

Environmental, Social & Governance (ESG) Award

This award recognizes companies who are leading the charge to accelerate ESG and deliver quantifiable results.

Entry Requirements
<ul style="list-style-type: none"> Criteria outlined must help to better determine the future financial performance of the company.

Submissions Overview

Environmental, Social & Governance Award Submissions – 10 Nominees		
Company Name	Program Name	ID Number
Dominion Energy	Dominion Storage Field Emission Reduction Program	ESG-1
Spire	Sustainability Report FY2021	ESG-2
Atmos Energy	Best Practices to Reduce Venting	ESG-3
Boardwalk Pipelines	Emissions Reduction Challenge	ESG-4
Picarro, Inc.	Total Network Emissions Quantification and Reporting	ESG-5
Atmos Energy	Improving Fleet Efficiency	ESG-6
Atmos Energy	Kentucky’s Fish Habitat	ESG-7
City of Charlottesville, VA-Public Utilities	Charlottesville Gas Environmental Stewardship Strategy	ESG-8
Southern Company Gas	Virginia Natural Gas Sustainable Gas Filing	ESG-9
Southern Star Central Gas Pipeline	Hydrogen Breakthrough	ESG-10

Nomination ESG-1	
SGA Member Company Name	Dominion Energy
Program Name	<i>Dominion Storage Field Emission Reduction Program</i>
Program Description	<p>In 2022, the Dominion Energy Ohio (DEO) Storage group began piloting ZEVAC equipment during operational work and construction activities for methane savings. After proof of use within the Storage field, wellhead work was reviewed for use of ZEVAC equipment. This was the first well work project to use ZEVAC.</p> <p>Scope of Work: Set two retrievable bridge plugs to isolate the storage formation. Change out well head valves. Remove plugs and return well to service. Mainline pressure is approximately 147 psi and the shut-in well pressure is approximately 940 psi. Use ZEVAC equipment to depressurize the wellbore after plug set and to repressurize the wellbore to retrieve the bottom plug.</p>
Results of/Response to the Program	<p>/29/2022 Day 1: Depressurizing the wellbore for plug set</p> <ul style="list-style-type: none"> • Start pressure: 938 psi • Set first retrievable plug at 2230 ft • Equalize with 3300E: 147 psi (ZEVAC start pressure) • ZEVAC End pressure: 4 psi • Set second retrievable plug at 1010 ft <p>Estimated Gas Emissions Savings: 18 MCF</p> <p>8/30/2022 Day 2: Master Gate Replacement and repressurizing the wellbore to retrieve plugs</p> <ul style="list-style-type: none"> • Start pressure: 0 psi • DEO crew replaced well head valves and equipment • Retrieve top plug • Equalize with 3300E: 140 psi • Pressure up: 910 psi <p>o Repressurizing the well with ZEVAC took about 1 hr and 40 mins.</p> <ul style="list-style-type: none"> • Retrieve bottom plug • Return well to service <p>Estimated Gas Emissions Savings: 350 MCF</p> <p>The ZEVAC unit’s main purpose in the operation was to equalize pressure across the bottom plug to retrieve it rather than using traditional methods like adding fluid into the wellbore or utilizing nitrogen. Pressure equalization around the bottom plug must be obtained before safely retrieving it. Both traditional methods would require flowing back the well after the job to remove the fluid and/or purge the nitrogen, to prevent damage to the reservoir. In addition to gas emissions savings, utilizing ZEVAC</p>

	<p>for this operation also reduced DEO labor/time and contractor labor/time.</p> <p>Comparison of Traditional Methods</p> <ul style="list-style-type: none"> • Option 1: Equalizing the plug with hydrostatic pressure (water) <ul style="list-style-type: none"> o Well Service Vendor: Set up flowback iron and contractor to flowback well. Estimated Additional Costs: \$4,000 o Estimated Gas Emissions: 350 MCF • Option 2: Equalizing the plug with nitrogen <ul style="list-style-type: none"> o Nitrogen Vendor: Mobilize nitrogen truck to location. Estimated Additional Costs: \$6,000 o Well Service Vendor: Set up flowback iron and contractor to purge well of nitrogen. Estimated Additional Costs: \$4,000 o Estimated Gas Emissions: 50 MCF
<p>Contribution to “Connecting People, Ideas & Information”</p>	<p>Chelsea Munroe with DEO (Dominion East Ohio) led the effort from a technical and project management function. Chelsea's push to use DEO's existing cross compression equipment across different business units led to significant emissions reductions. Chelsea and her team received internal DEO recognition for being a finalist for the Chairman's Innovation Award.</p>
<p>SGA Membership Category</p>	<p>Distribution</p>

<p style="text-align: center;">Nomination ESG-2</p>	
<p>SGA Member Company Name</p>	<p>Spire</p>
<p>Program Name</p>	<p><i>Sustainability Report FY2021</i></p>
<p>Program Description</p>	<p>At Spire, we’re deeply rooted in our mission to answer every challenge, advance every community where we live and work, and enrich every life through the strength of our energy. And for the employees of Spire, and the communities and people we serve, that means living into accountability and always striving to do more – and sharing progress toward our goals.</p> <p>On June 22, 2023, Spire published its 2021 Sustainability Report. The report provides an overview of activities and accomplishments achieved during the fiscal year 2021 – initiatives and work that move the company toward becoming carbon neutral by midcentury, while show continued progress</p>

	<p>across four key priorities: the environment, safety, people and governance.</p> <p>The 2021 report was reimagined to feature a new format reflective of Spire’s role in helping to establish and uphold a sustainable energy future for the customers and communities. The 2021 report expands upon Spire’s three previous Corporate Social Responsibility (CSR) reports, highlighting Spire’s continued environmental, social and governance (ESG) efforts.</p> <p>In addition, the expanded report features more robust reporting, including, for the first time, disclosures aligned with ONE Future, the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-Related Financial Disclosures (TCFD). With the FY21 report, Spire achieved 98% compliance with the Global Reporting Index (GRI).</p> <p>National recognition For four consecutive years, Spire has earned national recognition as one of America’s Most Responsible Companies, with Newsweek citing strong performance in three areas – environment, social and corporate governance.</p>
<p>Results of/Response to the Program</p>	<p>Overarching results of our sustainability efforts: With the FY21 report, Spire has achieved 98% compliance with the Global Reporting Index (GRI).</p> <p>Highlights of the report and our work include:</p> <p>ENVIRONMENT In support of Spire's commitment to become a carbon neutral company by midcentury, Spire achieved a reduction in methane emissions from its core gas utility distribution system by a cumulative 46% since 2005 and is on target to reduce these emissions by 59% by 2025 and 73% by 2035.</p> <p>In FY21, Spire established a dedicated team to lead environmental commitment efforts and made significant progress in measuring baseline statistics, creating a baseline for Scope 1 (greenhouse gas emissions released directly from owned or controlled assets) and Scope 2 (indirect emissions from purchased electricity and steam) GHG emissions.</p> <p>In addition, Spire:</p> <ul style="list-style-type: none"> • Supported environmental efforts in their communities through financial contributions and employee volunteerism • Increased active participation with ONE Future Coalition by submitting its first reporting data, which demonstrates how the

	<p>company is working to reduce methane emissions across the natural gas value chain</p> <ul style="list-style-type: none"> • Became a founding member of Energy Capital Ventures' new fund focused on natural gas innovation and research in clean energy solutions <p>SAFETY Safety is a core value at Spire, with the safety and security of employees one of the company's greatest responsibilities. In FY21, Spire:</p> <ul style="list-style-type: none"> • Deployed new technology to promote safe driving of company vehicles • Promoted programs and initiatives to encourage employees to proactively identify and correct potential hazards in the workplace before they present risk • Continued to implement coronavirus safety protocols to keep employees and customers safe <p>PEOPLE With 3,700 employees dedicating their time, talent and passion to serving customers every day, Spire strives to foster a safe and inclusive culture where everyone feels they belong. Building, engaging and developing a diverse workforce is a critical piece of Spire's future success.</p> <p>And as champions of people, Spire connects with customers to discover new and emerging challenges they face and develop strategies to enhance customer benefits and services in the future.</p> <p>In addition, Spire continued to advance the communities they serve through targeted investments in charitable organizations and economic development initiatives, as well as sponsorships and memberships in organizations that align with the company's values and business strategy.</p> <p>In FY21, Spire:</p> <ul style="list-style-type: none"> • Measured workforce demographics to establish a baseline and identify areas of focus and opportunity. This helped develop new and innovative ways of building diverse talent while creating opportunities for employees to grow and advance • Expanded partnerships with trade schools, universities, community and professional-based organizations to build a pipeline of diverse job candidates • For Spire Missouri customers, conducted a second series of Fresh Perspectives Listening Labs to listen, learn and gain a deeper understanding of customers' needs and perspectives • Continued customer outreach efforts to connect
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	<p>customers with needed support and resources, such as enhanced online tools and access to energy assistance</p> <ul style="list-style-type: none"> • Offered energy-efficiency programs, including weatherization, rebates and financing, to help customers save energy and money • Supported the communities they serve with more than \$6.5 million, a 22% increase over the FY20 spend. Spire also matched 368 employee gifts, totaling \$121,769 in donations to support organizations employees care about most. Since 2017, Spire has contributed nearly \$500,000 in matching gifts to nonprofits <p>GOVERNANCE</p> <p>Spire's focus on operating with integrity and environmental sustainability to create value for employees, customers, communities and shareholders continues to be key. In FY21, Spire:</p> <ul style="list-style-type: none"> • Formally assigned oversight of sustainability to specific committees of Spire's Board of Directors to monitor strategy and plans, and ensure that progress is made on ESG commitments • Maintained a well-qualified, independent Board of Directors that is 50% female • Regularly reviewed governance practices and continued to update policies in accordance with stakeholder expectations • Further developed their commitment to supplier diversity <p>For four consecutive years, Spire has earned national recognition as one of America's Most Responsible Companies, with Newsweek citing strong performance in three areas – environment, social and corporate governance.</p> <p>Digital metrics: Since its launch, Spire's 2021 Sustainability Report has garnered nearly 4,000 unique pageviews. Moreover, the digital report content has served as a gateway for site visitors to learn more about Spire, including information about doing business with Spire, Spire news, and Spire's environmental commitment and progress.</p>
<p>Contribution to "Connecting People, Ideas & Information"</p>	<p>At its very core, Spire's 2021 Sustainability Report is a vehicle for connecting people, ideas and information. More specifically, the report provides employees, customers, communities, shareholders and other stakeholders with progress on our company's progress on four key priorities - key priorities: the environment, safety, people and governance. The report shares progress reports and data, as well as stories that connect the work we are doing with positive impacts in the lives of our customers and the communities we serve.</p>

	"As the energy landscape shifts and evolves for a more sustainable future, we continue to stay focused on keeping our promise to champion people while caring for the planet we share," said Suzanne Sitherwood, Spire president and CEO. "I'm proud of how we met the challenges of FY21 with drive and grit, all while delivering the affordable, reliable and clean energy that our customers and communities depend on."
Supporting Documents	Click to view.
SGA Membership Category	Associate Member

Nomination ESG-3	
SGA Member Company Name	Atmos Energy
Program Name	<i>Best Practices to Reduce Venting</i>
Program Description	Atmos Energy is committed to reducing our carbon emissions from pipeline maintenance, including venting and flaring. In fiscal year 2021, we piloted and implemented technologies to capture and reinject natural gas when possible, including this pilot project that began in March 2021.
Results of/Response to the Program	In fiscal year 2021, we achieved a 98 percent carbon dioxide equivalent (CO ₂ e) emissions reduction through our piloted recompression technologies, such as ZEVAC, on transmission and distribution pipeline projects, combined with flaring of residual methane, and avoided the venting of ~34 MMcf of gas (equivalent to over 15,000 metric tons of CO ₂ e).
Contribution to “Connecting People, Ideas & Information”	<p>Engineer Ken Washington, who facilitated the project with Field Construction Coordinator Michael Scott, saw first-hand how the ZEVAC worked. Even though the pilot is a short-length piping project, Washington believes ZEVAC could be viable as a continued solution for reducing system emissions.</p> <p>“As Atmos Energy continues to grow and develop, we are always preparing for the future,” he said. “One avenue we are evaluating is reducing the amount of gas released into the atmosphere. The ZEVAC machine showed us that we can successfully relocate and abandon gas pipelines without venting, which is beneficial for the environment and for Atmos Energy. The ZEVAC machine could be very viable in reducing emissions on future pipe replacement projects.”</p>

Nomination ESG-3	
SGA Membership Category	Distribution

Nomination ESG-4	
SGA Member Company Name	Boardwalk Pipelines
Program Name	<i>Emissions Reduction Challenge</i>
Program Description	The emissions reduction challenge is an initiative designed to foster ideas, reduce emissions, and improve reliability across our system. It kicked off in October 2022 and runs through the end of 2023. This challenge is open to all area managers and their teams with the primary goal of reducing emissions, thinking outside of the box, and proactively making repairs. Ideas are shared between regions to encourage participation and ultimately a measurable reduction in our emissions. A dedicated mailbox was created to boost participation and to make it easy for operations to submit an entry. From there, we track the entries, emissions data, and cost to eventually determine a winning station.
Results of/Response to the Program	Since the challenge started, we have received over 50 entries varying from valve replacements to ideas for improved design. We confirm reductions by using a 3rd party surveyor, our own detection equipment and valve service providers. The idea is to involve everyone and promote ownership and value. We have seen the improvements, we hear the conversations and more importantly, we can measure the reduction. Some of the best results are increased accountability and responsibility. We are excited about the opportunity to improve our footprint, increase reliability and empower all of our employees to effect change.
Contribution to “Connecting People, Ideas & Information”	Connecting people, ideas and information is foundational to this program. We encourage knowledge sharing, regularly review submissions, and provide timely feedback to participants. Aside from reducing emissions, the sharing of ideas and knowledge transfer has been paramount.
SGA Membership Category	Associate Member

Nomination ESG-5	
SGA Member Company Name	Picarro, Inc.
Program Name	<i>Total Network Emissions Quantification and Reporting</i>
Program Description	<p>Picarro would like to nominate Dr. Sean MacMullin and François-Xavier Rongère for their R&D on analytical techniques to accurately quantify and reduce methane emissions. The work is detailed in “Measurement-based emissions assessment and reduction through accelerated detection and repair of large leaks in a gas distribution network” and published by Environmental Science & Technology.</p> <p>Their work includes the R&D of a robust statistical framework for emissions reporting (ER), reduction, and abatement. ER has been enhanced by a data-driven approach for top-down quantification of a gas distribution network (GDN) coupled by a fast and sensitive gas analyzer. This allows operators to gain system-wide emissions quantification by determining measurement-based emissions factors (EF) specific to their network using a Bayesian approach where direct measurements of leaks are interpreted within the context of an overall distribution of leak sizes within the GDN. Resulting in a measurement-based EF that is applied to each leak, represents site-level emissions, considers all sources of uncertainty, and is independent of the precision of the analyzer. This approach has been adopted by Italgas and is an industry-leading method for site-level emissions quantification.</p> <p>The article explores how significant emissions abatement (EA) is achievable when mobile survey (AMLD) is applied to a GDN at scale by accelerating identification and repair of the largest leaks. AMLD can measure the GDN rapidly while discriminating large leaks from small. The largest leaks can be found and repaired first; operators then reduce emissions without an increase in number of repairs. EA is realized by reducing the time large leaks stay open before they would be found through traditional leak survey, leading to 30% reduction in total emissions in the first 2 years. This approach has been adopted by PG&E, Italgas and is in the process of being implemented by multiple major utilities around the globe. It has been accepted as an emissions reduction practice in California by CARB and the CPUC.</p>
Results of/Response to the Program	Please review this detailed article also attached for your convenience.

	https://www.sciencedirect.com/science/article/pii/S2590162123000011
Contribution to “Connecting People, Ideas & Information”	This program provides the framework utilities require to meet their ESG goals. It puts them on the path to net zero.
Supporting Documents	Click to view.
SGA Membership Category	Associate Member

Nomination ESG-6	
SGA Member Company Name	Atmos Energy
Program Name	<i>Improving Fleet Efficiency</i>
Program Description	<p>Atmos Energy’s fleet of over 3,900 vehicles, ranging in size from SUV to heavy-duty truck, is a focus area of our comprehensive environmental and carbon reduction strategy. Specifically, we developed a roadmap to convert our fleet to more carbon-efficient vehicles as part of our normal replacement cycle and to use advanced technologies that will improve fleet efficiency. This strategy will lead to greater fleet diversification and efficiency and will reduce overall emissions.</p> <p>For operational sustainability, we maintain our fleet with resilience and flexibility in mind, and we rely upon proven technologies when pursuing more energy efficient fleet options. In 2022, Atmos Energy began equipping our fleet to incorporate more energy efficient technologies, such as compressed natural gas (CNG) vehicles and full hybrid electric vehicles (FHEV) in several applications for light and medium duty trucks and SUVs. These CNG and hybrid electric vehicles provide us the opportunity to utilize our own product which is less expensive and has fewer emissions than gasoline.</p> <p>Our CNG vendors will also supply our fueling stations with renewable natural gas (RNG) which is expected to reduce carbon emissions from our vehicles by about 95 percent as compared to gasoline. RNG is low-carbon biogas that comes from organic sources such as landfills, dairy farms, and other waste facilities. This biogas is cleaned and processed and then delivered to our system to fuel homes and businesses. And</p>

	someday soon it will fuel our fleet also.
Results of/Response to the Program	<p>To facilitate these efforts, we commissioned our first rapid-fill CNG refueling station in Texas in late 2022. In early 2023, we commissioned a second station and expect to build three more before the end of the calendar year, all in Texas. We anticipate expanding these operations in 2024 as a key part of our overall fleet emissions reduction strategy.</p> <p>Although our experience operating this many hybrid vehicles in our fleet is still very new, we have already seen a 7 percent improvement in our overall fleet MPG and are excited at the long-term impact these vehicles can have on our company’s emissions.</p> <p>Atmos Energy expects to have more than 200 FHEVs on the road by the end of 2023 in ½-ton trucks and SUVs. We will continue to incorporate hybrid technology in these vehicles, which make up about 50 percent of our fleet, wherever CNG refueling infrastructure does not exist and cannot be economically justified for our private installation.</p>
Contribution to “Connecting People, Ideas & Information”	Atmos Energy’s fleet vehicles are the symbol/icon of our company in the areas we serve. As more carbon-efficient vehicles are implemented in our communities, this program not only connects our employees and customers with our comprehensive environmental strategy, but also demonstrates our progress and continuing commitment to the environment.
Supporting Documents	Click to view.
SGA Membership Category	Distribution

Nomination ESG-7	
SGA Member Company Name	Atmos Energy
Program Name	<i>Kentucky’s Fish Habitat</i>
Program Description	Atmos Energy recognizes the value of protecting the natural environment, and we work to minimize our impact in the areas where we operate. Before beginning a project, we conduct a comprehensive environmental review to understand our potential impact on water resources, state- and federal-listed species,

	<p>habitat, and cultural resources. When a project is finished, we strive to leave the smallest possible footprint.</p> <p>Since 2015, employees in Kentucky have partnered with the Kentucky Department of Fish and Wildlife Resources to provide discarded piping for underwater fish “trees” in lakes and reservoirs throughout the state. These artificial fish habitats are structures that provide shelter and sustain freshwater fish, providing places where they can spawn, feed, hide, and grow to maturity.</p> <p>In constructing the fish habitats, a large-width pipe forms the “trunk,” which can be anywhere from 6 to 8 feet tall. To attach smaller “limbs” to the trunk, a hole saw is used to drill small openings up and down the trunk. Pegs made from small-diameter gas pipe hold the “limbs” in place. The 20-by-20-inch base is made from a wooden frame reinforced with rebar and filled with concrete. After the concrete sets, the base weighs approximately 120 pounds. Several trees are then placed on a trailer and hauled to a state-owned or state-managed lake, where they are loaded onto a work boat for deployment.</p>
<p>Results of/Response to the Program</p>	<p>In 2022, this project received a Conservation Certification from the Wildlife Habitat Council. Since program inception, the Kentucky Department of Fish and Wildlife Resources’ Fisheries Division has used more than 80,000 feet (15.15 miles) of scrap or expired Atmos Energy pipe that was destined for a landfill. The pipe has been used to construct more than 3,000 fish habitat structures in more than 20 lakes and reservoirs across Kentucky.</p>
<p>Contribution to “Connecting People, Ideas & Information”</p>	<p>Maps detailing the locations of these fish habitat structures can be found on the Kentucky Department of Fish & Wildlife’s Lakes with Fish Attractors webpage. Additionally, downloadable GPX files are available for anglers to add lake specific locations to their personal sonar units.</p>
<p>Supporting Documents</p>	<p>Click to view.</p>
<p>SGA Membership Category</p>	<p>Distribution</p>

<p>Nomination ESG-8</p>	
<p>SGA Member Company Name</p>	<p>City of Charlottesville, VA- Public Utilities</p>

<p>Program Name</p>	<p><i>Charlottesville Gas Environmental Stewardship Strategy</i></p>
<p>Program Description</p>	<p>The City of Charlottesville has adopted the goal of a 45% reduction in community-wide greenhouse gas emission by 2030, and a goal of carbon neutrality by 2050. Both reduction measures are based on the 2011 inventory year. Over the last several years, Charlottesville Gas has worked to align itself with the community’s greenhouse gas reduction goals by implementing a three-pronged strategy to reduce emissions, capture emissions, and offset emissions.</p> <p>The Charlottesville Gas Environmental Stewardship Strategy is comprised of (1) Carbon Emissions Reduction Initiatives that include updated infrastructure, an enhanced leak detection and repair program, third party excavation damage prevention and energy efficiency programs; (2) Carbon Capture Program with urban reforestation through the Arbor Day Energy-Saving Trees Program; (3) Carbon Offsets of 25% of our emissions. All these measures contribute to our on-going Decarbonization Study and its evaluation of all carbon reduction pathways and complement our recent Carbon Mitigation Survey that assessed natural gas and sustainability in the community. Please see the attached PDF document for a comprehensive review of the Charlottesville Gas Environmental Stewardship Strategy.</p>
<p>Results of/Response to the Program</p>	<p>1) CARBON EMISSIONS REDUCTION INITIATIVES</p> <ul style="list-style-type: none"> • Updated Infrastructure: Charlottesville Gas operates 337 miles of natural gas mains, 79% of which are made of high-density polyethylene (HDPE) pipe, or medium-density polyethylene (MDPE) pipe, with another 20% comprised of cathodically protected coated steel and a remaining 1% made of cast iron. Additionally, we operate 20,466 natural gas service lines, of which 99% are made of HDPE or MDPE, with the remaining 1% made of cathodically protected coated steel. In April 2023, Charlottesville Utilities was awarded a grant from PHMSA’s Natural Gas Distribution Infrastructure Safety and Modernization (NGDISM) grant program. The NGDISM funding will facilitate the expedited replacement our system’s remaining legacy cast iron and first-generation plastic pipe, thereby completing Charlottesville Gas’ system-wide modernization of the gas infrastructure and helping to eliminate all components that have a higher probability of leaks and reducing methane emissions. Further details on our infrastructure can be found in the Updated Infrastructure section of the attached PDF document. • Enhanced Leak Detection and Repair Program:

	<p>Charlottesville Gas as invested over \$500,000 to provide every natural gas field crew, gas service technician, leak survey technician, and first responder with Health Consultants Detecto-Pak Infrared (DP-IR) leak detectors. The Health Consultants DP-IR is an extremely sensitive piece of equipment capable of detecting leaks as small as 1 part per million, and because it is only capable of detecting methane, it eliminates the possibility of false alarms. For mobile leak surveying, leak survey technicians utilize a truck mounted Health Consultants Optical Methane Detector. In addition to advanced leak detection, Charlottesville Gas conducts leak survey inspections more frequently than required by federal standards. Charlottesville Gas takes voluntary and involuntary releases of natural gas into the atmosphere very seriously and have put enhanced policies and procedures in place to mitigate the release of methane emissions, leading to significant reductions in leaks per mile that are well below the national average. More details on our leak detection and repair can be found in the Enhanced Leak Detection and Repair Program section of the attached PDF document.</p> <ul style="list-style-type: none"> • 3rd Party Excavation Damage Prevention: Our award-winning Gas Safety Awareness Plan has been recognized by both state and national level organizations. It complies with, and exceeds, federally mandated regulations that follow the guidance of the American Petroleum Institute (API) Recommended Practice (RP) 1162. Charlottesville Gas performs outreach and training with professional excavators, including visits to new construction sites and excavation safety training with the State Corporation Commission. Our efforts also include a strong presence on various media platforms, consistent participation in community events, outreach at local schools and camps, promotion of national safety campaigns, target mailings to professional excavators and plumbers, and enhanced training with emergency officials. Since the “Dig with Care” program was launched, we have experienced a 44% reduction in gas line damage caused by third party excavators (from 2.83/1000 Miss Utility tickets in 2013 to 1.59/1000 Miss Utility tickets in 2022). Further details on third party excavation damage prevention can be found in the 3rd Party Excavation Damage Prevention section of the attached PDF document. • Energy Efficiency Programs: In recent years, Charlottesville Gas has invested in, and expanded, its energy efficiency programs. Currently, rebates for a programmable thermostat, a tankless water heater, and attic insulation are available, as well as free home weatherization to income-qualified households. Since its launch, 136 has customers have benefited from our free home weatherization program, resulting in an average reduction of 20% in gas
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	<p>consumption during the winter months for those households. And, using 2011 as a base year, we have witnessed a 17% reduction in natural gas usage per all residential customers. This significant reduction in consumption per customer is directly correlated to the increase in energy efficiency of natural gas appliances as well as the ongoing energy conservation programs offered by Charlottesville Gas. More details on our energy efficiency initiatives can be found in the Energy Efficiency Programs section of the attached PDF document.</p> <p>2) CARBON CAPTURE PROGRAM</p> <ul style="list-style-type: none"> • Urban Reforestation – Arbor Day Energy-Saving Trees: Charlottesville’s tree canopy continues to shrink at an accelerated rate, losing 990 acres within the last two decades. To help address this issue, Charlottesville Utilities has partnered with the Arbor Day Foundation and their Energy-Saving Trees Program. This program provides free trees to homeowners and guides the strategic planting of the trees, to provide maximum benefits for individual households and the broader community. When planted properly, a single tree that grows over time can reduce a home’s natural gas consumption, increase the community’s capacity for carbon sequestration, and improve air quality. In March 2022 we launched the Energy-Saving Trees Program and gave away 250 trees to Charlottesville Utilities customers. The successful planting of these trees will help to increase Charlottesville’s tree canopy and provide the community with 823,418 lbs. of carbon sequestration over 20 years. In March 2023, we offered this program again, giving away 200 trees to the community, and providing an additional 502,062 lbs. of carbon sequestration over 20 years. More details on urban reforestation and carbon capture can be found in the Carbon Capture Program section of the attached PDF document. <p>3) CARBON OFFSETS</p> <ul style="list-style-type: none"> • BP Carbon Offset Program: Using data from our annual Customer Satisfaction Survey, Charlottesville Gas found substantial support (91% of respondents) to implement a carbon offset program. In July of 2021, we voluntarily implemented a carbon offset program managed by British Petroleum (BP). With experience in carbon markets since 2001, BP’s carbon offset program invests in projects that provide emissions reductions that are real, additional, verifiable, and permanent. Our initial investment in carbon offsets will compensate for 25% of greenhouse gas emissions produced by natural gas in Charlottesville. More information on carbon offsets can be found in the Carbon Offset Program section of the attached PDF document.
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<p>Contribution to “Connecting People, Ideas & Information”</p>	<p>Charlottesville Gas understands that connecting with the community is essential to the success of the Charlottesville Gas Environmental Stewardship Strategy, and every element of our program includes community outreach. Our initiatives are consistently promoted at high attendance community events, with commercials on local networks channels and subscription based streaming providers, on the radio and in newspapers, via social media and our electronic newsletter, with targeted and broad mailings, and with data driven community surveys. More details on our comprehensive community outreach actions can be found throughout the attached PDF document.</p> <p>Currently, to help us achieve Community Climate Goals, Charlottesville Gas has solicited the expertise of the consulting firm Black & Veatch to conduct a Decarbonization Study. The Study will help us responsibly and accurately determine how Charlottesville Gas can be part of the solution in achieving and aligning itself with the community’s greenhouse gas reduction goals and will evaluate several pathways and their impact on emissions, reliability of service, and cost to customers. And in late 2022, Charlottesville Gas sponsored a community-wide Gas Mitigation Survey to assess the public perceptions of natural gas in relation to sustainability, with the focus on the awareness and effectiveness of carbon mitigation, gas efficiency programs, and related issues. This survey has helped to provide a foundation for the Decarbonization Study to build on. More information on our Decarbonization Study and Carbon Mitigation Survey can be found in the Carbon Neutral by 2050 section of the attached PDF document.</p>
<p>Supporting Documents</p>	<p>Click to view.</p>
<p>SGA Membership Category</p>	<p>Municipal</p>

Nomination ESG-9	
SGA Member Company Name	Southern Company Gas
Program Name	<i>Virginia Natural Gas Sustainable Gas Filing</i>
Program Description	Provides regulatory approval for Virginia Natural Gas, a subsidiary of Southern Company Gas, to make sustainable gas (certified lower methane natural gas (Next Generation Natural Gas) and renewable natural gas (RNG)) purchases as well as infrastructure (RNG interconnection) investment. This effort is another milestone in our years of building value chain efforts in support of Next Generation Natural Gas and our system-wide efforts to support RNG solutions.
Results of/Response to the Program	Virginia Natural Gas is the first local distribution company in the state to establish a Commission-approved tariff that allows an interconnection between an RNG production facility and a natural gas utility's distribution system. "At Virginia Natural Gas, we are committed to supporting the development of renewable energy sources as we pursue our climate and environmental goals," said Robert Duvall, president of Virginia Natural Gas. "The approval of this pilot program is a significant step as we move forward to develop sustainable, environmentally responsible solutions while helping our state lead in the progress toward a clean energy future." With the approval of this program, VNG has been able to leverage the program to procure additional amounts of Next Generation Natural Gas, and as of March 2023, VNG had secured up to 50% of its customers' current natural gas needs with Next Generation Natural Gas (NextGen Gas) that is certified to be produced with lower greenhouse gas emissions.
Contribution to "Connecting People, Ideas & Information"	The program supports economy-wide decarbonization efforts across the natural gas supply chain and is complementary to the company's path to achieve net zero greenhouse emissions from its operations by 2050. Southern Company Gas is committed to reducing greenhouse gas emissions across our value chain, both upstream through the gas production and transmission systems that supply our gas and downstream to our customers. Our Next Generation Natural Gas supply is certified to be produced with lower GHG emissions than traditional natural gas supply. Our customers can feel good knowing that we have strong relationships with environmentally conscious producers focused on reducing methane emissions efficiently and effectively during the production cycle. The program also supports the deployment of Renewable Natural Gas, an alternative fuel from traditional natural gas produced from methane that is captured from landfills, agricultural, wastewater, food waste sites, and other

	methane sources. RNG has many environmental benefits, by beneficially using what would otherwise be wasted energy, reducing or offsetting GHG emissions associated with natural gas, and improving local air quality, and also offers local economic development opportunities for the state. This program also ties in with industry-wide collaborative efforts on sustainable gas opportunities, and provides a model for natural gas utility decarbonization efforts and policy in partnership with state regulators and other stakeholders.
Supporting Documents	Click to view.
SGA Membership Category	Distribution

Nomination ESG-10	
SGA Member Company Name	Southern Star Central Gas Pipeline
Program Name	<i>Hydrogen Breakthrough: Southern Star Central Gas Pipeline, First United States Interstate Natural Gas Company To Successfully Test Blending A Natural Gas Hydrogen Fuel Blend (Up To 30%) In An Online Reciprocating Compressor Engine</i>
Program Description	<p>As part of Southern Star Central Gas Pipeline’s decarbonization program, we partnered with original equipment manufacturer (OEM) Cooper Machinery Services (Cooper) to complete a first-of-its-kind project, co-firing a hydrogen and natural gas fuel blend in a legacy reciprocating compressor engine (2,400 horsepower). Southern Star was the first United States midstream natural gas transmission company to power an online, large-bore, slow-speed, integral engine running on a 30% hydrogen fuel blend. The purpose of the project, which was completed in August 2022, was to study the effects of the fuel blend on a reciprocating compressor engine’s performance and emissions reduction.</p> <p>Performance metrics monitored included: peak firing pressure (PFP), engine speed (RPM), engine torque, turbocharger performance, and coefficient of variance (COV). Emissions metrics included: unburned hydrocarbons (UHC), methane slip (CH4), carbon dioxide (CO2), and volatile organic compounds (VOCs).</p>

<p>Results of/Response to the Program</p>	<p>Hydrogen holds great promise in reducing, and potentially eliminating, unburned hydrocarbons in the exhaust of the lean-burn pipeline fleet. By conducting this study, Southern Star demonstrated that hydrogen has a significant influence on reducing unburned hydrocarbons, methane slip, carbon dioxide, and volatile organic compounds at different engine sweeps. Specifically, hydrogen was found to favorably improve combustion performance due to its high flame speed, small quenching distance and wide flammability limits. It has a favorable effect on reducing peak firing pressure variabilities as represented by an observed reduction in standard deviation and covariance resulting in improved combustion stability. It also has a significant influence at low torque/low speed on all emissions except Nitrogen Oxide (NOx). Running at a 30 percent hydrogen blend achieves the same combustion stability and unburned hydrocarbon emissions as full load operations at 100 percent natural gas. The end result of the program was an emissions reduction of up to 35 percent. The project’s results were presented at the GMRC Gas Machinery Conference on October 3, 2022, and the SGA Environmental Conference on February 9, 2023.</p>
<p>Contribution to “Connecting People, Ideas & Information”</p>	<p>Southern Star’s decarbonization program fosters synergies at different levels across our company and the industry. The GMRC Gas Machinery Conference was a great opportunity to stand alongside our partner, Cooper Machinery, and share our journey, lessons learned, and challenges to industry leaders. Within Southern Star, this is a collaborative project across the entire organization, including project delivery, engineering, field operations, reliability, business intelligence, and environmental teams. Our team of experts worked well together, showcasing the open communication and flexibility that are so crucial to this type of research project.</p> <p>“Southern Star is proud to be the first natural gas transmission company in the United States to achieve a 30% hydrogen blend in the recent testing of our reciprocating engine in Hugoton, Kansas. Our partnership with Cooper has been instrumental in the success this project,” said Shawn Patterson, Southern Star President & CEO. “This testing presents emission reduction opportunities on our road to being net zero by 2050.”</p>
<p>Supporting Documents</p>	<p>Click to view.</p>
<p>SGA Membership Category</p>	<p>Transmission</p>