Pay Alignment for Key Executives with Southern Company's Decarbonization Strategy

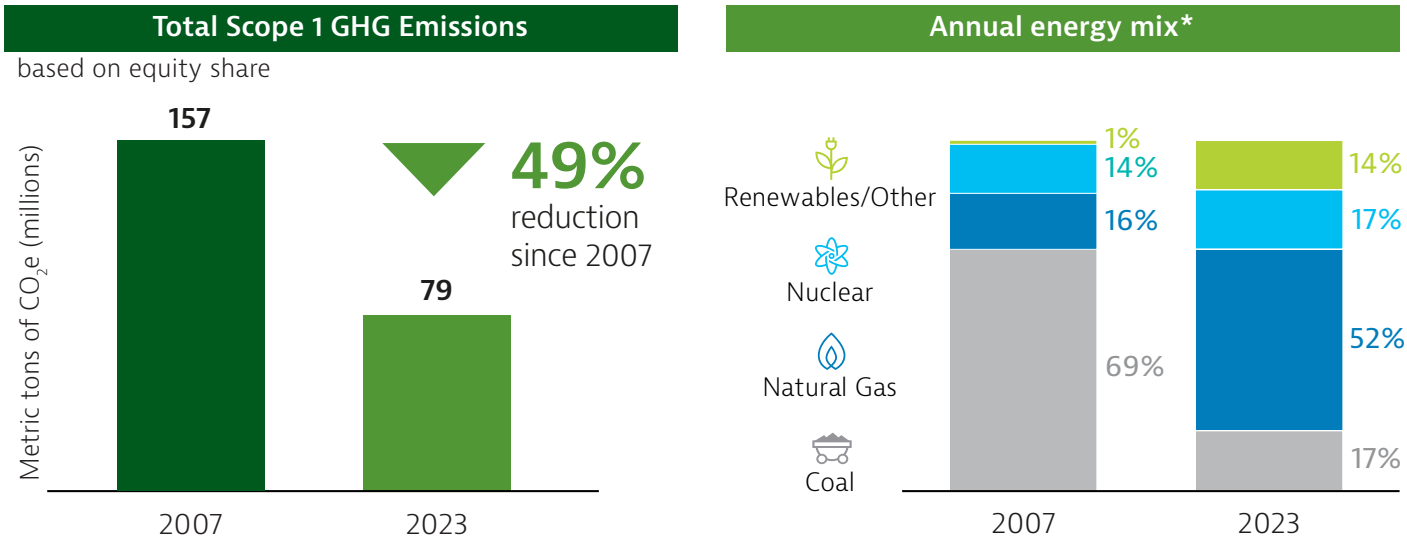
CEO, COO and CFO Pay Aligned with Consistent Decarbonization Progress

This supplement addresses questions we have received in our engagements with stakeholders regarding how particular metrics that are used for a portion of our CEO's long-term incentive pay align with Southern Company's[1] enterprise-level decarbonization goals.

Since 2019, Southern Company has aligned a portion of the CEO's long-term incentive pay with our Company's greenhouse gas (GHG) emission reduction goals, as evidenced by the addition of zero carbon megawatts (MWs) and placing coal or gas steam generation units in retirement status or inactive reserve. In 2022, the GHG reduction goals were also added to the compensation programs for our COO and CFO, and we refined targets to consider renewable resource capacity factors, battery storage and energy efficiency. The addition of zero carbon generation resources and the retirement of coal generating units (cumulative MW change) has driven progress toward our goals of achieving GHG emissions reductions of 50% from 2007 levels by 2030 and net zero by 2050.

Through 2023, we have reduced emissions by 49% across the Southern Company system, and our energy mix has shifted to significantly cleaner resources.

Figure 1



**Annual energy mix represents all of the energy the Southern Company system uses to serve its retail and wholesale customers during the year. It is not meant to represent delivered energy mix to any particular retail customer or class of customers. Annual energy mix percentages include non-affiliate power purchase agreements. Renewables/Other category includes wind, solar, hydro, biomass, landfill gas and fuel cells. With respect to renewable generation and associated renewable energy credits (RECs), to the extent an affiliate of Southern Company has the right to the RECs associated with renewable energy it generates or purchases, it retains the right to sell the energy and RECs, either bundled or separately, to retail customers and third parties.*

[1] In this presentation, 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.

The Compensation Committee of Southern Company's Board of Directors assesses progress against our GHG reduction goals based on both a quantitative and qualitative component.

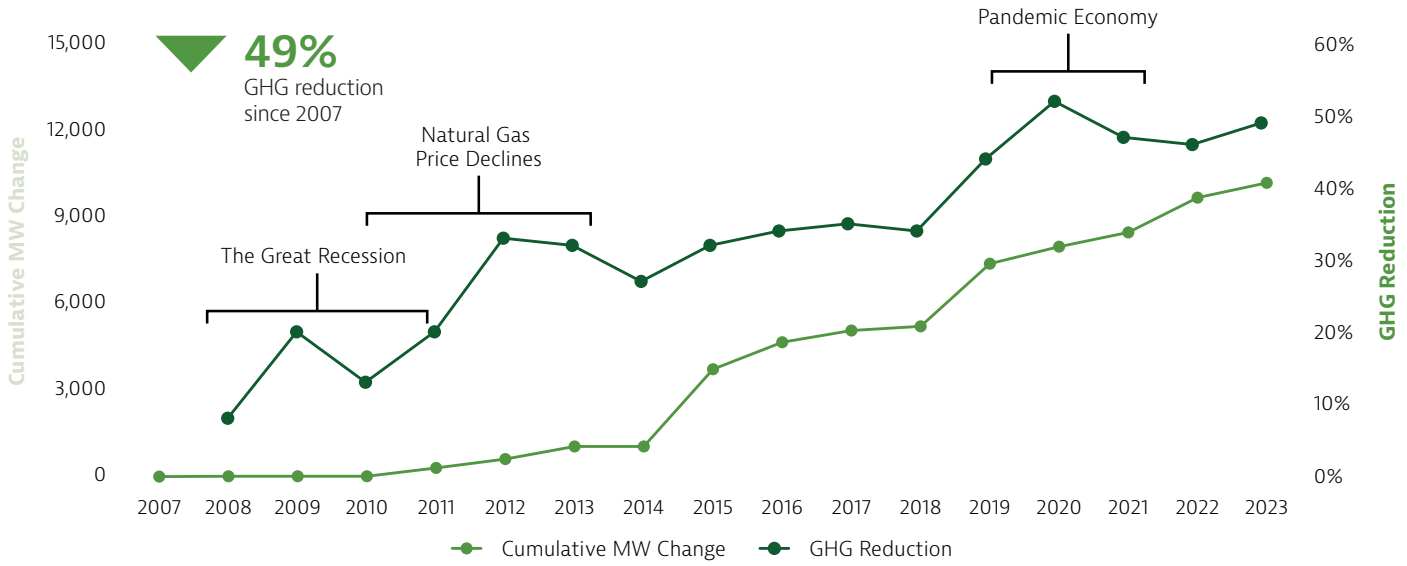
- For the quantitative component, the Committee believes compensating based on cumulative MW change is the most appropriate metric to incentivize executives' actions and drive pay for performance alignment over a three-year period.
- In addition to this near-term quantitative goal, the Committee assesses on a qualitative basis activities and achievements that help ensure the Company can achieve the long-term 2050 net zero goal. The activities and achievements assessed in the qualitative component focus on constructive engagement in energy and climate policy, R&D to advance the set of technologies that will be needed to reliably and affordably achieve the goal of net zero GHG emissions and aiding other utilities and decarbonization efforts for society at-large.

Linkage Between **Actual** Capacity Mix and GHG Emissions Reductions

The following graph shows the direct relationship between Southern Company's fleet transition progress as measured in cumulative, realized actual change in MW for purposes of the GHG reduction metric and our actual GHG emissions reductions. As we have reduced the number of coal and gas steam MWs and added zero carbon MWs such as nuclear, solar and wind, our GHG emissions have declined significantly – reaching a 49% reduction in 2023 compared to our baseline year of 2007.

As noted in the graph below, annual GHG emissions are also influenced by factors outside of management's control such as weather variations, the overall economy and the relative difference between natural gas and coal commodity prices. Weather variations and economic strength or weakness can cause changing customer usage patterns and, therefore, result in increased or decreased GHG emissions driven by overall energy demand and the energy mix required to serve customers reliably and affordably. Natural gas price fluctuations can also impact the number of hours that coal or natural gas generating units are operated due to our regulatory requirements to dispatch generation economically. As an example, to affordably serve customers, if natural gas prices increase significantly (as they did in 2022), the utilization of coal-fired generation may increase while the utilization of natural gas-fired generation decreases. Since coal-fired generation emits roughly twice the amount of GHG emissions as natural gas-fired generation on a MWh basis, this shift of generation from coal to natural gas or vice versa can impact annual GHG emissions.

Figure 2



Linkage Between **Simulated** Dispatch and GHG Emissions Reduction: Standardizing Non-Controllable Variables

Our leadership team has engaged with investors and other stakeholders over the past several years on Southern Company's energy transition plans, including the linkage between a portion of our CEO's long-term incentive compensation and our GHG reduction achievement. Certain stakeholders have expressed an interest in better understanding the causal relationship between capacity mix changes and carbon emissions reduction, as there are a range of variables outside the Company's control that can also impact emissions, such as weather, fuel price and energy usage (which are often a factor of macro-economic drivers such as economic development and population growth within our service territories). Figure 2 (on previous page) highlights some of these macro factors.

Accordingly, we have conducted an analysis in response to stakeholder interest utilizing the Southern Company system's 2007, 2018, 2020 and 2023 capacity mixes in a "simulated dispatch". Performing this analysis helps isolate the impact of the change in capacity mix (i.e., the fleet transition) on Scope 1 GHG emissions.

- These years were chosen for the modeling as 2007 is our baseline emissions year, 2018 is the year we initially set GHG reduction goals, 2020 highlights how anomalies such as the COVID-19 pandemic can impact emissions and 2023 is the most recent year for which we have received third-party verification of our GHG emissions.
- We modeled what our carbon emissions would have been in prior years under a range of capacity mix scenarios that (1) "standardize" these non-controllable variables and (2) simulate varying capacity factors for fossil-based generation. In essence, we have applied prior year capacity factors to the capacity mix in later years to simulate the isolated impact of our fleet transition on GHG reduction from our generating facilities.

See the Key Definitions section on page 6 of this document for a description of the primary components of our analysis.

Key Results of Simulated Dispatch

- The Capacity Mix (CM) changes from 2007 to 2023 demonstrate GHG emission reduction and alignment with our GHG reduction goals.
- The CM impact is resilient over the various years analyzed where the Company produced a simulated dispatch, recognizing the positive benefit of our disciplined fleet transition.
- Changing CM resulted in lower GHG emissions, when keeping the non-controllable factors constant.

As shown in Figure 3 below, data in the blue outlined boxes represent actual emissions reductions compared to Southern Company's baseline reporting year of 2007.

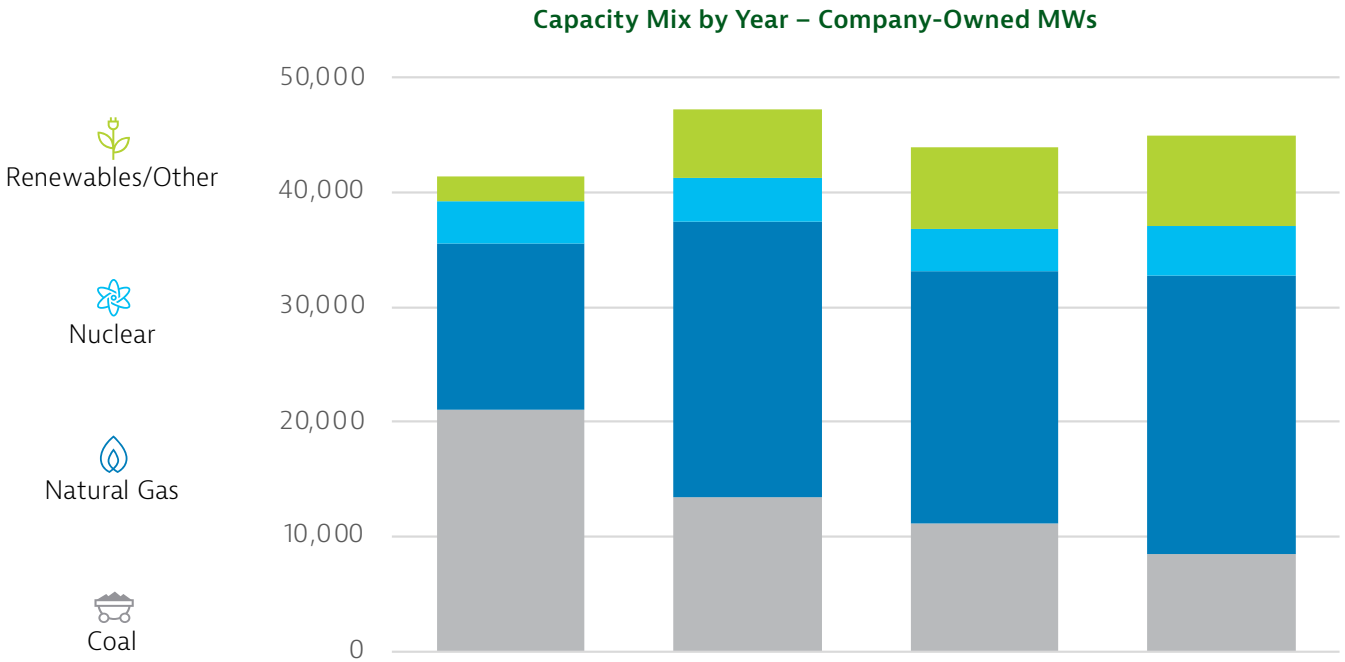
- Following each row from left to right, the simulation demonstrates that emissions would have been lower in each of the selected later years when applying the later year's capacity mix to the energy production level of the earlier year. This outcome recognizes our increasing utilization over time of lower-carbon resources and our phase out of uneconomic, higher-emitting resources (also see Figure 4 on next page).
- For example, when looking at the simulated 43% reduction highlighted below, the model utilized for this analysis applied the actual 2023 Capacity Mix to 2018 Energy Production (Energy). Applying the company's Capacity Mix as owned in 2023 (which had fewer coal MWs and more zero carbon and natural gas MWs vs. 2018), GHG emissions reduction would have been 43% compared to the Actual GHG Emissions Reduction of 34% for 2018 vs. baseline year of 2007.
- In 2020 Southern Company achieved GHG reductions of 52% (greater than our interim 50% reduction target) primarily due to pandemic-related factors rather than company-driven/controllable factors. When applying the actual 2023 Capacity Mix to 2020's Energy, 2020 simulated emissions would have been even lower with a 56% reduction.

Figure 3

GHG Reductions from 2007 level					
		2007	2018	2020	2023
		Capacity Mix (CM)			
2007	Energy	0%	-17%	-20%	-23%
2018			-34%	-38%	-43%
2020				-52%	-56%
2023					-49%

Actual GHG Emissions Reduction for Each Year

Figure 4

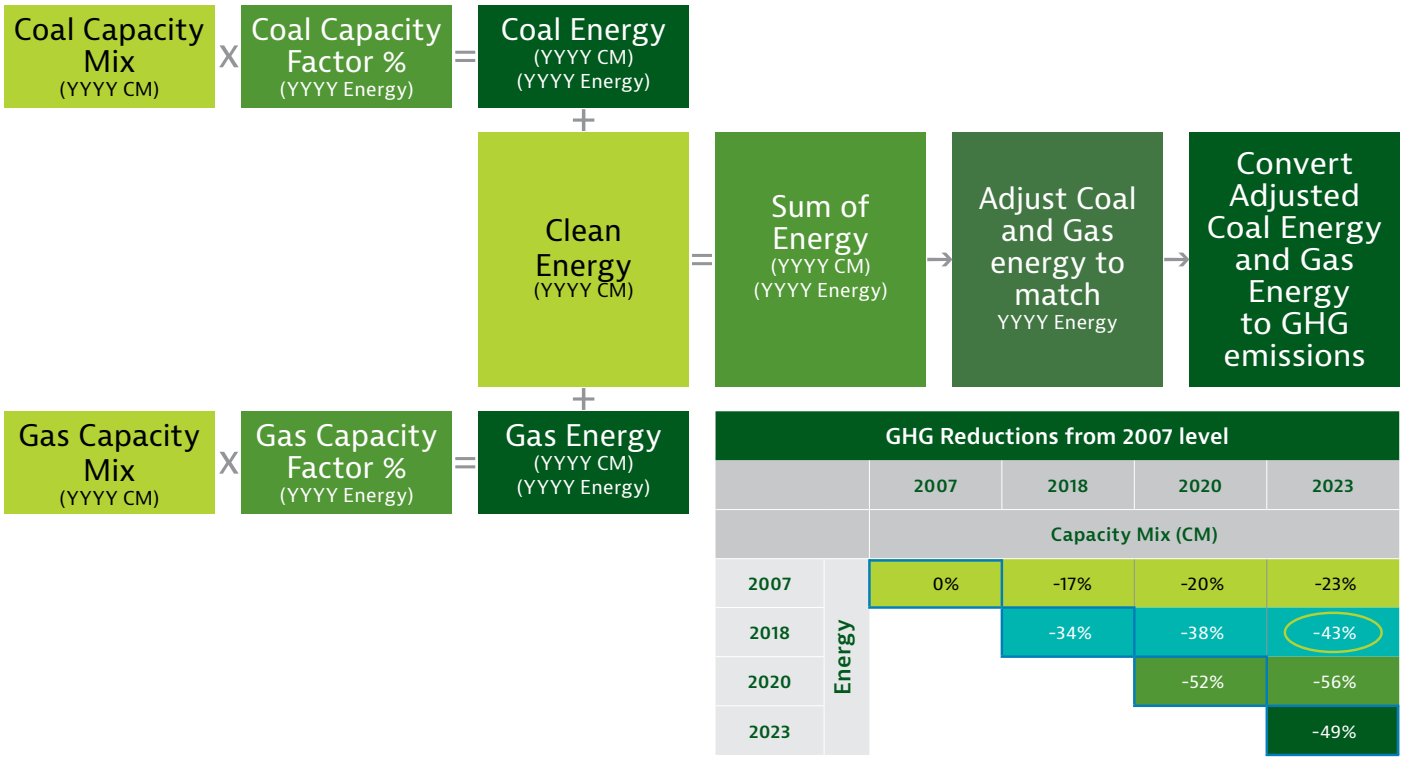


Methodology Description

As depicted in Figure 5 on the next page, the methodology simulated the dispatch of Southern Company's company-owned system using historical generation Energy Produced and historical generation Capacity Mix to create to create various scenarios of expected GHG emissions reductions. The model utilizes capacity mix for four years (2007, 2018, 2020 and 2023) and the energy produced for the same years. By pairing the various capacity mixes and energy produced for the four years in a forward-looking manner, the analysis creates the matrix above for a resulting GHG emission reduction profile for each of the combinations produced.

- Our analysis utilizes capacity factors for coal and natural gas-fueled resource types in the Subject Energy Year (YYYY Energy) and applies them to the Subject Capacity Mix Year (YYYY CM), with the assumption that nuclear, renewables, and hydro capacity would be dispatched in a manner similar to the Subject Capacity Mix Year, as depicted in Figure 5 below. This Subject Energy Year Capacity Factor application to Subject Capacity Mix Year gas and coal capacities is the starting point for a simulated Sum of Energy.
- Once a simulated Sum of Energy is determined, the model determines a coal and gas energy MWh adjustment amount on a pro-rata basis (based on the breakdown of coal and gas generation in the Subject Energy Year) that makes the simulated Sum of Energy equivalent to the Subject Energy Year total.
- The final step in the analysis is to apply the metric tons of carbon dioxide equivalent (MT CO_2e) per Net MWh for each resource type in the Subject Energy Year to the resulting modeled Energy Production, producing a simulated GHG emission and a corresponding GHG reduction percentage relative to the 2007 baseline year.

Figure 5



Key Definitions & Data Sources

Capacity Mix (CM): Nameplate MW capacity owned by Southern Company broken down by fuel type (coal, natural gas, renewables/hydro and nuclear). Capacity mix is a controllable variable, in that Southern Company subsidiaries obtain regulatory approval to construct or retire/repower generating units based on our robust scenario planning process that are subject to state regulatory proceedings.

Energy Mix: Megawatt Hours produced by Southern Company-owned generating facilities broken down by fuel type (coal, natural gas, renewables/hydro and nuclear). Energy mix is typically driven by customer demand, resource availability and relative fuel price/economics. Across Southern Company, we utilize an economic dispatch model in keeping with our state regulatory obligations to provide reliable, affordable energy to customers. An economic dispatch model determines the appropriate set of generating units and other power supply resources required to economically meet projected integrated system demand.

Energy Produced: Megawatt hours produced

Capacity Factor: The utilization of a generating resource type. For example, nuclear units typically run at ~98% capacity factor and are considered baseload units. Renewable and hydro units run on an as-available basis. Coal and natural gas units run on a more variable basis, driven by many of the same factors noted above for energy mix.

Subject Energy Year (YYYY Energy): The historical year in our model that defines certain characteristics of the simulated dispatch associated with non-controllable factors, such as capacity factor and total annual energy.

Subject Capacity Mix Year (YYYY CM): The historical year in our model that defines certain characteristics of the simulated dispatch associated with controllable factors, which are capacity mix and corresponding energy associated with nuclear and renewable sources.

Sum of Energy: The initial simulation resulting from the individual calculation of coal, gas and clean energy utilizing the Subject Energy Year Capacity Factors for the respective Subject Capacity Mix Year.

Scope 1 emissions: Direct GHG emissions based on the GHG Protocol equity-share approach for all Southern Company-owned assets.

MT CO_2e/Net MWh: Metric tons of carbon dioxide equivalent per megawatt hour as reported in Southern Company's Scope 1 emissions for company-owned generation. This factor is based on actual generation and actual emissions from Southern Company's electric generating facilities.

Data Sources and Related Resources

All data for this analysis was sourced from publicly available information including Southern Company's Sustainability Data Table and our EEI & AGA ESG/Sustainability Reporting Template. These documents and related resources are available on the data and reports page of our website.