



Southern Company Emissions Reduction Progress and Reporting

Our Net Zero Goal

Southern Company¹ is working to reduce greenhouse gas (GHG) emissions to provide customers and communities a clean energy future. Our goal is to reach net zero GHG emissions by 2050. We have established an interim goal of a 50% reduction in emissions by 2030 from the 2007 baseline. These goals are enterprise-wide, encompassing our equity-share Scope 1 emissions from all our electric and natural gas operations.

While the proportion of each resource may shift over time, the following key tenets remain consistent given our view of current and emerging technologies and economic attributes:

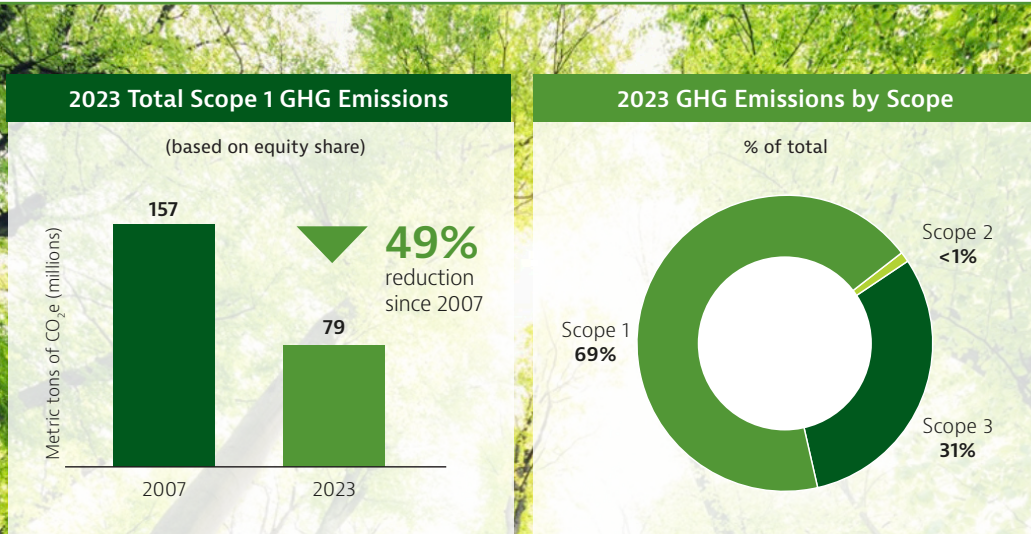
- Continued assessment of coal-fired generating assets
- Thoughtful use of natural gas
- Further growth in our portfolio of clean energy resources
- Enhanced demand response, energy efficiency initiatives, and distributed energy resources
- Negative-carbon solutions
- Continued investment in research and development of clean energy technologies

Emissions Reduction Timeline



Scope 1 Emissions Reduction Progress

In 2023, we reduced our Scope 1 GHG emissions by 49%, decreasing to 79 million metric tons of CO₂e from 157 million metric tons of CO₂e in 2007. Our Scope 1 emissions comprised 69% of our gross global emissions, followed by Scope 3 at 31% and Scope 2 at <1%.



Southern Company's GHG emissions are calculated using the equity share approach presented in the WRI/WBCSD GHG Protocol for all its owned assets.



Emissions Reporting

Southern Company regularly discloses climate-related information, including GHG emission reduction targets and progress, which provides transparency to our performance and strategy. We annually report all relevant sources of Scope 1, Scope 2 and Scope 3 emissions in the [Sustainability Data Table](#). We also obtained limited assurance from Deloitte and Touche LLP for Scope 1 and 2 emissions for 2023, 2022, 2021, and 2020, as well as for Scope 1 emissions for the 2007 baseline.

<h3>Scope 1</h3> <p>Scope 1 includes direct GHG emissions from sources that are owned or controlled by the reporting company. For example, emissions from combustion in owned or controlled boilers, furnaces, or vehicles.²</p>	<h3>Scope 2</h3> <p>Scope 2 includes GHG emissions from the generation of purchased electricity consumed by the reporting company. Purchased electricity is electricity to be consumed that is purchased or otherwise brought into the organizational boundary of the company.²</p>	<h3>Scope 3</h3> <p>Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.³</p>
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Scope 3 Relevant Emissions

Southern Company annually discloses emissions for all relevant Scope 3 emissions categories. For 2023, Category 11: Use of sold products (48%) and Category 3: Fuel-and-energy-related activities (43%) contributed the most to the Scope 3 emissions total.

- ▶ Purchased goods and services and Capital goods: emissions associated with Southern Company's supply chain purchases.
- ▶ Fuel-and-energy-related activities: emissions from purchased electricity for resale and upstream emissions from the extraction, production, and transportation of purchased fuel (coal, natural gas, fuel oil, and nuclear fuel).
- ▶ Upstream transportation and distribution: emissions associated with transporting purchased goods from supplier to Southern Company.
- ▶ Waste generated in operations: emissions from mixed solid waste, paper, wood, metals, electronics and other recyclables, wastewater treatment, and spent nuclear fuel management.
- ▶ Business travel: emissions associated with air, hotel, and rental car travel.
- ▶ Employee commuting: emissions associated with travel to work in employee-owned vehicles.
- ▶ Upstream leased assets: emissions from fuel combustion in leased vehicles and aircraft and electricity purchased for leased assets outside of the Southern Company retail service territory.
- ▶ Use of sold products: emissions from combustion of natural gas sold directly to end users.
- ▶ Investments: emissions from Southern Company's investments with Energy Impact Partners

Given the lack of standardization and accuracy of measurement methodologies and protocols for reporting Scope 3 emissions, as well as other factors, Southern Company has not established a target for Scope 3 emissions. We are actively supporting efforts to standardize methane emissions measurement, engaging in efforts to standardize reporting of Scope 3 emissions, including related mitigation approaches, and taking tangible action to reduce our actual Scope 3 emissions.



Air Quality

Southern Company has a long history of reducing emissions from our power plants, while meeting the growing energy needs of some of the fastest-growing states in the United States. We have invested over \$9 billion in environmental controls on our power plants to reduce emissions of nitrogen oxides (NO_x), sulfur dioxide (SO₂), mercury and other air pollutants, and we have converted many of our coal generating facilities to natural gas.

We have significantly reduced NO_x and SO₂ from 1990 levels and mercury emissions from 2005 levels.

NO_x emissions

↓ 92%

SO₂ emissions

↓ 99%

Mercury emissions

↓ 97%

Nitrogen oxides emissions result from the combustion of any material, including coal, gasoline and natural gas. We have made significant investments to reduce our emissions of NO_x through the use of various technologies, including low NO_x burners, and emissions controls, such as selective catalytic reduction (SCR) systems. SCRs work by adding ammonia to the flue gas exiting the boiler, where a catalyzed chemical reaction between ammonia and NO_x is converted to harmless nitrogen and water. A SCR can reduce NO_x emissions by up to 80 percent on coal units and up to 95 percent on gas units.

Sulfur dioxide comes from the sulfur found naturally in coal when it is burned in a boiler to produce electricity. We have installed “scrubbers,” which are systems that remove SO₂ from the flue gas exhaust of coal-fired units via a chemical reaction with limestone that produces gypsum, a material used for the production of wallboard and fertilizer. Our scrubbers are designed to remove up to 98 percent of SO₂.

Mercury is a trace impurity in coal that is released when coal is burned. The combination of scrubbers (to reduce SO₂) and SCRs (to remove NO_x) also removes significant amounts of mercury at coal-fired power plants. We also operate additive injection systems and baghouses to reduce mercury emissions, acid gases and dust particulate matter emissions. Baghouses can occupy 2 million cubic feet, filtering emission gases through, for example, 20,000 fabric bags that are 26 feet long and approximately 5 inches around.

To learn more about our air quality efforts for the electric operations, please visit [Alabama Power Company](#), [Georgia Power Company](#), and [Mississippi Power Company](#).

Footnotes

¹In this fact sheet, the terms “we”, “us” and “our” all refer to Southern Company. 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, such as generating activities, greenhouse gas emissions and employment practices, refer to those operations conducted through its subsidiaries.

²[World Resources Institute \(WRI\) Sustainability Dashboard Methodology](#)

³[Greenhouse Gas Protocol Scope 3 Emissions FAQ](#)

