



Natural Gas Sustainability – Southern Company Gas

Reliability and resilience are critical aspects of Southern Company Gas' operations. Ensuring a consistent and dependable supply of natural gas while also being able to quickly recover from disruptions is essential to maintaining customer satisfaction, safety and regulatory compliance. Over the next five years (2024-2028), Southern Company Gas' capital investment plan of \$9 billion includes approximately \$4 billion to help ensure system resilience and meet the demands of new customer growth. In addition to furthering the safety and reliability of our pipeline systems, these investments are expected to facilitate reduction of our Scope 1 emissions. We are also seeking opportunities to continue to drive down methane and other greenhouse gas (GHG) emissions throughout the value chain, support efficient use of energy by our customers and leverage our existing infrastructure for new, lower-carbon sources of gas.

We Serve

4.4 million customers

through four local distribution companies: Atlanta Gas Light, Chattanooga Gas, Nicor Gas, and Virginia Natural Gas

600,000 retail customers

through SouthStar Energy Services, which markets natural gas as Georgia Natural Gas® (GNG), Grand Rapids Energy® (GRE) in Michigan, and Ohio Natural Gas® (ONG)

Decarbonization of Natural Gas Distribution

Reducing Direct Operational Scope 1 Emissions

Southern Company Gas' GHG emissions, inclusive of distribution and storage operations, as well as emissions from equity ownership interstate pipelines, represent less than 2% of the Southern Company system's Scope 1 GHG emissions. Methane emissions from the local natural gas distribution sector represent a small share of total U.S. GHG emissions. Southern Company Gas' local distribution companies are implementing initiatives to reduce Scope 1 methane emissions across our operations through pipeline modernization and replacement, advanced leak detection and repair, damage prevention and the reduction of blowdown emissions. We are deploying compressed natural gas vehicles and partnering on research to facilitate emissions reductions.

→ Tighter Pipes: Infrastructure Modernization and Replacement

Modernizing our infrastructure makes our delivery system more efficient and helps avoid methane leaks. Upgrading vintage pipes with modern materials is recognized as having the single most significant impact on methane emissions reductions in the natural gas distribution industry.

\$2 billion

Investment in pipeline infrastructure replacements and improvements

> 6,800 miles

Replacement of unprotected cast or wrought iron and pre-1974 plastic pipe

▼~50%

Reduction in annual methane emissions

Over two decades (1998-2018) Southern Company Gas invested more than \$2 billion in pipeline infrastructure replacements and improvements. These investments helped to reduce annual methane emissions from our distribution system by approximately 50%, even as the system grew more than 20% over that 20 year timeframe. We have 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. One hundred percent of known legacy cast or wrought iron pipes in our distribution system have been replaced. Additionally, as of the end of 2023, only 0.23% of the distribution system was unprotected steel.



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→ Advanced Leak Detection and Repair

We continually monitor and conduct routine inspections and leak surveys of our system. We employ innovative leak detection technology to identify, quantify and ultimately reduce the emissions footprint of the natural gas we deliver, while bringing additional operational and safety benefits to our customers and employees. As a result of these efforts, we have significantly increased leak repairs across our footprint and reduced active leaks by over 75% since 2018.

▼~75%
Reduction in leaks
since 2018



For example, we deploy mobile methane detection technology called Picarro Mobile Technology. This system, which can be mounted on vehicles, utilizes highly precise spectroscopy technology, allowing us to detect methane within 600 feet. The technology uses advanced analytics-driven leak detection and methane emissions quantification tools to broaden our leak detection capabilities and better inform pipeline integrity initiatives, further enhance our system safety and provide data-supported guidance on the impact of our operational activities.

Courtesy of Picarro Mobile Technology

Advanced Leak Detection Technology – Virginia Natural Gas

We are continuing to evaluate and expand our utilization (where appropriate) of other technologies, including drones, stationary monitors and artificial intelligence-enabled cloud computing platforms, to better detect leaks. For example, in 2023, we deployed Picarro Mobile Technology as part of the core approach for performing safety and compliance surveys in our business districts. Virginia Natural Gas achieved full coverage of its distribution system using the Picarro Mobile Technology. The tool allows us to detect leakages and perform the measurement and quantification of methane emissions more accurately. In addition, Virginia Natural Gas became one of the first natural gas utilities in the state to use camera drones to conduct some right-of-way assessments and inspect critical infrastructure. This technology enables faster and safer pipeline inspections.

→ Damage Prevention

Third-party excavation damage is the number one risk to our distribution infrastructure. To reduce excavation damage risk, we deploy damage prevention processes with both internal and external partners. We engage in community outreach, education and awareness of 811, the national call-before-you-dig phone number, and utilize predictive analytics to reduce methane emissions and public safety concerns associated with third-party damages.



Urbint Damage Prevention Project

Southern Company Gas partnered with predictive analytics firm [Urbint on a damage prevention project](#) to identify the risk of leaks or third-party damages to underground utilities. Urbint uses artificial intelligence machine learning to create a digital version of physical infrastructure and account for environmental risk factors that contribute to damage, such as weather, time of day, topography and excavation types. The damage prevention solution developed by Urbint was first deployed at Nicor Gas and subsequently expanded throughout the system. The initial pilot identified almost 50% of damages in only 5% of 811 tickets, allowing Southern Company Gas to direct resources to those tickets and reduce excavation damages by more than 30%. Additionally, analytics from Urbint were incorporated into an education campaign, and resulted in increased calls to 811 and a reduction in damages in the first month.



→ Pipeline Blowdown Emissions

Blowdowns, the venting of natural gas to relieve pressure in the pipe related to maintenance, normal operations or emergencies, can result in methane emissions. We are implementing several mitigation methods to eliminate or reduce blowdown emissions during natural gas pipeline projects and activities. These methods include segment isolation, drawdown, temporary compression and, if needed, flaring.

All Southern Company Gas distribution operations utilize cross-compression technology to recover methane that would otherwise be released to the environment during a growing number of pipeline maintenance and inspection projects. When this technology is used for a project, up to 99% of the gas is recycled back into the pipeline system for continued use. As a result, in 2022, we avoided the release of approximately 21,000 MMBtu of natural gas, which represents an estimated 9,061 metric tons of carbon dioxide equivalents (CO₂e). This is equivalent to the annual amount of energy used by over 1,100 homes.

→ Compressed Natural Gas Fleet Vehicles



We began deploying compressed natural gas (CNG) vehicles in our fleet in the late 1970s. Today, we continue to expand our usage of CNG in our fleet and build CNG fueling stations to support external partners. CNG produces up to 90% fewer emissions from common urban pollutants compared to gasoline and diesel-fueled vehicles and reduces greenhouse gas emissions by up to 21% compared to traditional fuels.

Up to 21%

Reduction in
greenhouse gas
emissions from
Compressed
Natural Gas

Since 2010, we have more than doubled the number of active alternative vehicles in our fleet and currently operate more than 400 CNG vehicles. Virginia Natural Gas leads the system with CNG fuel usage, with about 70% of its fleet running on CNG.

→ Cleaner Molecules: Expanding the Use of Lower-Emission Fuels

Renewable Natural Gas

We are pursuing opportunities and investing in projects to accelerate the adoption of renewable natural gas (RNG), a sustainable fuel produced from naturally occurring waste methane emitted primarily from landfill, agricultural, wastewater and food waste sites. Capturing this biogas at the source before it is emitted into the atmosphere reduces greenhouse gas emissions. RNG is a sustainable and reliable energy source that is compatible with existing infrastructure and appliances. Depending on the source, RNG can be carbon neutral or carbon negative. Providing RNG to our customers lowers emissions by replacing other sources of energy and reducing methane waste.

Our Renewable Gas team develops and executes our strategy for growing RNG capabilities, which we expect to further reduce our environmental impact while creating new revenue streams. In 2021, we took ownership of the Methane Recovery Facility at the Meadow Branch Landfill, operated by our subsidiary, Southern Company Gas Renewables. The RNG facility captures gas produced by the landfill and upgrades it to pipeline-quality gas that can be used by any natural gas appliance or other end-user. Assuming control of the RNG plant will enable us to offer RNG to our local distribution companies, including their automotive fleets. In 2023, the facility produced over 520,670 MMBtu of RNG, enough to serve about 9,235 Tennessee homes and avoid over 27,000 metric tons of carbon dioxide (CO₂). Through its utility tariffs, Southern Company Gas has three interconnected facilities currently flowing RNG into the distribution networks with an additional facility under development.



Additionally, in late 2023 [Chattanooga Gas](#) and [Virginia Natural Gas](#) entered into their first RNG agreements which will increase access to clean, safe, reliable and affordable fuel. The deal involves acquiring environmental credits from facilities in Nebraska and Indiana. The emissions reductions from this transaction are estimated to be equivalent to the carbon sequestered by over 12,000 acres of forest or an area the size of Manhattan.



Hydrogen

As a leader in research and development, we believe hydrogen technology provides a powerful opportunity to deliver a sustainable future. Hydrogen has the potential to be injected into natural gas infrastructure or delivered in dedicated pipeline infrastructure to lower greenhouse gas emissions.

For example, Nicor Gas is a technical sponsor of the [Open Hydrogen Initiative](#), an international cohort of energy sector professionals working to build consistent, transparent and technical emissions measurement protocols for hydrogen to enhance our understanding of the fuel's carbon intensity.

Nicor Gas is exploring opportunities to support the growth of a clean hydrogen economy in the Midwest through our engagement in the [Midwest Alliance for Clean Hydrogen](#) (MachH2). In 2023, MachH2 was selected for funding from the Department of Energy (DOE) as a regional hydrogen hub. Nicor Energy Ventures (NEV), through its affiliate Nicor Gas, is exploring the opportunity to construct dedicated pipeline to transport clean hydrogen to industrial customers. In addition, NEV plans to explore the potential need for onsite hydrogen blending infrastructure at end users' sites to support industrial decarbonization. This project is subject to Nicor Gas working with the Illinois State Legislature and Illinois Commerce Commission to enable the regulated transport of clean hydrogen.



Hydrogen Blending

Southern Company Gas is a member of the [HyBlend collaboration](#), a research and development initiative to address the technical barriers of blending hydrogen in natural gas infrastructure and study the lifecycle emissions of hydrogen blends. The HyBlend team comprises six DOE national laboratories and more than 20 participants from industry and academia. Since the start of the collaboration, we have accomplished several milestones, including an evaluation of emissions of natural gas and hydrogen combustion at various end-use applications, a lifecycle analysis of synthetic natural gas production and a draft journal article on the economic assessment of alternative pathways for natural gas decarbonization.





Reducing Upstream and Downstream Scope 3 Emissions

In addition to reducing emissions from our own operations, Southern Company Gas seeks to support the reduction of emissions across the natural gas value chain, both upstream through the gas production and transmission systems that supply our gas, and downstream through our customers. We participate in a range of organizations, initiatives and partnerships that support this objective.

Southern Company reports all relevant categories of its system's 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 as evidenced by our engagement with industry groups to improve detection, measurement and industry-consistent reporting of methane emissions.

→ Industry Emissions Reduction Targets

We are a founding member of [ONE Future](#), a coalition of natural gas companies working to achieve a rate of methane emissions across the entire natural gas supply chain of less than 1% of total production. Through our methane reduction efforts, our system is nearly 99.8% efficient, with a 0.201% methane emissions intensity rate in 2023, well-below ONE Future's 2025 goal of 0.44% for natural gas utilities. Through leadership roles on the ONE Future Board of Directors and the coalition's technical committee, Southern Company Gas is helping to identify emissions reduction improvement opportunities for the entire industry that impact the upstream production, transmission and storage and distribution sectors.



→ Next Generation Natural Gas

Southern Company Gas aspires to provide customers with Next Generation Natural Gas, which is sourced, transported and distributed by companies which have pledged to reduce methane emissions to less than 1% across the natural gas value chain. 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. From August 2023, [Chattanooga Gas](#) has supplied 100% of the natural gas supply for its residential and small business customers with Next Generation Natural Gas. [Virginia Natural Gas](#) first procured Next Generation Natural Gas for its customers in 2019, and as of April 2024, 100% of its customers' energy demands are being supplied with this lower-emissions product. Nicor Gas also has sourced fuel from environmentally conscious suppliers. As of August 2024, Georgia Natural Gas will provide all customers subscribed to the Greener Life program with certified natural gas at no additional cost.



→ Programs and Services for Our Customers

Energy Efficiency Initiatives for Our Customers

Southern Company Gas has efficiency programs at all regulated subsidiaries that help customers use gas more efficiently and reduce the greenhouse gas emissions associated with our customers' use of natural gas.

For example, in 2019, Virginia Natural Gas launched a Conservation and Ratemaking Efficiency (CARE) Plan, which has helped customers save over 18,000 MMBtu since the program's inception—equivalent to avoiding almost 1,000 metric tons of CO₂ emissions. The CARE program includes a residential home incentive program, low-income home weatherization, home energy audits and customer education and outreach.

Nicor Gas has offered robust energy efficiency options for over a decade, providing approximately \$40 million per year in energy efficiency incentives and services to customers, including \$12.5 million in income-eligible programs. Nicor Gas' programs are focused on residential, commercial and low-income customers, as well as emerging energy-efficient technologies.

[Energy Efficiency Fact Sheet](#)



TOTAL GREEN™

Customer Sustainability Programs

Additionally, Nicor Gas offers qualified customers [TotalGreen™](#), a voluntary program for customers interested in paying an additional fee to balance their natural gas-based carbon footprint. The reduction is achieved through the purchase of carbon offsets, renewable natural gas environmental attributes (or credits), and program administrative costs. Once enrolled, a customer's greenhouse gas emissions are calculated, and Nicor Gas purchases and retires carbon offsets and renewable thermal credits to offset the impact of those emissions. The TotalGreen™ program does not include lifecycle emissions that occur during extraction, production or delivery. Nicor Gas leverages trusted independent verification bodies such as the Climate Action Reserve and the Midwest Renewable Energy Tracking System to purchase and retire verified credits.

SouthStar Energy Services offers the similar, voluntary [Greener Life®](#) program, which is available to Georgia Natural Gas®, Ohio Natural Gas®, and Grand Rapids Energy® customers, as well as its Commercial and Industrial customers through the Greener Life for Business program. As of August 2024, the Greener Life program has reached a new milestone of 500 million pounds of carbon emissions offset from the atmosphere. That amount is equivalent to taking over 50,000 cars off the road for a year. In celebration of this milestone, Georgia Natural Gas has enhanced Greener Life to give customers the benefits of certified low emissions gas at no additional cost. Since the program's inception, the Greener Life and Greener Life for Business programs have 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.

Customer End-Use Innovations: Smart Neighborhoods

Smart Neighborhoods advance energy technologies that work together as a part of an affordable, reliable clean energy economy. In 2023, Nicor Gas and Fox Valley Habitat for Humanity [broke ground](#) on a Smart Neighborhood in Aurora, Illinois. The 17-home development will be part of Nicor Gas' Smart Neighborhood™, where each technology-enhanced home will be served with clean, safe, reliable and affordable natural gas service and supplemented by rooftop solar installations, high-efficiency building envelopes and in-home battery energy storage.



These homes have been designed to achieve net-zero CO₂ emissions, which refers to the balancing of greenhouse gas emissions, where the home saves more CO₂ emissions than consumers produce to power, heat and cool the home on an annual basis.



Full Value Chain Initiatives

→ Accounting for Methane 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. In 2023, GTI Energy released the first version of the [protocols](#). In 2024, the source-level measurement and reconciliation methodologies were published. This strategic collaboration will help us establish a measurement-informed, refined baseline to more effectively track our progress toward net-zero operations and to influence these efforts across the full natural gas value chain.

→ Identifying Pathways to Net Zero

In 2022, Southern Company Gas published a [landmark study](#) with a third-party consultant, ICF, which details pathways for our natural gas distribution companies to reach net-zero direct greenhouse gas emissions, including methane, while using our existing gas delivery systems, and to explore pathways to reduce emissions associated with our customers' use of natural gas. The study concluded that the use of natural gas and existing infrastructure are foundational to reaching a net-zero, clean energy future with the greatest consumer affordability.



Each of our distribution companies implements Distribution and Transmission Integrity Management Programs in compliance with the Pipeline Safety Improvement Act to help reduce both the likelihood and consequence of incidents. Through this systematic process, we identify high-impact areas, assess and mitigate pipeline risks, determine potential hazards from facility operations and estimate the likelihood and effect of potential adverse events.

We continually monitor and perform regular system inspections to help ensure safety, security, reliability and resilience. We conduct leak surveys of our pipelines in accordance with Federal Pipeline Safety Regulations using a combination of aerial, vehicular, dive and foot surveys with cutting-edge electronic leak detection equipment. Our transmission lines and business districts undertake annual surveys, while remaining distribution pipelines undergo surveys on a three- or five-year schedule, according to regulations.

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.

Additionally, we encourage every employee and contractor to exercise Stop Work Authority if a co-worker, the public or the local environment is at risk. Our safety training, operating standards and monitoring processes meet or exceed all state and federal regulations. In 2022, we were named a semi-finalist in the National Safety Council's Green Cross for Safety Excellence Award. AGA also recognized Southern Company Gas with its Industry Leader Accident Prevention Award for the fourth straight year.

[Safety Fact Sheet](#)



Natural Gas Safety

At Southern Company Gas, our number one value is ensuring the safety of our employees and our communities. Our Safety and Compliance and Technical Services departments deploy two overarching management systems that govern our safety processes, the Safety and Health Management System, which integrates occupational safety and health objectives into our organizational structure, and the Pipeline Safety Management System, a comprehensive system to increase pipeline safety performance and operational excellence.



Cautionary Note Regarding Forward-Looking Statements

Certain information contained in this communication is forward-looking information based on current expectations and plans that involve risks and uncertainties. Forward-looking information includes, among other things, capital investment plans and expected emissions reductions. Southern Company Gas cautions that there are certain factors that can cause actual results to differ materially from the forward-looking information that has been provided. The reader is cautioned not to put undue reliance on this forward-looking information, which is not a guarantee of future performance and is subject to a number of uncertainties and other factors, many of which are outside the control of Southern Company Gas; accordingly, there can be no assurance that such suggested results will be realized. The following factors, in addition to those discussed in Southern Company Gas' Annual Report on Form 10-K for the year ended December 31, 2023 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, including tax, environmental and other laws and regulations to which Southern Company Gas and its subsidiaries are subject, as well as changes in application of existing laws and regulations; variations in demand for natural gas; available sources and costs of natural gas and other fuels and commodities; the ability to complete necessary or desirable pipeline expansion or infrastructure projects, limits on pipeline capacity, public and policymaker support for such projects, and operational interruptions to natural gas distribution and transmission activities; 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; state and federal rate regulations and the impact of pending and future rate cases and negotiations; the ability to successfully operate natural gas distribution and storage facilities and the successful performance of necessary corporate functions; the inherent risks involved in transportation and storage of natural gas, including accidents, explosions, fires, mechanical problems, discharges or releases of toxic or hazardous substances or gases and other environmental risks; global and U.S. economic conditions, including impacts from geopolitical conflicts, recession, inflation, tariffs, interest rate fluctuations and financial market conditions, and the results of financing efforts; and catastrophic events such as fires, earthquakes, explosions, floods, tornadoes, hurricanes and other storms, droughts, pandemic health events, political unrest, wars or other similar occurrences. Southern Company Gas expressly disclaims any obligation to update any forward-looking information.

Footnotes

¹ In this fact sheet, the terms "we", "us" and "our" all refer to Southern Company Gas. Southern Company Gas is a holding company that conducts its business through its subsidiaries. Accordingly, unless the context otherwise requires, references in the document to Southern Company Gas' operations refer to those conducted through its subsidiaries.