mobile vehicle fleet emissions
  - De minimis emission sources (e.g., natural gas purchases for comforting heating; emergency generators; fire suppression; refrigerants; landscape equipment; and fugitive methane from coal piles, hydro reservoirs and natural gas transmission pipelines)
- Scope 2 GHG emissions include indirect GHG emissions from the consumption of purchased electricity by the Company. Scope 2 GHG emissions also include line losses on the Transmission and Distribution (T&D) system from power purchased for resale to customers. Scope 2 emissions are disclosed as both market-based and location-based emissions.

GHG emissions have been reported according to the equity share approach as defined by the GHG Protocol. GHG emissions that pertain to the organizational boundary have been reported for the Company-owned assets and power generation facilities, including facilities that are not required to report direct emissions under 40 CFR Part 98, as well as the Company’s leveraged leases and joint ventures. For acquisitions and divestitures of assets during the reporting year, emissions are included as of the date of acquisition or divestiture.

#### **Note 6: Methodology**

Scope 1 GHG emissions:

- Emissions from electricity generation and stationary fuel combustion sources are calculated according to 40 CFR Part 98 Subparts C and D. Emissions are calculated using data collected from Continuous Emissions Monitoring System (“CEMS”) and/or fuel combustion records.
- SF<sub>6</sub> emissions from the T&D system are calculated according to 40 CFR Part 98 Subpart DD.
- Emissions from the gas distribution sector are calculated according to 40 CFR Part 98 Subpart W.
- Additional fugitive methane emissions from the gas distribution sector from equipment not subject to 40 CFR Part 98 are calculated using ONE Future’s methodology.
- Mobile vehicle emissions are calculated using fuel consumption, mileage driven and emission factors from EPA’s Emission Factor Hub.
- De minimis emission sources:
  - Emissions from generators, natural gas purchases for comfort heating and landscape equipment are calculated using fuel consumption and emission factors from EPA’s Emission Factor Hub.
  - Fire suppression and refrigerant emissions are calculated using EPA’s Simplified Greenhouse Gas Emissions Calculator which utilizes emission factors from EPA’s Emission Factor Hub.
  - Fugitive methane emissions from coal piles are calculated according to Section 16.3 (Quantifying Fugitive Methane Emissions from Coal Storage) of The Climate Registry’s Electric Power Sector Protocol, using Equation 16b and emission factors from EPA’s Inventory of U.S. Greenhouse Gas Emissions and Sinks.

- Methane emissions from hydro reservoirs are calculated using reservoir surface areas and the Tier 1 methodology in the 2019 Refinement to the 2006 IPCC Guidelines.
- Emissions from natural gas transmission pipelines are calculated using pipeline miles and emission factors from EPA’s Inventory of U.S. Greenhouse Gas Emissions and Sinks.

Scope 2 GHG emissions:

- Southern Company’s Scope 2 emissions for its owned facilities are calculated using the equity share approach according to the GHG Protocol Scope 2 Guidance, and for its T&D line losses, Scope 2 emissions are calculated according to The Climate Registry’s Electric Power Sector Protocol.

**Note 7: GHG emissions factors**

Carbon dioxide emissions associated with the activities in Note 5 have been determined on the basis of measured or estimated energy and fuel use, multiplied by relevant carbon emission factors. Additionally, emission factors from the sources below are used in calculating Southern Company’s GHG emissions:

<b>Scope 1 Emission Factors</b>
EPA’s 40 CFR Part 98
EPA’s Emission Factor Hub
EPA’s Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021
2019 Refinement to the 2006 IPCC Guidelines
ONE Future methodology
<b>Scope 2 Emission Factors</b>
Edison Electric Institute’s Electric Company Carbon Emissions Database (June 2023)
Green-e 2022 Residual Mix Emission Factors <sup>5</sup>
EPA’s 2021 Regional eGRID Emission Factors
Southern Company’s system T&D line loss factor for 2022

<sup>1</sup> Base year for Scope 1 GHG emissions is 2007, and base year for Scope 2 GHG emissions is 2019. See Note 3 under “Base year GHG emissions” for additional information.

<sup>2</sup> This information was not subject to review by Deloitte & Touche LLP and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.

<sup>3</sup> Southern Company’s GHG emissions goals are calculated using the equity share approach presented in the GHG Protocol for all of its owned assets’ Scope 1 emissions.

<sup>4</sup> The 2019 Scope 2 base year emissions were recalculated in 2021 to include transmission and distribution line losses from power purchased for resale to customers.

<sup>5</sup> Green-e 2022 Residual Mix Emission Factors were applied to 2022 market-based Scope 2 emissions where supplier-specific rates were not available.