



Natural Gas: Decarbonization and Safety

Southern Company's decarbonization journey is not limited to our electric generation portfolio. Through our Southern Company Gas subsidiary, we serve 4.3 million customers who rely on our affordable natural gas for home heating and other residential, commercial and industrial uses. Our natural gas distribution companies are seeking opportunities to continue to drive down methane and other greenhouse emissions from operations, support efficient use of energy by our customers, and leverage our existing infrastructure for new, lower-carbon sources of gas.

Decarbonization of Natural Gas Distribution and Use

Lowering Operational Methane Emissions

Looking to the future, Southern Company Gas is implementing initiatives to support emissions reductions across the natural gas value chain. Initiatives include seeking opportunities to reduce upstream emissions associated with the exploration, production and transportation of natural gas through sustainable gas supply efforts; decrease operational emissions in support of our net zero goal; and reduce end-use emissions through empowering our customers with sustainable solutions.

Southern Company Gas has invested more than \$2 billion in pipeline infrastructure replacements and improvements over more than two decades.

Over this time, we replaced over **6,000 miles** of unprotected steel and cast-iron pipes with state-of-the-art corrosion-resistant pipes, while also replacing over **800 miles** of pre-1974 plastic pipe. This not only provided tremendous reliability and safety benefits, but also helped us reduce annual methane emissions from our distribution system by **approximately 50%** – even as the system grew by **more than 20%**.

Value Chain Engagement

Southern Company and our subsidiaries have taken a leadership role, along with other companies across the natural gas value chain, to advance the measurement and reporting of Scope 3 emissions. As we engage in these activities, we enhance our ability to quantify, evaluate and reduce GHG emissions.

- ▶ Southern Company Gas is continuing its sponsorship of GTI Energy's Veritas effort to develop a widely accepted, standardized, science-based, technology-neutral approach to measuring, calculating, and reporting methane emissions.
- ▶ Our Southern Company Gas subsidiary is a founding member of the ONE Future coalition, a group of natural gas companies working together to voluntarily reduce methane emissions across the natural gas value chain. We support reducing fugitive methane emissions across the entire natural gas supply chain (from production through consumption) to 1% or less. Based on ONE Future's methodology, our natural gas distribution operations' fugitive methane intensity for 2021 was 0.195%, well below ONE Future's 2025 goal of 0.44% for local distribution companies.
- ▶ Southern Company continued to expand its reporting in 2022 to include all relevant categories of its Scope 3 emissions, including methane and carbon emissions from the leakage and flaring of natural gas during upstream exploration, development, production, gathering and boosting, transmission and storage. We are committed to regular enhancement and updating of this reporting in the future.
- ▶ Southern Company Gas is already employing a deliberate and disciplined approach to reduce Scope 3 emissions by focusing on upstream and downstream solutions which yield value for customers and other stakeholders. In 2022, we expanded our residential energy efficiency programs to include all our distribution companies. We have obtained regulatory support in some of our states to support renewable natural gas solutions for customers. In addition, Southern Company is engaged in a wide range of initiatives to research hydrogen opportunities.
- ▶ 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. In 2021, Southern Company Gas updated and expanded its bid selection process to seek additional information from suppliers and increased its purchases of Next Generation Natural Gas. Southern Company Gas aspires to provide customers with natural gas that is sourced, transported and distributed by companies that have pledged to reduce methane emissions to less than 1% across the natural gas value chain. In 2022, Nicor Gas announced the purchase of responsibly sourced natural gas from ENGIE Energy Marketing. This natural gas supply was certified by Project Canary's TrustWell® responsibly sourced gas certification standard and was estimated to meet the annual demand requirements of 48,000 customers.



Spotlight: Virginia Natural Gas

In late 2019, Virginia Natural Gas (VNG), a subsidiary of Southern Company Gas, announced plans to seek opportunities to provide its customers with Next Generation Natural Gas. Since November 2022, the company has been purchasing up to one-third, and as of March 2023, up to one-half, of its supply from select, low fugitive wells to meet customers' current natural gas demand, making a "well head to burner tip" supply chain of low fugitive emission gas for customers.

Identifying Pathways to Net Zero

Southern Company Gas published a decarbonization study in 2022 that identified pathways for reaching net zero direct GHG emissions by 2050. To reduce emissions associated with customers' use of gas, the study looked at two scenarios based on increased building efficiency, high efficiency gas heating technology and the use of renewable natural gas. A third scenario focuses on policy-driven mandatory electrification of space and water heating. The fourth scenario uses a hybrid natural gas/electric approach for building heating. The study also identified pathways for reducing indirect emissions associated with the usage of natural gas by residential and commercial customers, and a comprehensive pathway for Southern Company Gas to reduce both direct and indirect GHG emissions.

To learn more about these efforts, please visit [Southern Company Gas' sustainability page](#) and the [Decarbonization Pathways report](#).

Natural Gas Safety

The safety and well-being of our customers and the communities we serve are core values for us. We continually monitor and perform regular inspections of our systems to help ensure safety, security, reliability and resiliency. We perform leakage surveys of our natural gas pipelines in accordance with and sometimes in exceedance of Federal Pipeline Safety Regulations. As a result, our gas transmission lines and business districts are surveyed annually, and the remaining distribution pipelines are surveyed on either a three- or five-year schedule. Leakage surveys are conducted using a combination of aerial, vehicular, and foot surveys with electronic leak detection equipment. Additionally, we educate our customers on the smell of natural gas to ensure suspected leaks are reported as quickly as possible.

Southern Company Gas also participates in the American Gas Association (AGA) Peer Review program, a voluntary safety and operation practices program that allows participants to be reviewed by their peers, share leading practices and receive valuable feedback to help enhance safety and efficiencies.

Southern Company Gas leverages best-in-class technology to help ensure the safety of its systems and reduce emissions. Areas include the Construction, Operations, Damage Prevention and Leak Survey areas of the company. For example, the company has partnered with critical infrastructure safety provider, Urbint, to use artificial intelligence and machine learning to create a digital version of physical infrastructure that accounts for environmental risk factors that can contribute to damage. This information is then used to identify excavation locations and deploy intervention resources to prevent potential damages.