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# FOUNDERS' MESSAGE TO OUR STAKEHOLDERS

Since we embarked on this incredible journey as shale gas pioneers in 2003, we have remained true to our values of creating a sustainable business model and a resilient company. Our company culture is based on core business principles of safety for our employees, contractors and the community, integrity, performance, stewardship of the land and environment, and relentless innovation. These values and principles are ingrained in our corporate DNA.

Our core sustainability programs strengthen our business and inspire confidence in our employees, investors, creditors, and contractors, as well as with regulatory agencies and within the communities in which we operate. We take a highly proactive approach to develop and implement work practices and technologies to deliver natural gas, natural gas liquids and oil in the most ethical, environmentally and socially responsible way possible.

Natural gas is a key component in the energy transition and to our ability to address the risks associated with climate change. If produced and transported properly, natural gas development should be supported by the investment and regulatory communities. As the lightest and least greenhouse gas (GHG) intensive hydrocarbon, natural gas is expected to play a fundamental role as both the U.S. and global economies to transition to a lower carbon future. Natural gas is part of the solution and can be produced and transported with de minimis leakage and loss.





### **ENVIRONMENT**

We recognize the growing concern over climate change and are committed to proactively managing our business to reduce GHG emissions, including methane emissions and limit the environmental impact of our operations. We lead the industry with our low GHG intensity, which has remained relatively constant since 2016. Our methane leak loss rate, calculated per the ONE Future protocol, was at 0.017% in 2019, well below ONE Future industry and sector targets of 1.00% and 0.08%, respectively.

Water is a critical resource that is utilized in shale completion operations. Antero has the most extensive freshwater pipeline network in the industry, which is used to deliver water to well pads for completion operations. Each year our freshwater pipeline system eliminates the need for hundreds of thousands of water truckloads traversing local roads in and around the communities where we operate. Our freshwater pipeline system has a tremendous positive impact on emissions reduction and safety.

Further, Antero has utilized a rigorous leak detection and repair (LDAR) program on all of its facilities and pipelines for many years. These best practices have resulted in our industry-leading GHG intensity and leak loss rate numbers. Antero actively participates in a number of voluntary programs that focus on reducing emissions. In 2018, Antero became a member of ONE Future, an industry collective focused on voluntarily reducing methane emissions across the natural gas supply chain. Antero's GHG performance metrics demonstrate that natural gas can live up to its promise as a transition fuel and reduce GHG emissions by more than half, as compared to coal.





### SAFETY

Safety performance starts with culture, and we have built a strong safety culture and dedicated environmental stewardship that starts at the top of the organization. We are laser-focused on health, safety, security, and preservation of the environment (HSSE). Importantly, we empower everyone on the job site, employee or contractor, with Stop Work Authority. We believe that our HSSE success is partly due to continuous incident and risk evaluation and improvements to our safety leadership, management and systems. We have earned a reputation as an industry leading safe and environmentally responsible operator through continuous emphasis on our HSSE performance. This reputation also makes Antero an employer of choice in Appalachia.

In 2019, we continued to focus on the health and safety of our employees and the public, managing greenhouse gas emissions and recycling produced water from Antero Resources' operations to reduce freshwater use. We focused on enhancing our safety and environmental management systems and continued open, honest, and transparent dialogues with our shareholders, communities, industry peers, and regulators. Our plan for 2020 includes continued improvement of our management systems, developing of a disclosure strategy to align with both the Task Force for Climate-related Financial Disclosures (TCFD) guidelines and the Sustainability Accounting Standards Board (SASB).





Every day, the safety of our employees and contractors is our top priority. In 2019, Antero Midstream work locations experienced zero employee or contractor fatalities and an employee and contractor Lost Time Incident Rate (LTIR) of 0.055, a 51% reduction since 2016. Similarly, the Antero employee and contractor Total Recordable Rate (TRIR) of 0.547, represents a 56% improvement since 2016. In comparison, the 2019 ISNetworld onshore oil and gas benchmark averages for our industry are 0.32 LTIR and 0.95 TRIR. These results significantly outperformed the 2018 U.S. Bureau of Labor Statistics benchmark averages for our industry. Antero's highly successful HSSE team guides us toward our stipulated goal of "Zero Incidents, Zero Harm and Zero Compromise."

#### **GOVERNANCE**

We have worked aggressively to ensure appropriate alignment among all our constituents. As part of the 2019 combination of two of our publicly-traded midstream entities, Antero Midstream eliminated its Incentive Distribution Rights (IDRs), converted into a C-Corp and redesigned its board to include a majority of independent directors; together these actions represented the most comprehensive governance changes among such "Simplification" transactions. Subsequently, we have added a number of new directors to both the Antero Resources and the Antero Midstream boards. We are excited about the many years of industry technical and leadership experience which our directors bring to the board. We are also focused on gender diversity, as two of our nine directors at both companies are women. In addition, we are proud to note that the head of our operations, geology, accounting, legal and land administration





departments are all women. We also recently formed Environmental, Sustainability, and Social Governance (ESG) committees of the board for both Antero Resources and Antero Midstream which further reinforces our emphasis on the importance of accelerating the agenda on environmental sustainability, safety, and governance topics.

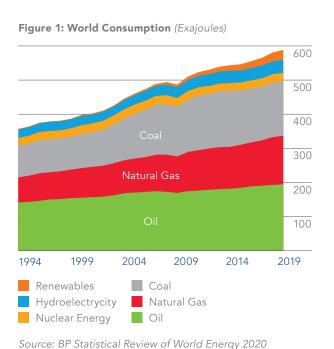
#### THE ENERGY TRANSITION

There is growing momentum to identify and implement solutions to reduce GHG emissions without sacrificing economic and humanitarian imperatives such as a rising standard of living for much of the underdeveloped world, in particular. Stable and affordable energy supplies will make it possible for more people to access healthcare, transportation and education that contribute to improved living standards and a higher quality of life. Embrace of the energy transition to a lower carbon environment is ubiquitous across government, industry, investors, creditors and the public sectors. We believe that it is critical for Antero to be a leader in the global energy transition and to be part of the solution.

For context, the world consumes almost 600 exajoules (EJ) of primary energy per year, the vast majority of which is derived from hydrocarbons (Figure 1 World Consumption). Natural gas consumption has been increasing for the last 25 years, while renewables began to increase at a rapid rate about 15 years ago (Figure 2 Shares of Global Primary Energy). Natural gas and renewables are slowly displacing oil and coal in the energy mix. Much of that displacement is a result of the electrification that has occurred over the past 20 years.







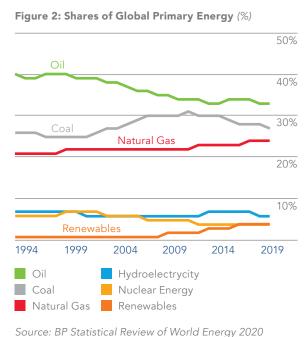


Figure 3, entitled World Energy Demand by Source, forecasts energy consumption through 2050, where hydrocarbons still comprise about 55% of energy demand. Figure 4, entitled World Final Energy Demand by Carrier, converts some of the global energy consumption to electricity. The reduction in scale and change in composition between Figure 3 and 4 reflects the impact of conversion losses and the fact that a significant amount of primary energy is used to generate electricity. The displacement trend is forecast to continue over the next 30 years as the consumption of oil and coal eventually





decline and global natural gas consumption grows slowly. Overall energy consumption is forecast to continue to grow due to an expanding global economy and population until efficiency gains slow growth around 2030.

Figure 3: World Energy Demand by Source (Ej/yr)

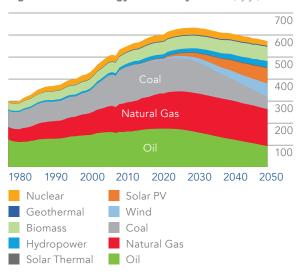
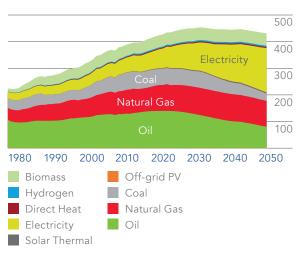


Figure 4: World Final Energy Demand by Carrier (Ei/yr)



Source: IEA Electricity Information 2019

Source: IEA Electricity Information 2019

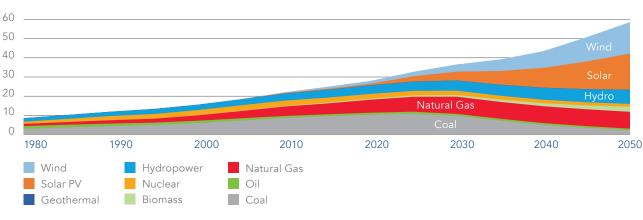
Within the final energy demand stack, electricity demand is expected to accelerate and more than double during the next 30 years as the manufacturing, commercial building, and transport sectors rely more heavily on electricity as opposed to direct fossil fuels as an energy source (Figure 5 World Electricity Generation Mix). Meeting this increased electricity demand with zero and lower carbon electricity generation





alternatives such as solar, wind, and natural gas, is the key to the success of the energy transition. In the International Energy Administration (IEA) forecast below, renewables are expected to grow from a single digit contribution to almost two-thirds of electricity supply by 2050, while natural gas consumption grows slightly and coal use for electricity generation declines to very low levels. Fulfillment of these objectives will require a mix of both lower carbon conventional supply and zero carbon new builds over the next few decades along with policy support from governments around the world, as well as a significant amount of capital.

Figure 5: World Electricity Generation by Power Station Type (PWh/yr)

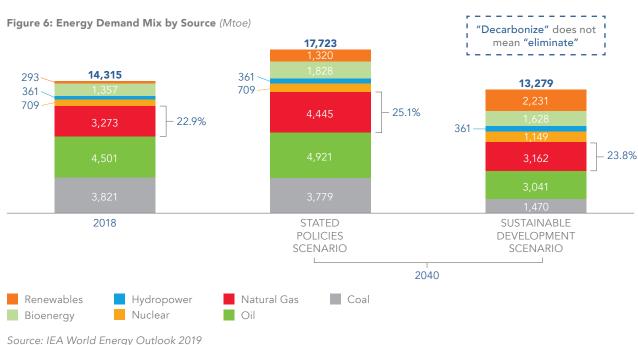


Source: IEA Electricity Information 2019

Mostly recently, the 2015 Paris Agreement aims to hold the increase in global average temperatures to well below 2 degrees Celsius above pre-industrial levels. The IEA, in turn, has developed two long term projections for energy supply and demand. The importance of these projections cannot be overstated as even under the IEA's



Sustainable Development Scenario which is "Paris Agreement-aligned", natural gas consumption is forecast to grow slightly between 2018 and 2040 as its share of the global energy demand mix increases from 22.9% to 23.8% (Figure 6 Energy Demand Mix by Source). Moreover, under the IEA's Stated Policy Scenerio, natural gas consumption is forecast to increase by 35.8% and contribute 25.1% of the global energy demand mix by 2040. Given the scale of global energy demand and the capital and incentives required to meaningfully shift the mix, decarbonize does not mean eliminate all hydrocarbons over the next 20 years.





### SUMMARY

In short, investors, creditors, the communities in which we operate, and employees can be stakeholders in a hydrocarbon business that is natural gas focused while at the same time meeting high environmental sustainability, safety, and governance standards. Antero meets or beats all of those standards. It is clear that the only way to reduce the carbon footprint while addressing the needs of a growing global economy and population is to transition to an energy supply stack with much less coal, eventually less oil and a growing baseload of natural gas and renewables, primarily delivered in the form of electricity.

Our outstanding ESG performance exemplifies our unwavering commitment to make every effort to do the right thing, take accountability for our actions and maintain our position as a world-class sustainable energy producer, partner, and employer of choice. We are dedicated to adapting, leading, and operating ethically and responsibly. This commitment is evident in our performance and culture as we proactively care for our employees, contractors, community, and the environment. In sum, we are intensely focused on and have unwavering confidence that the Antero companies are doing the right things, the right way, for the right reasons.

PAUL M. RADY

Chairman and CEO Co-Founder

Zero incidents
Zero harm
Zero compromise
Kerping you healthy, sale and environmentally
responsible, every day at world

GLEN C. WARREN, JR.

President, CFO and Director Co-Founder





### **OUR COMPANY**



430+ MILES OF LOW AND HIGH PRESSURE GATHERING PIPELINE



SUPPORTS 3RD LARGEST U.S. NATURAL GAS PRODUCER



50/50 JOINT VENTURE PARTNER IN LARGEST GAS PROCESSING COMPLEX IN NORTH AMERICA (1)



**PRODUCER** 



LARGEST FRESHWATER
PIPELINE DELIVERY NETWORK
IN APPALACHIA, ELIMINATED
590,000 WATER TRUCK TRIPS
IN 2019



Antero Midstream Corporation (NYSE: AM) owns, operates and develops midstream gathering, compression, processing and fractionation assets located in West Virginia and Ohio, as well as integrated water assets that primarily service Antero Resources Corporation's properties.



(1) 50/50 Joint Venture on plants 7 through 13, which accounts for 27% net of full Sherwood Processing Facility





# REPORT HIGHLIGHTS

### 2025 GOALS

#### CONTINUED ENVIRONMENTAL IMPROVEMENT



**100% Reduction** in pigging emissions by 2025



Align with TCFD and SASB Guidelines

#### STRONG GOVERNANCE



Independent Directors



Formed **ESG Committee** of Board to Guide and Govern ESG Initiatives



Proactive Engagement with Shareholders Regarding ESG Performance and Management Compensation

#### **GENDER DIVERSITY**

**22%** of Directors, SVPs, and VPs including Head of Operations, Head of Geology, Chief Accounting Officer, and General Counsel are **Female** 

### COMMUNITY ENGAGEMENT



Contributed **\$570,000** to Community and Civic Organizations in 2019



**3,200 Employee** Hours Volunteered in 2019





# REPORT HIGHLIGHTS



One of the Lowest GHG Emission Intensity Metrics

in the Industry in 2019



100% of Freshwater Supplied was
Transported by Pipeline



88% of Total Produced Water
Gathered was Reused



**7,556** Employee Safety **Training Hours** in 2019



0.017% in 2019
One of the Lowest Methane
Leak Loss Rates in the Industry



Water Pipeline Eliminated 590,000 Truck Trips in 2019



0.055 Lost Time Incident Rate

in 2019, one of the Lowest in the Industry



6 Straight Years Without an Employee Lost Time Incident





# SUSTAINABILITY LEADERSHIP, STRATEGY, & GOVERNANCE

Our forward-looking, beyond-compliance, and proactive approach allows us to assess and manage risks and opportunities effectively. Management employs prospective strategies to mitigate risks and reduce the impact on people, the environment, and the community. The company relies upon technical expertise and an experienced employee base to drive solutions and innovation related to risks and opportunities.

In 2019, we continued to focus on managing greenhouse gas emissions and recycling produced water from Antero Resources' operations to reduce freshwater use, as well as the health and safety of our employees and the public. We focused on enhancing our safety and environmental management systems and continued open, honest, and transparent dialogues with our shareholders, communities, industry peers, and regulators. Our plan for 2020 includes continued improvement of our management systems, developing a disclosure strategy to align with both the Task Force for Climate-related Financial Disclosures (TCFD) guidelines and the Sustainability Accounting Standards Board (SASB). Governance of ESG issues, including climate-related risks and opportunities, are delegated to the newly formed ESG Board Committee.



### SUSTAINABILITY LEADERSHIP, STRATEGY, & GOVERNANCE



### **OUR LEADERSHIP**

HSSE leadership at Antero starts at the very top of the organization, with executives and senior management driving the HSSE culture of the company. A focus on health, safety, security, and preservation of the environment (HSSE) puts people and the community first. It is the right thing to do and also makes good business sense. Dedicated environmental stewardship and a strong safety culture reduces risk and enhances productivity. We have earned a reputation as a safe and environmentally responsible operator through continuous emphasis on our HSSE performance. This reputation also makes Antero an employer of choice in Appalachia.



THE CORPORATE SUSTAINABILITY COMMITTEE (CSC)
REVIEWS AND PROVIDES FEEDBACK ON HSSE INITIATIVES
TO DRIVE IMPROVEMENT IN OUR EVOLVING SAFETY AND
ENVIRONMENTAL WORK PRACTICES FOR EMPLOYEES
AND CONTRACTORS.





Corporate and field senior staff members, including the Chairman/CEO and President/Director for Antero Midstream, congregate weekly in an Antero operations meeting which begins with reviews of Antero HSSE incidents, incident rates, and initiatives. The tone for our safety culture and environmental sensitivity is set at the top of the organization.

Antero's senior management is active in several committees, such as the Corporate Sustainability Committee (CSC) and the Field HSSE Committee (FHSSEC). The CSC consists of the Chief Administrative Officer/SVP of Appalachian Region, SVP of Production, VP of Operations, VP of HSSE, along with other key senior staff. The CSC committee reviews and provides feedback on our HSSE initiatives to drive improvement in our evolving safety and environmental work practices for employees and contractors. The CSC meetings are well attended and occur quarterly.

The Field HSSE Committee consists of thirty key senior field staff who are responsible for reviewing and updating new programs and technology in support of Antero's commitment to achieving the best safety and environmental practices in the industry. This Antero committee meets once a quarter to review relevant items from Antero's safe and environmental work practices, management of change, safety and environmental data systems, and key leading and lagging performance indicators. The Field Committee and VP of HSSE presents new initiatives to the CSC for approval.



### SUSTAINABILITY LEADERSHIP, STRATEGY, & GOVERNANCE



### **OUR STRATEGY**

Commitment to the health and safety of our employees, security of our assets, and preservation of the environment are all core values of our organization and essential to our ability to add sustainable value as a business. We focus on maximizing shareholder value while maintaining a heavy commitment to health, safety, security, and the environment.

Antero Midstream is committed to the following:

- Conducting our business in compliance with applicable health, safety, and environmental (HSE) laws, rules and regulations
- $\square$  Using natural resources and energy efficiently
- Expecting every employee and contractor working for, and on Antero Midstream's behalf, to share our values and commitment to Zero Incidents, Zero Harm, Zero Compromise
- Proactively working and operating to protect our people, the community, the environment, and our assets
- Empowering employees through our HSSE Leadership model which encourages people to speak up about safety, security, and environmental concerns and take responsibility for their actions through our Stop Work Authority program
- Implementing and monitoring continual improvement workflows necessary to create quantifiable, resilient HSSE programs (the "HSSE Management Systems")
- Investing in HSSE training and coaching, promoting risk assessments, and encouraging visible HSSE leadership





- Reducing emissions, releases, and increasing efficiency by evaluating and implementing new technologies while continually improving our designs and workflows
- Maintaining emergency preparedness systems and Crisis and Field Incident Management Teams (IMT)
- Monitoring and reporting sustainability performance regularly
- Conducting routine assessments and inspections to assess and improve our performance
- Minimizing waste at the source and, when generated, to handle such waste in an environmentally safe and compliant manner
- Engaging with investors, customers, employees, contractors, local communities, regulatory agencies, surface and mineral owners, and peers to provide an opportunity for transparent dialogue, information sharing, and problem solving

Our risk management process involves a review of short and long-term risks. Quarterly, the risk lead for each department identifies new risks and previously identified risks and proposed mitigation actions, and presents them for approval by the department vice president or senior vice president. Upon approval, the Internal Audit, Compliance, and Risk Department compiles all risks for tracking purposes. Annually, we discuss long-term risks with the executive team and incorporate them into the company risk register. We present a full update of short and long-term risks to the Board of Directors regularly and have more substantive conversations with the Board on a specific risk area at least three times in a year.



### SUSTAINABILITY LEADERSHIP, STRATEGY, & GOVERNANCE



### CORPORATE GOVERNANCE

Antero's corporate governance foundation is laid in its Certificate of Incorporation; By-Laws; Audit, Compensation, Nominating and Governance and ESG Board Committee Charters; and in its Corporate Code of Business Conduct, its Financial Code of Ethics and its Corporate Governance Guidelines, each of which are publicly available on our website.

The Board of Directors of Antero Midstream has delegated advisory authority to the Environment, Sustainability, and Social Governance (ESG) Committee, a committee of independent directors appointed by the Board on matters relating to ESG, including climate-related risks. The purpose of the ESG Committee is to:

- Provide guidance to the Company and its Board on matters relating to the identification, evaluation and monitoring of environmental sustainability, corporate citizenship and social and political trends, issues, and concerns
- Oversee and provide advice on improvements to corporate sustainability or other public policy initiatives, policies, and practices to enhance its alignment with, and promote the achievement of, the Company's strategy in a manner consistent with its values
- Advise the Board and management on significant public policy issues that are pertinent to the Company and its stakeholders

The ESG Committee meets regularly throughout the year.

Members:

Brooks Klimley - Chair | Janine McArdle | John Mollenkopf





### COMMUNITY & STAKEHOLDER ENGAGEMENT

Antero's economic impact in North Central West Virginia and Southeast Ohio is significant. With 276 direct employees and more than three-thousand contract personnel, the company is a meaningful contribution to regional employment. Further, Antero paid \$680 million in royalties and lease bonuses, and \$121 million in severance, ad valorem and sales tax in 2019 – enabling state and municipal governments to provide needed services to West Virginians and Ohioans.

Antero is committed to generating solutions to community issues, promoting economic opportunities, and building relationships with people in the communities where we operate to help those communities develop and thrive. Antero's senior management team proactively responds to concerns logged in a dedicated system for monitoring social issues. We expect our employees to be kind, courteous, and good neighbors to those in the community.

A high level of engagement with our customers, employees, contractors, local communities, regulatory agencies, surface and mineral owners, shareholders and bondholders, and peers is critical to our success. Open dialogue with our stakeholders about important issues creates opportunities for information sharing and problem solving. The following are ways we maintain and build stakeholder engagement:

Antero provides investors, via our website, with financial presentations, SEC filings, and press releases. Antero senior management attends equity and bond conferences, meets with institutional investors, and communicates to investors interested in sustainability issues. Antero's Investor Relations team maintains contact with investors on an ongoing basis and responds to customer requests for sustainability information.





- Antero engages contractors through daily tailgate meetings, site orientations, recognition programs, training, and performance management through a vendor management service. Antero holds an annual Contractor HSSE conference in West Virginia to provide relevant training, new HSSE initiatives, and recognition for performance to our contractors and vendors. Antero held a hands-on Environmental workshop for its contractors in 2019 to focus on sustainability and regulatory compliance issues.
- Our communities include emergency management agencies (EMAs), residents, and elected officials. We promote transparency by providing tours of our facilities to local and state officials, including active drilling and completion operations. We meet regularly with EMAs to discuss emergency preparedness plans and conduct drills. Antero has donated emergency response equipment to EMAs. For the past several years, we sponsored the Emergency Management Association of Ohio spring conference.
- Antero meets with local, state, and federal regulatory agencies regularly. Our engagement includes discussing regulatory issues and sharing lessons learned and current industry perspectives.
- We work with state and local elected officials to serve their constituents through job creation, environmental stewardship, and community development. We provide technical marketing expertise to state development offices eager to capture the downstream economic growth that comes from natural gas liquids. We sit on boards, panels, and sponsor conferences, all working toward stimulating the Appalachian economy.





- Antero employees serve on local county oil and gas task forces. Some examples of local task force initiatives include operational traffic curfews to avoid interacting with school bus traffic on local roads, traffic planning programs, provision of pilot vehicles to guide traffic on rural roads, and road repairs.
- Peedback received from our 24/7 hotline goes to our Community Relations team for review and resolution. Antero implements operational best practices in response to community feedback. Examples include the restricted use of Jake brakes by commercial vehicles, the placement of flaggers and escort vehicles in high volume traffic areas, and the use of dust suppressant to mitigate dust on roads with heavy traffic. Since 2013, Antero has spent over \$200 million on local road maintenance and upgrades.
- Before building any site, Antero's land agents meet with surface owners to negotiate their land use. Once agreements are in place, Antero conducts impact studies to mitigate concerns such as light, noise, dust, vibrations, odor, and traffic in the design of the site. Measures to combat those concerns include the installation of sound walls and light shields, and the use of dust suppressant.
- Antero provides snow removal and ice control to many of the communities where we operate, relieving some financial impact on local WVDOH and county offices. Often, several pads are built off one access road, keeping drilling and completion equipment moves on lease roads, and off state and local routes. When feasible, we perform operations simultaneously to lessen the timeline for disruption in the community.





Antero's Community Relations hotline is a telephone and email system that collects reports of issues such as noise, dust, speeding, road maintenance, and property damage. Our hotline contact information is broadly distributed to surface owners, at community events, on social media, and provided to our vendors. We make every effort for a live representative to answer calls made to the hotline during regular business hours, or return calls within 24 hours. Complaints are assigned to the appropriate department for review and resolution. A site visit is often scheduled to investigate further. Our Community Relations staff has broad authority to address problems and dedicate resources. We consistently follow up with each caller to discuss our response and resolution before closure.

We proudly invest in our communities and charitable and civic groups. Antero Midstream donates to The Antero Foundation which has donated more than \$570,000 to local causes and organizations in 2019.





# ANTERO FOUNDATION

The Antero Foundation was established to cultivate Antero's rich history of charitable giving. It focuses on expanding community involvement and cultivating new charitable partnerships, while ensuring future giving aligns with Antero's core values of protecting our people, communities, and the environment.

#### MISSION AND AREAS OF FOCUS

Mission: We strive to build thriving and healthy communities by supporting nonprofit organizations where Antero operates, and where our employees work and live.

Areas of Focus: Education, Community Development, Health and Human Services, Environmental Causes, Arts, and Culture.

Geographic Focus: We focus our giving on communities located in West Virginia and Ohio. Additional geographic areas may be added from time to time, should Antero's operational area diversify, and as determined by our Board of Directors.

#### HISTORICAL GIVING

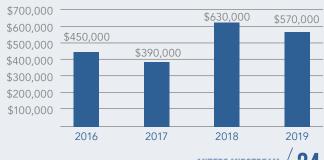
#### Antero Historical Giving:

\$2.0 million over previous four year period



### **FUTURE GIVING**

Approximately \$500,000 annually



ANTERO MIDSTREA





# **ENVIRONMENT**

Stewardship of the environment is a fundamental value in our overall business strategy. We strive to:

- Proactively manage environmental risks and hazards, and achieve or exceed regulatory compliance to protect and respect the communities and resources where we operate
- Minimize our impacts on the environment and natural resources
- Improve overall performance by utilizing a plan-do-check-act model, core to our environmental management system
- Actively work with the regulatory community, industry trade associations, and the localities where we operate, to achieve beneficial environmental outcomes



#### **ENVIRONMENT**



### **ENVIRONMENTAL MANAGEMENT SYSTEMS**

Antero has implemented an Environmental Management System (EMS), influenced by the ISO 14001:2015 standard, establishes requirements for managing environmental risks and compliance requirements. Antero's management fully supports the EMS, which applies to all employees and contractors working for, or on behalf of, Antero. The EMS is a constantly evolving tool for Antero.

As part of the plan-do-check-act process, we focused our improvements to the EMS on measuring overall environmental performance and providing weekly updates to management on environmental and regulatory targets, established by Antero's senior management. Environmental and regulatory metrics and targets including greenhouse gas metrics are part of our EMS.

#### The EMS has 11 elements, which are:

- 1. Environmental Leadership, Compliance, and Commitment
- 2. Organization, Roles, and Responsibilities
- 3. Risk and Hazard Assessment/Risk Registers
- 4. Incident Reporting and Investigation
- 5. Training and Competency
- 6. Document Management
- 7. Emergency Preparedness and Planning
- 8. Communication Planning
- 9. Environmental Compliance Program
- 10. Standard Operating Procedures and Guidance
- 11. Performance Measurement and Evaluation

Employees can view and access the Environmental Management System via the company's intranet.





### RISK AND HAZARD ASSESSMENT/RISK REGISTERS

Our risk and hazard assessment programs document potential environmental and regulatory risks for each phase of operation in the our risk register. Antero's proprietary risk matrix quantifies potential risks and impacts to our employees, contractors, assets, and communities. Antero uses the risk matrix during a risk assessment to define the level of risk by considering the probability against the severity of the consequence. The risk matrix is a simple mechanism to increase the visibility of risks and assist management decision-making.

### INCIDENT REPORTING SYSTEM

Environmental and near miss incidents are reported and tracked in our incident reporting system per the requirements of the incident reporting system detailed under the Health & Safety section.

We identify factors that contribute to the incident and develop a comprehensive plan with corrective and preventive actions to prevent reoccurrence.

We track regulatory agency interactions in our incident management system. We define regulatory agency interactions as interactions with a regulatory agency that are proactive in nature, or have resulted in a request for corrective action. Tracking and trending this information allows us to evaluate the issue and apply corrective and preventive actions across our operations. This information is presented to the CSC quarterly as part of our overall HSSE performance metrics.





### **TRAINING**

Antero conducts extensive training on relevant environmental and regulatory subjects. Our subject matter experts receive and conduct training in their area of expertise. We provide training across operations and other ancillary service teams to provide an understanding of what is required and how to assure compliance. The HSSE team conducts training and provides regular updates to its contractors and employees at tailgate, weekly, monthly, and annual meetings. In 2019, the Environmental team held a field workshop for its contractors to review requirements, best practices, and evaluate performance towards our environmental goals.

### EMERGENCY PREPAREDNESS AND PLANNING

Our HSSE teams work collaboratively on emergency preparedness and planning and utilize the same processes and procedures identified under the Health & Safety section. Environmental team members are often first to respond to spills and releases. We conduct and participate in emergency response scenario drills with regulatory agencies, local EMAs, and other operators. Antero has placed spill equipment throughout its operational area to allow for a swift response and environmental impact mitigation.





### CONTRACTOR COMPLIANCE

Antero's Contractor Compliance Program strives to verify work performed at Antero sites meet Antero HSSE minimum expectations. Antero collaborates with a leading third-party data management service to collect and evaluate environmental and regulatory compliance information from our contractors. We apply our unique risk profile and grading specifications to the data to review contractor performance against Antero's expectations.

Per master agreements, Antero requires that each contractor and service provider are fully compliant with their own environmental risk, hazard mitigation, and incident management programs, and have policies in place to ensure their compliance with relevant environmental laws prior to performing work for Antero.



### **ENVIRONMENT**



### **EMISSIONS**

Antero is focused on managing and reducing its greenhouse gas and air pollutant emissions. We participate in voluntary emission reduction programs, report our emissions of greenhouse gases (GHGs), including methane, criteria and hazardous air pollutants, and continuously evaluate the feasibility of emission control and mitigation technologies to be implemented across our operations.

In 2019, we reported our GHG and methane emissions to our management and board of directors. The commitment and oversight of our executives drive our actions to reduce and mitigate emissions and climate-related risks. We reported a climate-related risk discussion in our <u>Form 10-K</u>.

We set a goal of reducing 100% of our pigging emissions by 2025. These goals will be achieved through the implementation of operational improvements, work practices, technologies, and through the purchase of carbon credits. In 2020, we plan to integrate climate-related risks into our existing risk management system and align our disclosures with the Task Force for Climate-related Financial Disclosures (TCFD) guidelines and the Sustainability Accounting Standards Board (SASB) framework.



#### **ENVIRONMENT / EMISSIONS**



# GHG & AIR POLLUTANT EMISSIONS

Despite increases in gas throughput, our GHG emissions intensity and methane leak loss rate remains steady from 2016 to 2019. As discussed in more detail under the Leaders in Emission Reduction section, Antero's leak loss rate is impressive when compared to industry peers. We attribute these results to our commitment to GHG emission reduction practices.

TABLE 1: GHG EMISSIONS INTENSITY

	2016	2017	2018	2019
GHG Emissions Intensity metric tons CO <sub>2</sub> e/MMscf sold <sup>1</sup> ,	3			
	1.65	1.81	1.57	1.81
Methane Leak Loss Rate <sup>2,3</sup>				
	0.018%	0.016%	0.015%	0.017%
Gas Sold MMscf				
	260,346.50	424,469.40	615,425.70	766,869.80

- 1. The GHG Emissions Intensity ratio is calculated by dividing the metric tons of CO2e reported to the EPA under Subpart W by MMscf gas sold.
- 2. The methane leak/loss rate is calculated by dividing methane emitted by the methane transferred. The methane leak loss rate represented in this report conforms with the ONE Future calculation protocol.
- 3. GHG Emissions Intensity does not include emissions from the Antero Clearwater Facility.





Scope 1 emissions are a result of our gathering and transporting of natural gas. They are direct emissions that occur at our compressor station facilities. Antero reports under the EPA's Greenhouse Gas Reporting Program (GHGRP). As part of the requirement, Antero discloses Scope 1 direct GHG emissions covered under the GHGRP at a basin-wide level (Appalachian Basin and Appalachian Basin Eastern Overthrust) to EPA. Antero reports methane emissions as part of total organic compounds released to the Ohio EPA. We calculate emissions using a combination of actual measurements, engineering calculations, and emission factors as required by each reporting program. The following table presents our total GHG Scope 1 emissions as  $\mathrm{CO}_2\mathrm{e}$ , the applicable GHGs covered under the Kyoto Protocol, along with other metrics requested in SASB EM-MD-110a.1.

TABLE 2: GHG SCOPE 1 (SASB EM-MD-110A.1)

	2016	2017	2018	2019
Total GHG Scope 1 Emissions <sup>1,2,3,4</sup> metric tons CO <sub>2</sub> e	428,835	766,750	1,031,110	1,462,632
Total Carbon Dioxide ( $CO_2$ ) Emissions metric tons $CO_2$ e	408,829	738,108	994,964	1,412,304
Total Methane (CH <sub>4</sub> ) Emissions metric tons CO <sub>2</sub> e	19,772	28,234	35,602	49,548
Total Nitrous Oxide ( $N_2O$ ) Emissions metric tons $CO_2e$	233.6	408.4	544.5	780.2
% Gross Scope 1 Emissions from Methane	4.6	3.7	3.5	3.4
% of Emissions Covered under Emission Limiting Regulation	3.7	3.0	6.9	5.6

<sup>1.</sup> IPCC 4AR GWP.

<sup>2.</sup> Total GHG Scope 1 emissions are based on emissions reported to the EPA under 40 CFR Part 98 Subpart W.

<sup>3.</sup> Antero does not emit hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride.

<sup>4.</sup> GHG Scope 1 emissions include those that are a result of operating the Antero Clearwater Facility in 2018 and 2019.

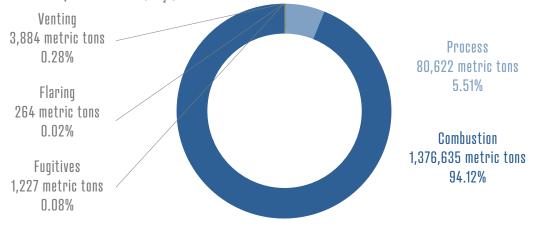




The trend in increased GHG Scope 1 emissions is a direct result of our infrastructure growth, which involves the addition of more compressor stations and compressor engines.

Antero Midstream's 2019 Scope 1 emissions can be broken down into five categories: combustion, process emissions, vented emissions, fugitive emissions, and flared hydrocarbons. Figure 7 shows the breakdown of emissions in each category.

Figure 7: 2019 Scope 1 Emissions (CO<sub>2</sub>e)



The main source of Scope 1 emissions is from the combustion of fuel to drive our compressor engines.

Antero's short-term strategy to manage Scope 1 emissions includes:

- Our GHG/methane reduction team meets quarterly to discuss emission reduction opportunities
- Subject matter experts stay abreast of leading technologies and research from the science community





- igtriangle Participation in voluntary emission reduction programs
- Monitoring of state and federal regulations

We have explored and implemented multiple emission reduction initiatives due to the efforts outlined above. We provide a list detailing the results under the <u>Emission Mitigation Efforts</u> section. (SASB-EM-MD-110a.2.)

Scope 2 emissions are a result of the electricity usage required to power Antero's operations. A third party entity, typically a utility, generates these emissions at their facility. A summary of our Scope 2 emissions for the previous three years is in the following table.

TABLE 3: GHG SCOPE 2 EMISSIONS

	2017	2018	2019
Total GHG Scope 2 Emissions metric tons $CO_2e^{1/2}$	17,911	31,649	32,935

<sup>1.</sup> World Resources Institute GHG Protocol: Scope 2 Guidance.

Scope 3 emissions are a result of consumer use of our product, as well as other indirect emissions that occur as part of our supply chain. Antero is currently evaluating its Scope 3 emissions to provide in future reports.

<sup>2.</sup> eGRID2018 average emission factors.





Antero operations emit criteria and hazardous air pollutants (HAPs). Table 4 summarizes these emissions. We calculate our emissions using engineering calculations, emission tests, process simulations, and EPA AP-42 emission factors.

### TABLE 4: AIR QUALITY EMISSIONS (SASB EM-MD-120A.1)

	2019
NO <sub>x</sub> Emissions metric tons	687
SO <sub>x</sub> Emissions metric tons	5
VOC Emissions metric tons	607
PM <sub>10</sub> Emissions metric tons	143
HAP Emissions metric tons	63

Antero's strategies to reduce VOC emissions are the same as those to reduce methane emissions because we are controlling both pollutants in the same manner. Our reduction efforts for the remaining criteria and hazardous air pollutants include identifying operational efficiencies and taking emission sources out of service as soon as they are no longer needed.

Zero percentage of our air emissions are in, or near areas of dense population because our operations are located in rural areas of West Virginia and Ohio. For this analysis, Antero compared the counties in which we operate with counties defined as part of a metropolitan statistical area, as defined by the Office of Management and Budget, and there is no overlap (at the time of that analysis).



### **ENVIRONMENT / EMISSIONS**



# LEADERS IN EMISSION REDUCTION

Antero demonstrates its commitment to methane mitigation and reducing climate change risks by actively participating in voluntary programs that focus on reducing emissions: EPA Natural Gas STAR Program and ONE Future.

Antero joined the EPA Natural Gas STAR Program in 2017. By joining the EPA program, we expanded our commitment to evaluate and implement methane reduction projects. We transparently report voluntary reductions of methane emissions and participate in information sharing and technology transfer by working with our peers to keep up with industry trends.



In 2018, Antero Midstream became a member of ONE Future. ONE Future is an industry collective focused on voluntarily reducing methane emissions across the natural gas supply chain, to lower emissions to 1.0% or less of total natural gas production by 2025. ONE Future's target is a science-based methane emission intensity target. The target seeks to ensure

that fuel switching to natural gas will create GHG reduction benefits. Antero's methane leak loss rate was at 0.017% in 2019, which is well ahead of the ONE Future cumulative



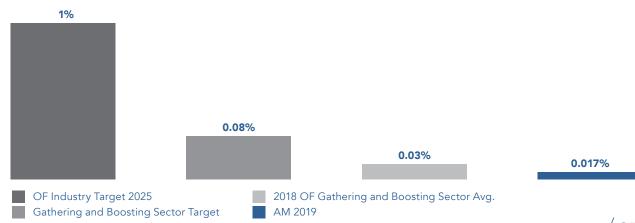
#### **ENVIRONMENT / EMISSIONS**



# LEADERS IN EMISSION REDUCTION

industry goal of 1.0% and the gathering and boosting segment goal of 0.08% by 2025. At 0.017%, Antero out performed above their industry peers in 2018 who had an average intensity of 0.03%. ONE Future releases an annual report that is available for public review <a href="here">here</a>.

Figure 8: Methane Leak Loss Rate





### **ENVIRONMENT / EMISSIONS**



## **EMISSION MITIGATION EFFORTS**

### LEAK DETECTION AND REPAIR:

Our methane and air emission controls include a robust leak detection and repair (LDAR) program. We repair detected leaks found during periodic inspections promptly to minimize emissions. Antero has committed to conducting LDAR surveys at all of our compressor stations quarterly. In cases where the station is not subject to New Source Performance Standard OOOOa, this commitment exceeds federal requirements. The LDAR program inspections utilize a state-of-the-art Optical Gas Imaging Forward-Looking Infrared Radar camera to identify leaks. We employ one full-time technician to conduct and record the results of the LDAR inspections. This technician is trained as a compressor station operator. This background allows him to typically repair leaks identified during the inspection, thereby eliminating emissions as quickly as possible. If the repair cannot occur during the inspection, the leak is tracked in our maintenance ticketing software and is repaired as soon as practicable, but no later than 30 days, unless there is justification for placement on our Delay of Repair list. Antero conducts quarterly LDAR inspections at 100% of its compressor stations. In 2019, 90 LDAR surveys were conducted, 95% of leaks identified were repaired during the inspection, and the 5% of leaks that could not be fixed immediately were repaired on average within one day.

### REDUCED TRUCK TRAFFIC:

As discussed in more detail in the Water Management section, Antero Midstream has reduced truck traffic significantly over the years through an extensive freshwater delivery system and utilizing the Pioneer Blending Facility. In turn, the reduced truck traffic has eliminated 405 metric tons of  $CO_2$ e emissions in 2019. That is equivalent to the amount of carbon sequestered by 529 acres of U.S. forests in one year, according to the EPA equivalency calculator.





### ADDITIONAL GHG MITIGATION FFFORTS:

- Air actuated pneumatic control valves are utilized at 96% of facilities. The remaining 4% of sites have gas-operated pneumatics and are being evaluated for retrofit
- Ø 96% of compressor engine starters are outfitted with air driven starters
- Upgraded glycol dehydration systems to optimize recirculation rates while reducing flash tank separators vapors
- Hot taps and pipeline pump down techniques are utilized that lower pipeline pressure and capture gas volume before maintenance
- Pilot testing the use of LDAR surveys conducted by drones and aircraft at compressor stations and along the pipeline rights of way
- Reviewing solutions to recover gas from pigging operations
- Injecting blowdown gas into the fuel system at new compressor stations
- Exploring the use of electric compression at future stations beyond 2022, where feasible
- Reviewing thermal oxidizer efficiency

Antero's GHG/Methane Reduction team, comprised of company leaders across different functional groups, reviews, analyzes, and determines whether emerging methane detection and quantification technologies can be implemented, best management practices, and new reduction technologies applicable to midstream operations. The standing agenda includes a discussion and status update of previously identified opportunities, new and emerging mitigation opportunities to explore, an update on our reporting and volunteer commitments, and a discussion on climate-related risks.





We are working to make our operations more efficient while providing a cleaner source of energy to our customers. Antero utilizes energy sources, including electricity, natural gas, and diesel for its compression, treatment, and transportation operations.

### TABLE 5: ENERGY USE

	<b>2018</b> <sup>1</sup>		2019	
Total Energy Use (GJ)	14,744,796		20,752,267	
Non-Renewable	14,733,480	99.92%	20,726,693	99.88%
Renewable	11,317	0.08%	25,574	0.12%
Total Electrical Use (kWh)	59,4	111,574	61,829,972	
Non-Renewable	56,268,016	94.71%	58,566,561	94.72%
Coal		44.40%		44.40%
Natural Gas		21.02%		21.01%
Oil		0.30%		0.30%
Other Fossil		0.70%		0.70%
Nuclear		28.19%		28.21%
Unknown or Purchased Fuel		0.10%		0.10%
Renewable	3,143,558	5.29%	3,263,411	5.28%
Biomass		0.60%		0.60%
Wind		3.64%		3.64%
Solar		0.11%		0.10%
Hydro		0.94%		0.94%
Consumed Energy from the grid		1.45%		1.07%

<sup>1. 2018</sup> data has been updated from the previous report to represent better available data and utilize a more representative calculation methodology.



#### **ENVIRONMENT**



## NATURAL RESOURCES & BIODIVERSITY

Antero highly values streams and wetlands, rare, threatened, or endangered species, and cultural resources. We strive to contribute to the maintenance of healthy and diverse ecosystems and communities in the areas where we operate. Our natural resources and biodiversity policy outlines our approach and framework for assessing projects in areas of high ecological and cultural importance to ensure that management of biodiversity is integrated into our project development and operations throughout their lifecycle. We are committed to continuously assessing and managing our environmental risks to minimize impacts on the diverse ecological systems that exist where we operate, in accordance with the applicable regulatory requirements and through the implementation of one or more of the following approaches:

- Avoidance We evaluate proposed project scopes to identify avoidance options by working with the surface owner(s), design, and construction teams to consider primary and alternative locations and scope and/or timing of project construction to avoid impacts to a vulnerable species and/or sensitive ecosystems. We survey medium to high probability areas for potential cultural sites and avoid identified sites.
- Minimization We evaluate minimization options by working with the landowner, design, and construction teams to consider proposed project constraints that may require primary and alternative locations and scope and/or timing of project construction to avoid impacts to a vulnerable species and/or sensitive ecosystems and known cultural sites, when possible. To the extent possible, projects are designed to utilize existing rights-of-way and avoid biologically diverse, protected, or other sensitive areas.
  - Restoration During planning and post-construction, we work with the surface owner(s) to conduct on-site restoration to the extent practicable, to reestablish an ecosystem's composition, structure, and function to maintain a healthy state.





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Mitigation – We develop and achieve measurable conservation outcomes that can mitigate unavoidable impacts after appropriate avoidance, minimization, and restoration measures have been applied.

In the planning, development, and construction process, Antero takes measures to:

- Understand and comply with laws and regulations intended to protect and preserve the ecosystems in which we operate, including the requirements to conduct baseline studies and impact assessments
- Train employees on the importance of environmental protection and provide information on the species or habitat sensitivities on the location or project which they are working
- Engage with stakeholders on biodiversity issues pertaining to our proposed, new, and ongoing operations
- Implement industry best practices and lessons learned from previous projects

In the pipeline planning process, the pipeline route selection process is iterative and typically starts with a wide corridor of interest between two fixed start and end points and then narrows down to a more defined route at each design stage as more data is acquired, to a final 'right of way'. Antero's Midstream project team, who reviews and considers public safety, pipeline integrity, environmental impact, social, economic, technical environmental grounds, constructability, land ownership, access, regulatory requirements, and cost, conduct this process. The shortest route might not be the most suitable, and physical obstacles, environmental constraints and other factors may dictate routing to minimize the need or potential impacts of the line.





Antero evaluates the impacts of projects in critical habitats or other areas with recognized high biodiversity value and High Conservation Value areas. Managing the environmental footprint of our pipelines, gas gathering facilities, water handling, and treatment assets is a constant focus of our efforts to be an industry leader and community partner in protecting our natural environment.

We perform an extensive desktop analysis in the early planning stages utilizing the project's proposed limits of disturbance (LOD). We developed a checklist to document the results of our project research. We utilize tools, regulations, and guidance provided by regulatory agencies such as the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service (USFWS), West Virginia and Ohio State Historic Preservation Office (SHPO), Ohio Environmental Protection Agency, WV Division of Natural Resources (WV DNR), Ohio Department of Natural Resources (ODNR), WV Department of Environmental Protection, WV DNR Office of Land and Streams, and county floodplain ordinances. Antero evaluates an expanded area of interest (AOI) beyond the proposed limits of disturbance of a project (e.g., 150 feet in both directions from the outer limits of disturbance on linear projects and 150 feet from the outer limits of disturbance of non-linear projects). Through this analysis, we consider and evaluate the following:



Known aquatic features and hydric soils, utilizing the USFWS National Wetland Inventory (NWI) and Natural Resources Conservation Service Web Soil Survey, occurring within an AOI





- Threatened, endangered or otherwise protected species and their designated critical habitat as defined in our Protected Species Matrix utilizing the USFWS Information for Planning and Consultation online tool (IPaC) and our environmental viewer, an internal environmental mapping tool, displaying state protected aquatic species habitat locations occurring within an expanded AOI
- Known cultural resource finds and other medium and high probability sites for historic properties by utilizing historical aerial photographs, U.S. Geological Survey (USGS) maps, our internal GIS viewer (which shows landscape types more likely to have a high probability of cultural finds), and state SHPO viewers
- Federal Emergency Management Agency data to determine if the project will be located in a floodplain
- How earthmoving and grading activity may affect stormwater runoff, in order to develop erosion and sediment control plans to protect aquatic resources
- Whether the project LOD occurs in a Total Maximum Daily Load (TMDL) watershed
- State-protected waters
- Sensitive areas or sites of concern identified during this stage of project planning

Following the desktop analysis and upon receipt of landowner permission, we conduct a field assessment to investigate and evaluate the aforementioned resources further. During this subsequent investigation, a Qualified Wetland Professional (and, if applicable, a protected species and habitat specialist and cultural resources specialist) conducts a field assessment of the proposed project area. We maintain historical project data in our internal environmental viewer and mapping system, which allows us to





better plan for future project construction in our operational areas. When impacts are unavoidable, we consult with the appropriate state and federal agencies on a permitting strategy that incorporates minimization, restoration, and offsetting of potential impacts.

Only 0.8% of the land owned, leased, and/or operated by Antero Midstream is within areas of protected conservation status of endangered species habitat. We evaluated a number of data sets for this determination, including available mapping of protected mussels, aquatic buffers, NWI, IPaC analysis and terrestrial habitat preservation and restoration from the WV Watershed Resources Registry. (SASB EM-MD-160.a.2)

In addition to these efforts to protect threatened and endangered species, Antero implements best management practices in all of our construction and development activities. For example, when we cut trees for projects, they are stacked strategically to enhance wildlife habitat. During the initial assessment and before construction, all aquatic features are marked with flagging. We stabilize and reseed the right-of-ways with seed mixes that provide habitat and food sources for wildlife.

Antero understands the importance of cultural resources. If there is a federal nexus and we determine that sites exist, or have the potential to exist within our project area, a third party, cultural expert performs a field survey. We then work with SHPO to first avoid, and then minimize and offset impacts on cultural resources.

Often, Antero goes beyond what is required by performing voluntary due diligence on projects. At several sites, we have documented historic properties through local interviews, architectural drawings, and written accounts. Artifacts found during Antero





cultural surveys are documented and then returned to the landowners where they were found. If the owner does not want to retain the artifacts, Antero curates and donates them to West Virginia's Grave Creek Mound Archeological Complex or the Ohio History Connection for permanent curation.

Antero created an inadvertent discovery plan that details what to do if cultural resources are found during construction. The plan includes halting all work immediately, bringing in a cultural expert to determine if the resources are historical, and consulting SHPO guidance, if needed.







## WATER MANAGEMENT

Our relationship with Antero Resources allows us to provide the necessary fresh and recycled water for use in drilling and completion operations, as well as services to recycle and reuse, or dispose of produced water resulting from those operations. Antero Midstream has built an extensive network of 351 miles of freshwater pipelines and 37 impoundments, delivering 197 thousand barrels of freshwater per day to Antero Resources. Our infrastructure reduces the number of water trucks traversing local roads in and around the communities where Antero operates. Additionally, during seasonal dry periods, Antero's freshwater impoundments provide an alternative source of freshwater to alleviate stress on local streams and reservoirs.

Antero Midstream treated and blended water at a variety of locations in 2019 to provide recycled produced water and flowback for use by Antero Resources in its drilling and completions operations. Antero Midstream added the Pioneer Water Facility, a water blending and recycling facility, and surface water lines to its water-recycling infrastructure. Another benefit of the implementation of blending operations within our active operating area is the reduction in the amount of water sent to injection for disposal in 2019.

Antero Midstream uses a limited amount of freshwater, primarily for construction activities and dust suppression on access roads.



### **ENVIRONMENT / WATER RESOURCES & MANAGEMENT**



## WATER QUALITY

Antero has been testing water sources near our operations for over a decade. The protection of water quality within all areas of Antero operations is of the utmost importance. Antero assesses groundwater quality before initiating midstream construction activities. We sample domestic water wells, springs, ponds, or streams within 150 feet from the centerline of buried waterlines and gas pipelines, a 300-foot radius of the waterline and gas pipeline bores, a 1,000-foot radius of compressor stations, and a 2,000-foot radius of centralized impoundments and pits in both West Virginia and Ohio, none of which is required. Water samples are collected by third-party environmental consultants and analyzed at state-certified laboratories. Water samples are analyzed for a list of parameters that goes above and beyond the parameters required by regulation in both WV and OH for water well sampling adjacent to oil and gas well pads. Sample results are shared with the landowners, and records are archived and maintained electronically by Antero.

Our Antero community relations hotline handles all complaints and concerns regarding water quality. Antero's practice is to respond to all water concerns by phone within 24 hours. If Antero and the landowner agree that additional testing is necessary, Antero will conduct additional sampling of the water supply using a third-party environmental consultant and a state-certified laboratory.



### **ENVIRONMENT / WASTE MANAGEMENT & RECYCLING**



## PRODUCED WATER MANAGEMENT

In 2019, Antero Resources implemented operational changes to increase the reuse of produced water downhole in completion activities. Antero Midstream provided localized mobile treatment facilities to treat and recycle produced water from Antero operations. The treated water is blended with freshwater and transported through trucks or pipeline infrastructure directly to an Antero Resources' well pad for downhole use in completion operations.

Antero Midstream also operates a limited number of centralized produced water pits that were designed and built to robust regulatory standards including a dual liner system with a leak detection layer, a network of groundwater monitoring wells, which are sampled quarterly for a list of parameters beyond what is required by regulations. A concrete containment with offload manifold to facilitate truck offloading reduces the risk of spills and releases. Centralized produced water pits have fencing and bird netting installed as a best management practice to protect migratory birds. These facilities provide for additional storage of produced water that cannot be immediately reused downhole.

Volumes reported in the Produced Water Management section therein refer only to produced water generated by Antero Midstream. Other facilities that generate or receive liquids (ex. compressor stations) utilize closed top tanks and employ secondary containment and perimeter berms to manage liquids onsite and reduce potential





impacts on the environment and wildlife. A summary of produced water generated by Midstream Operations and the various methods of disposition is presented below. It is essential to note the increasing trend in reused water volumes and a decrease in the volume of water sent to injection since 2017.

Antero Midstream's produced water disposition is presented in Table 6.

TABLE 6: ANTERO MIDSTREAM PRODUCED WATER (THOUSAND BARRELS)

		2017		2018	2	2019
West Virginia	249		356		143.6	
Recycled	2.9	1%	17	5%	0.3	0.2%
Reused	*	*	*	*	18.1	12.6%
Offsite Disposal	0.8	0%	1	0%	0.3	0.2%
UIC	246	99%	338	95%	124.8	86.9%
Ohio	19		44		7.8	
Recycled	0.5	3%	0	0%	0	-
Reused	*	*	*	*	0	-
Offsite Disposal	0	0%	0.1	0%	0	-
Injection	18.5	97%	44	100%	7.8	100%

Antero considers produced water treated either at the centralized Antero Clearwater Facility or at local blending treatment facilities as "Recycled" water.

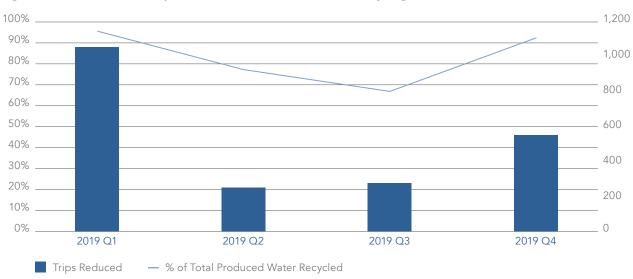
Water taken directly to a well pad for use downhole, such as stormwater or water accumulated in secondary containment, is included under the "Reuse" category.





Antero Midstream began tracking, recycling and reusing its own produced water in 2019. This includes water generated at compressor stations, within secondary containments around tanks, etc. This resulted in a reduction in over 100,000 miles of truck traffic on local roads, and reduced  $CO_2$ e emissions by 405.17 metric tons in 2019. We are on track to recycle upwards of 99% of our produced water in 2020 and beyond. Figure 10 shows the reduction in truck trips needed to dispose of Antero Midstream generated produced water due to its increased produced water recycling and reuse measures.

Figure 9: Reduction in Truck Trips Due to Increased Produced Water Recycling and Reuse





#### **ENVIRONMENT / WATER RESOURCES & MANAGEMENT**



## SPILL PREVENTION, MANAGEMENT & PERFORMANCE

In the event of an incident, our spill response program includes a vast network of on-call spill response contractors who promptly remediate any impacted areas.

Our program includes:



lepha Utilizing secondary and tertiary containment systems such as:

Polyethylene liners for water blending and recycling activities

Lined secondary containments for storage tanks and equipment

Double-walled tanks

Catchments at load out areas

Fluid recovery systems for pigging operations

Skid-mounted compressors with skids capable of catching potential spills



Creating Emergency Response Plans to streamline interactions with first responders and emergency services during large scale incidences

Providing training to pertinent personnel on regulatory and internal environmental programs

Setting goals and creating initiatives to reduce environmental incident rates

Using web-based programs to track environmental incidents and generate metrics which can be utilized for continuous improvement





When spills occur, Antero responds by determining the source and type of the spill and utilizes the following corrective actions:

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Containing spilled material to prevent migration

Initiating remediation activities such as removal or treatment of contaminated material

Analytical testing of soil/water, when necessary, to verify completion of spill remediation

Reporting spills to agencies in accordance with local, state, and federal regulations

Disposal of contaminated materials in accordance with local, state, and federal regulations

Internal documentation of incidents in web-based programs for reporting and metric trending

Antero Midstream utilizes the same incident management system as Antero Resources to report, track, investigate, and mitigate environmental releases and other incidents. Spills are tracked and ranked according to the actual and potential risk to the environment, and based on severity, corrective actions, and lessons learned are developed and communicated to stakeholders.

Antero defines reportable spills as any spill, release, or discharge to the environment that must be reported to a state or federal agency per the regulations. Antero's spill rate is defined as the volume of reportable spills over the total barrels of fluid handled. Antero Midstream did not have any spills in the Arctic or in unusually sensitive areas.



### TABLE 7: ANTERO MIDSTREAM REPORTABLE SPILLS (SASB EM-MD-160.A.4)

	2017	2018	2019
Total Spills	10	18	4
Produced Water	4	13	1
Hydrocarbons	3	3	1
Other	3	2	2
Volume of Reportable Spills (barrels)	74.8	396.5	2.3
Produced Water	72.4	272.6	0.2
Hydrocarbons	0.3	4.6	0.4
Other	2.1	119.2	1.7

### TABLE 8: ANTERO MIDSTREAM REPORTABLE SPILLS<sup>1</sup> (SASB EM-MD-160.A.4)

	Total Barrels Handled	Total Number of Spills	Total Volume of Spills (barrels)	Spill Rate
2019	195,992,597	4	2.3	0.00000001%
2018	165,464,330	18	396.5	0.00024000%
2017	209,405,874	10	74.8	0.00000036%

<sup>1.</sup> This table has been updated from previous reports to utilize a more representative calculation methodology.



#### **ENVIRONMENT / WASTE MANAGEMENT & RECYCLING**



## WASTE

Special permits, mandates, and company responsibilities related to waste are developed at the corporate level. Waste program details, such as standard operating procedures, regulatory compliance, safe work practices, and vendor (e.g., supplier and contractors) audits, are developed at the field level and approved at the corporate level to guarantee quality and consistency. The inclusion of field level operational staff promotes a well-balanced platform to monitor and regulate waste on a daily basis.

The typical waste hierarchy involves four steps: Identification & Source Reduction, Recycle/Reuse, Treatment, and Disposal. Operations takes measures to eliminate, minimize, or recycle waste streams with oversight provided by Antero's HSSE department. Data is collected and reported at the corporate level.

### THE WASTE HIERARCHY INVOLVES FOUR STEPS:

Identification & Source Reduction



Recycle/Reuse



Treatment







Waste generated from Antero's operations is characterized, managed and disposed of in accordance with regulatory requirements. Waste streams are primarily treated, recycled, or disposed of within the Appalachian Basin: West Virginia, Ohio, and Pennsylvania. Each state's regulatory requirements dictate the organization and direction of the disposal process. The only instance when a waste is disposed of outside





of these three states has been for NORM/TENORM waste that exceeds the acceptance criteria for oil and gas waste as defined by state-specific regulations. These NORM/TENORM wastes are disposed of at approved facilities outside of the Appalachian region.

Before onboarding and regardless of the type of waste, disposal facilities are subject to a pre-approval process where subject matter experts perform an audit of regulatory records. Antero representatives conduct routine site visits and audits of approved disposal facilities. We use the results of the audit to extend or revoke the approval status for a disposal facility.

Antero tracks waste from cradle to grave, regardless of operational origin and characterization. Non-hazardous waste manifests are generated at the point of origin and signed by Antero representatives. Manifests identify the type and quantity of waste, transportation company, final disposal facility, and require signatures to identify the responsible parties. A "Bill of Lading" is used to track the same information as the non-hazardous waste manifest. Antero's permanent facilities at well locations are equipped with electronic metering devices that send live data from the well sites to confirm produced water volumes leaving the site. The non-hazardous waste manifests and Bills of Lading are returned to Antero when the disposal facility submits its invoices, which are filed in an Antero database.





## TABLE 9: ANTERO MIDSTREAM WASTE

	20	)19
Hazardous Waste (tons)	0	0%
Non-Hazardous Waste (tons)	319,561	100%
Landfilled	316,673	99.09%
Incinerated	0	0%
Injected	2,773	0.86%
Recycled/Reused	115	0.04%
Recycled Waste Oil (bbls)	3,253.17	

Landfill volume includes salt placed in the Antero Landfill Facility.

Antero Midstream manages chemical waste on a case-by-case basis.



### **ENVIRONMENT / WASTE MANAGEMENT & RECYCLING**



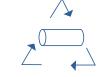
## **RECYCLING**

In 2019, Antero Midstream began an oil-testing program to evaluate the efficiency of the engines at our compressor stations. Through this program, we were able to extend the life of the engine oil by double. The program has resulted in a reduction in the amount of waste oil that needs to be recycled and the amount of filters requiring disposal. Approximately 1,095 barrels of oil are no longer required, and 1,180 filters are not landfilled. Antero's Water Department implemented a similar program that eliminated the need to landfill 900 oil filters, 900 water separator filters, and 900 fuel filters. This also resulted in a reduction of 246 barrels of oil used.

Currently, Antero recycles waste oil that includes engine oil and condensate.

### WHAT ANTERO RECYCLES:







Plastic water pipelines

Batteries both from operations and office use



E-waste (Computers, cell phones, electronics)

Office paper and general trash





We sponsor emergency preparedness programs, conduct regular audits to assess our performance, and celebrate our successes through the annual contractor HSSE conference, where we acknowledge employees and contractors alike who have exhibited strong HSSE leadership during the course of the year. These efforts combine to create a culture of HSSE excellence throughout the company and positively influence our contractor community.

Through our HSSE challenge coin program, Antero leaders acknowledge individuals or groups that have demonstrated exceptional operation safety service, either in an office or field environment. There are three levels of recognition in the program which include peer to peer, supervisory, and executive level recognition.

Antero meets periodically with contractors to review HSSE performance, collaboratively solve problems, address public concerns, provide an open forum, and most importantly, recognize our contractor's dedication and commitment to upholding Antero HSSE ideals.

Antero's HSSE representatives are available on site 24/7 during every significant operation.





## SAFETY MANAGEMENT SYSTEM

The Antero Midstream Safety Management System (SMS) is utilized by all employees and contractors working for, or on behalf of, Antero Midstream entities. The managerial principles outlined in the Occupational Health and Safety Assessment Series 45001 heavily influenced our SMS. The objective of the SMS is to establish requirements for managing health and safety risks.

The SMS is comprised of 13 elements, which are:

- 1. Safety Leadership, Compliance, and Commitment
- 2. Organization, Roles, and Responsibilities
- 3. Risk and Hazard Assessment/Risk Registers
- 4. Incident Reporting and Investigation
- 5. Training and Competency
- 6. Safety Manual and Safe Work Practices/Guides
- 7. Security and Sustainability (Travel, Personal Safety)
- 8. Emergency Preparedness and Planning
- 9. Safety Communications
- 10. Occupational Health and Wellness
- 11. Contractor Safety Management
- 12. Business Continuity and Resiliency
- 13. Performance Measurement and Evaluation

Antero's employees can view and access the Safety Management System on the company's intranet.





## RISK ASSESSMENT & HAZARD RECOGNITION

Risk assessments, hazard recognition programs, and risk registers are critical components of the Antero SMS. Antero utilizes a proprietary risk matrix during a risk assessment to define the level of risk by considering the probability against the severity of the consequence for an incident or risk. The risk matrix is a simple mechanism to increase the visibility of risks and assist management decision-making.

A Job Safety Analysis (JSA) must be completed and documented prior to the start of work on an Antero location. Antero expects each worker involved in a task, whether an employee or a contractor, be fully briefed on any related hazards and acknowledge them by signing the JSA.

At the core of Antero's risk assessment and hazard recognition program is Stop Work Authority (SWA). SWA establishes the responsibility and authority of every worker on an Antero location, to stop work when an unsafe act or condition is discovered.

**SWA Steps** 

STOP ----> NOTIFY --> INVESTIGATE

└> CORRECT → RESUME → FOLLOW-UP





Antero expects mitigation of any identified risk or hazard to a level as low as reasonably practical before beginning or resuming work. Antero maintains a library of safe work practices to guide our contractors and service providers on how to mitigate any identified unsafe act or condition. These documents evolve as laws and regulatory requirements change and are updated when necessary.

In 2019, Antero developed and implemented the Take 5 Program, which supports contractors and operations while driving improvement in areas of safety performance and responsibility. The Take 5 Program demonstrates Antero's support for taking five minutes on any Antero owned, operated, or leased worksite to verify that all hazards and risks associated with the job task or activity are mitigated and controlled.









- IDENTIFY WORK BEING PERFORMED. (i.e. identify tasks and activities, resources, tools, equipment and people on location)
- 2 PERFORM A TAKE 5 SAFETY REVIEW. (i.e. review task or location specific JSA/ JHA/ AHA)
- COACH ON SAFE/ POTENTIAL HAZARDS AND RISK MITIGATION.
- 4 AGREE ON CORRECTIVE ACTIONS OR PREVENTATIVE ACTIONS.
- 5) UPDATE ISA IF NEEDED.





## INCIDENT REPORTING SYSTEM

Antero's incident reporting system facilitates data collection, investigations, and information tracking on incidents that occur on our sites. We identify factors contributing to the incident and develop a comprehensive plan to help prevent reoccurrence. We use incidents as learning opportunities to create safety alerts, bulletins, and reminders for distribution to our contractors.

All incidents are categorized using Antero's HSSE Risk Matrix and are investigated to determine the root cause and contributing factors so we can take action to reduce and, where possible, eliminate factors that led to the incident or near-miss. The HSSE and Operations teams review incidents for systemic trends (frequency, location, phase of operation, cause) and implement corrective and preventive actions to avoid reoccurrence. We use a RACI (responsible, accountable, consulted, informed) process to assign and track completion of corrective actions. We create HSSE alerts to communicate the incident and findings to other operational groups to improve awareness, and when appropriate, to other industry parties, regulatory agencies, and first responders.

We use the same process for near-miss incidents involving service providers and contractors, with the exception that the contractor completes the investigation, and identifies the root cause(s) and subsequent corrective actions. Antero then verifies completion of corrective actions. We define a 'near miss' as an unplanned event that did not result in injury, illness, or damage, inclusive of spills, but under slightly different circumstances, would have had the potential to do so. Near miss incidents are reported to the Antero operations or HSSE teams and are tracked in our incident and behavior-based safety management system, and are reported in our performance metrics.





## HSSE, SOCIAL & GOVERNANCE TRAINING

We influence safety behaviors by developing our employees' knowledge, skills, and awareness of safety-related issues, leading to improved safety performance. Our employee safety-training matrix specifies the required training for every employee job description (office and field) within the company. Safety training starts at the beginning, continues throughout an employee's career, and includes refresher training at appropriate intervals.

Antero's training process describes how we:



IDENTIFY TRAINING NEEDS



DESIGN TRAINING



PRODUCE AND CONTROL MATERIALS



SELECT OR QUALIFY COMPETENT TRAINERS



DELIVER AND ASSESS EFFECTIVENESS OF TRAINING



MAINTAIN RECORDS







Training is assigned to each employee through the learning management system and all completed training is tracked within their training transcript.

Antero also provides an on-site HSSE orientation which is required for all employees and contractors who plan to visit an Antero field location. The on-site orientation describes Antero's expectations upon arrival at an Antero location. It covers topics such as general PPE requirements, training requirements, Short-Service Employees, driving on-site, JSAs, and Stop Work Authority. Employees may not perform certain tasks without required safety training.

### TABLE 10: ANTERO MIDSTREAM ALL EMPLOYEE TRAINING

	2018	2019
HSSE Training Hours	4,288	6,037
HSSE Training Hours per Employee	6.9	10.5
Social & Governance Training Hours	2,934	1,824
Social & Governance Training Hours per Employee	4.7	3.3
Total Training Hours	7,221	7,556
Training Hours per Employee	11.6	13.8

Antero Resources and Antero Midstream share employees and resources. Data is based on 547 combined employees as of December 31, 2019.





### EMERGENCY PREPAREDNESS & PLANNING

Our Crisis and Field Incident Management Teams (IMT), based on the U.S. Department of Homeland Security's National Incident Management System (NIMS), incorporates existing best practices into a comprehensive national approach to domestic incident management, and is applicable at all jurisdictional levels and across all functional disciplines. This system applies across all phases of incident management: prevention, mitigation, preparedness, response, recovery, and resumption.

Antero uses the Incident Command System (ICS) designed by the NIMS. Our model of the ICS allows for a rapid, flexible, and efficient response to incidents. The ICS is modular and scalable, allowing the response to (de)escalate uniformly with the incident without loss of command continuity.

Antero's IMTs are comprised of a Crisis Commander–Corporate Activities (CC), Incident Commander–Field Activities (IC), Command Staff, and General Staff. The CC and IC are responsible for the overall management of the response, including the coordination of Command and General Staff activities. The Command Staff includes the Public Information Officer, Safety Officer, Legal Officer, Liaison Officer, and Security, Information, and Intelligence Officer.





Antero uses a notification system to communicate with external stakeholders in the event of an emergency. The third-party notification system is a web-based notification service, offering immediate and simultaneous one, to many communications using wired and wireless communication devices (telephone, SMS devices, and email). The system provides automated and remote problem-solving capabilities to improve communication in large organizations – both internally and externally. It enables the recipient to send an immediate reply to resolve an issue and convey a new status condition to the appropriate person(s) or groups.

The system sends time-sensitive notifications through multiple devices, including cell, one-or two-way SMS devices, and email. Messages may be sent to all communication devices simultaneously, or in any defined order. Other features of the system include:



Delivery of notifications in real-time.



Recipients can select any number of predefined response choices.



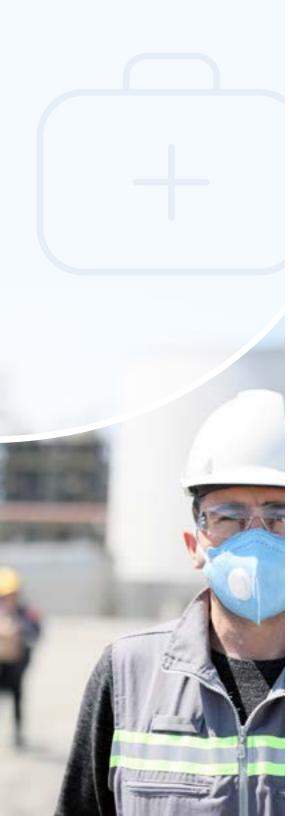
Allows storage and management of user contact data.



Allows grouping of users to better organize contacting recipients.



Allows grouping of notifications and delivery of unique messages to different groups of recipients and devices.





Antero's company-wide pandemic, business continuity, and disaster recovery policies and procedures allow for continued communication and continuity of significant operations across the Appalachian region. During a pandemic, Antero expects employees and contractors who exhibit pandemic disease symptoms to quarantine themselves. In 2020, we implemented a work from home program where 85% of our workforce has worked remotely with minimal interruption to established business processes. Our executives rely upon situation progress reports to make decisions concerning the workforce. The Antero Crisis Team works with local officials and emergency management agencies to assist with procedures for activating and terminating the pandemic response plan. Strong execution of our pandemic plan has resulted in ZERO Antero work-related COVID-19 infections to date.

Preventive Measures implemented as part of our Pandemic plan to combat COVID-19 include:

- + Use advanced disinfectant and cleaning processes
- + Temperature screening kiosks
- + Adaptive PPE program
- + Health questionnaires
- + Mobile testing protocols for field operations
- + Implemented a work from home program





# CONTRACTOR SAFETY MANAGEMENT

Antero's Contractor Safety Management Program strives to verify work performed at Antero sites meet Antero HSSE minimum expectations. Antero collaborates with a leading third-party data management service to collect and evaluate health and safety information from our contractors. We apply our unique risk profile and grading specifications to the data to review contractor performance against Antero's expectations.

Per master agreements, Antero expects that each contractor and service provider are fully compliant with their own JSA, SWA, risk, hazard mitigation, and incident management programs, and have policies in place to ensure their compliance with relevant health and safety laws prior to performing work for Antero.

### SAFETY IMPROVEMENT PLANS

Antero partners with its insurance broker to provide our contractors with a complete SMS review. We identify contractors that can benefit from a professional, third-party review of their SMS. After our insurance broker conducts the assessment, they share identified learning opportunities with the contractor.

### CONTRACTOR PROGRAM REVIEWS

Antero strives for continuous improvement of its Contractor Management program, which includes a structured review, research, evaluation, and implementation of industry best practices. We conduct a thorough review of our contractor's written safety and training programs, and leading and lagging performance indicators. We review our contractor's Department of Transportation (DOT) programs to assess compliance with regulatory requirements. We monitor a contractor's on-site performance and adherence to the regulations and Antero's site-specific procedures.





# OCCUPATIONAL HEALTH

Antero has adopted an Occupational Health Surveillance Program, a framework for evaluating impacts on Antero employees' and contractors' health. Occupational Safety and Health Administration (OSHA) regulation 29 CFR. §1910.1000 contains the Z tables that list analytics or agents that have specific regulations that mandate baseline evaluation or monitored health surveillance requirements.

### DOT TESTING

Antero is a drug- and alcohol-free workplace. Per PHMSA requirements, we conduct random drug screening on 25% to 50% of employees on an annual basis, who perform work on pipeline and liquefied natural gas facilities. The company screens each of those affected employees before their first day of employment, after an accident, or upon reasonable suspicion. These drug-testing standards comply with PHMSA DOT 49 CFR, Parts 40 and 199. In addition, Antero assesses its contractor's written drug and alcohol programs, including a review of the testing policy, testing techniques, and the panel of drugs screened.



#### **HEALTH & SAFETY**



# **HEALTH AND SAFETY PERFORMANCE**

We track, trend, and analyze our employee and contractor health and safety performance. We use leading and lagging indicators to pinpoint opportunities for improvement to our safety program. We track fatalities, lost time incidents, total recordable incidents, near misses and their respective rates.

In 2019, Antero Resources and Antero Midstream work locations experienced zero employee or contractor fatalities, a combined employee and contractor Lost Time Incident Rate (LTIR) of 0.035, a 75% reduction since 2016. The combined Antero employee and contractor Total Recordable Rate (TRIR) of 0.369, represents a 47% improvement since 2016. In 2019, Antero Midstream's employee and contractor TRIR and LTIR was 0.547 and 0.055 respectively. In comparison, the 2019 ISNetworld onshore oil and gas benchmark averages for our industry are 0.32 LTIR and 0.95 TRIR. As part of our Behavior-Based Safety program, we track and evaluate near misses — those events that did not result in injury, illness, or damage, inclusive of spills, but under slightly different circumstances, would have had the potential to do so.

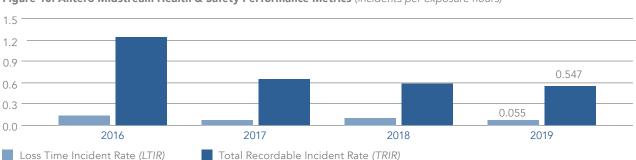


Figure 10: Antero Midstream Health & Safety Performance Metrics (incidents per exposure hours)

TRIR is calculated as the total number of OSHA recordable injuries x 200,000 hours/# of exposure hours.

LTIR is calculated as the total number of lost time or restricted time injuries x 200,000 hours/# of exposure hours.





# **SECURITY**

Antero Midstream is committed to the safety and security of our organization and the communities in which we operate. We strive to plan, prepare, prevent, and recover from adverse security incidents that could injure, harm, disrupt, or affect our workers, sites, business or communities. Through strategic alignment with our business and operational teams, we can efficiently and swiftly identify and direct resources to preserve and safeguard our assets, both tangible and intangible.

Our efforts to initiate the Security and Safety committee through our membership in the West Virginia Oil and Natural Gas Association (WVONGA) is a good example of our leadership in this area. The Security and Safety committee is a valuable collaboration of industry peers sharing information and education on mitigation and emergency response efforts related to security and crime-related matters.

Our field security personnel are certified Terrorism Liaison Officers (TLO) through the West Virginia Intelligence Fusion Center. A TLO is a public citizen of the United States trained to report suspicious activity observed during the course of their normal occupation as part of the United States' War on Terror. Our strong relationship with federal, state, and local first responders strengthens our commitment to keeping our communities and homeland safe.





### CYBER SECURITY:

The traditional model for information technology security has changed. The Confidentiality, Integrity, and Availability Triad has evolved to include Safety. Antero leverages information technology in significant ways: traditionally, in the areas of Operational Technology, and the Internet of Things. As the company's use of technology continues to advance, so do our cybersecurity strategies. Our commitment to sustainable governance and security best practices helps us navigate the ever-changing threat landscape.

We take a comprehensive, holistic approach to our cybersecurity efforts. This approach incorporates our people, processes, and technology to effectively prevent, mitigate, and remediate issues.

The Board of Directors approved a Protection of Personal Identifiable Information (PII) Policy in 2019. The purpose of the policy is to protect the PII of its employees and other individuals whose PII may be collected by Antero in the course of doing business.





Antero Midstream established the Pipeline Integrity Program as part of its overall comprehensive asset management system, to meet and exceed safety, environmental and integrity expectations. Hazardous liquid and natural gas transmission pipelines and facilities are included in the scope of this program. The purpose of the integrity program is to protect the public, our employees and contractors, and the environment through adherence to a set of safety management, analytical, operating, and maintenance processes.

The program framework includes five assessment categories:







### **GOVERNING FACTORS**

The pressure and flow of transported product passing through our midstream assets, along with environmental, climate, and topography in our areas of operation, are the factors that govern this program. The following regulating bodies that help govern the integrity of our regulated assets are:

- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- Department of Transportation (DOT) 49 CFR Parts 191, 192 and 195
- West Virginia Public Service Commission (WVPSC)
- Public Utilities Commission of Ohio (PUCO)
- Occupational Safety & Health Administration (OSHA)
- National Association of Corrosion Engineers (NACE)
- American Petroleum Institute (API)
- American Society of Mechanical Engineers (ASME)

#### PROGRAM MANAGEMENT

Integrity management tasks are shared across many company departments including engineering, operations, HSSE and management.

### PROCEDURES AND TRAINING

Antero's procedures and training programs support our integrity programs.





### **TRAINING**

- HSSE training
- Operator Qualifications (OQ) Program, tracked through Veriforce with 81 active tasks
- Antero Midstream has 16 internal operators trained on 46 OQ tasks
- Antero Midstream has 3 internal OQ trainers qualified to test 40 of 46 different OQ tasks with the remaining 6 tasks being testing by 3rd party trainers
- Contractors perform the other 35 OQ tasks for Antero Midstream

ANTERO MIDSTREAM OPERATIONS, MAINTENANCE, CONSTRUCTION MANUALS, AND PIPELINE INTEGRITY MANAGEMENT PLANS

- Internal Corrosion
- External Corrosion
- Maintenance & Inspection

#### CONSERVATION ACTIONS

We use the following conservation actions to assure integrity and compliance:

- Continuous Pigging Regiment
- Chemical Injection
- Right-of-Way Surveys
- In-Line Inspection (ILI) Smart Pigging
- Corrosion Coupon Evaluation





- Cathodic Protection
- Valve Inspections
- 811 Program/One Call
- Emergency Response Plan
- Public Awareness Program
- Atmospheric Corrosion Inspections
- Class Location Studies
- Engine Emissions Testing
- Ground Flare Inspections
- Re-boiler Inspections
- Pressure Safety Device Testing
- **O** Vessel Inspections
- Oil and Triethylene Glycol Testing
- Aboveground and Underground Storage Tank Inspections
- Leak Detection and Repair (LDAR)
- Annual Safety Device Testing

### DOCUMENTATION & REGULATED REPORTING

Antero documents and reports activities in annual reports as part of the Integrity Management Program.





#### PIPFI INF INTEGRITY

Antero's Integrity Management Program (IMP) is designed to meet the requirements of 49 CFR 192 Subpart O and 49 CFR 195 Subpart F & H, which are required for covered pipelines that could affect High Consequence Areas (HCAs). The purpose of the IMP is to guide actions to proactively identify and manage risks associated with pipelines such as ruptures and leaks. Through the IMP, we are committed to the structural integrity of our pipeline infrastructure. We analyze information collected on the pipeline systems to determine what measures to take to detect and prevent leaks and unintentional releases.

Antero operates approximately 10.37 miles of jurisdictional natural gas transmission pipelines and 5.73 miles of jurisdictional Type A pipelines, as defined in 49 CFR Part 192. We also operate approximately 19.46 miles of jurisdictional hazardous liquid pipelines, as defined in 49 CFR Part 195. The pipelines are located in the following areas:

#### West Virginia

10.4 miles of Transmission Pipelines2.9 miles of Gathering Type A Pipelines

#### Ohio

1.9 miles of Gathering Type A Pipelines19.5 miles of Hazardous Liquids Pipelines

Antero operates approximately 415 miles of non-jurisdictional gas gathering pipelines in West Virginia (308 miles) and Ohio (107 miles).





#### TABLE 11: VOLUME OF NATURAL GAS TRANSPORTED BY PIPELINE TYPE (SASB EM-MD-000.A)

Pipeline Type	Volume Transported (MMCF)
Transmission Pipelines	46
Jurisdictional and Non-jurisdictional Pipelines	965,003¹

1. Antero did not transport any volume of liquids in the hazardous liquids pipeline in 2019.

In 2019, Antero Midstream made progress on its baseline assessment plan (BAP) for jurisdictional and non-jurisdictional pipeline segments totaling up to 15 miles, or approximately 2.5%, of its total infrastructure. In 2020, Antero plans to inspect up to six jurisdictional pipeline segments that total 11 miles, or approximately 3.3% of its total infrastructure, and 42% of its jurisdictional pipeline infrastructure.

Antero performs annual evaluations of its asset management program to assess effectiveness and documents the results in an annual report. We use the evaluation process to compare current performance against past performance and develop specific goals for the program. Antero employs the following best integrity management practices:

Prevent	Inspect/Detect	Repair
Higher Hydro-test pressures	Automated SCADA system	Pipeline Isolation Quick Reference Tool
Limit Pressures to 95% MAOP	100% x-ray of welds	PHMSA required maintenance on non-regulated items
Pipelines designed and constructed to transmission pipeline standards	Dynamic system health reporting dashboard	Document control and retention
Low pressure pipelines built to high pressure standards	Pipeline gas and liquid sampling	
Right-o	Close Interval Surveys	
	Right-of-way patrols; leak detection, slip identification	/





# **CAUTIONARY STATEMENTS**

While we believe all historical calculations presented herein were completed consistent with current industry standards, the numbers provided have not been audited by a third party audit firm.

Some of the information in this Corporate Sustainability Report may also contain "forward-looking statements." All statements, other than statements of historical fact included in this Corporate Sustainability Report, regarding our strategy, future operations and forecasts of future events, including our environmental goals, are forward-looking statements. Words such as "may," "assume," "forecast," "position," "predict," "strategy," "expect," "intend," "plan," "estimate," "anticipate," "believe," "project," "budget," "potential," or "continue," and similar expressions are used to identify forward-looking statements, although not all forward-looking statements contain such identifying words. These forward-looking statements speak only as of the date of this report and are based on our current expectations and assumptions about future events and currently available information as to the outcome and timing of future events. When considering these forward-looking statements, investors should keep in mind any cautionary statements in this Corporate Sustainability Report, as well as the risk factors and other cautionary statements in our filings with the Securities and Exchange Commission ("SEC"). These forward-looking statements are management's belief, based on currently available information, as to the outcome and timing of future events. Although we believe that the plans, intentions and expectations reflected in or suggested by the forward-looking statements are reasonable, there is no assurance that these plans, intentions or expectations will be achieved. Therefore, actual outcomes and results could materially differ from what is expressed, implied or forecast in such statements. Except as required by law, we expressly disclaim any obligation to, and do not intend, to publicly update or revise any forward-looking statements.

In addition, many of the standards and metrics used in preparing this Corporate Sustainability Report continue to evolve and are based on management expectations and assumptions believed to be reasonable at the time of preparation, but should not be considered guarantees. The standards and metrics used, and the expectations and assumptions they are based on, have not been verified by any third party.

Factors that could cause our actual results to differ materially from the results contemplated by such forward-looking statements include:

- —Antero Resources Corporation's ("Antero Resources") expected production and development plan;
- —Impacts to producer customers of insufficient storage capacity;
- —our ability to execute our business strategy;
- —our ability to obtain debt or equity financing on satisfactory terms to fund additional acquisitions, expansion projects, working capital requirements and the repayment or refinancing of indebtedness;
- —our ability to realize the anticipated benefits of our investments in unconsolidated affiliates;
- —natural gas, natural gas liquids ("NGLs") and oil prices;
- —impacts of world health events, including the coronavirus (COVID-19) pandemic;





# CAUTIONARY STATEMENTS

- —our ability to complete the construction of or purchase new gathering and compression, processing, water handling or other assets on schedule, at the budgeted cost or at all, and the ability of such assets to operate as designed or at expected levels;
- —our ability to execute our share repurchase program;
- —competition and government regulations;
- —actions taken by third-party producers, operators, processors and transporters;
- —pending legal or environmental matters;
- —costs of conducting our operations;
- —general economic conditions;
- —credit markets;
- —operating hazards, natural disasters, weather-related delays, casualty losses and other matters beyond our control;
- —uncertainty regarding our future operating results; and
- —our other plans, objectives, expectations and intentions contained in our filings with the SEC.

We caution investors that these forward-looking statements are subject to all of the risks and uncertainties incidental to our business, most of which are difficult to predict and are beyond our control. These risks include, but are not limited to, commodity price volatility, inflation, environmental risks, Antero Resources' drilling and completion and other operating risks, regulatory changes, the uncertainty inherent in projecting Antero Resources' future rates of production, cash flows and access to capital, the timing of development expenditures, impacts of world health events, including the COVID-19 pandemic, potential shut-ins of production by producers due to lack of downstream demand or storage capacity, and the other risks described under the heading "Risk Factors" in our filings with the SEC.

Should one or more of the risks or uncertainties described therein occur, or should underlying assumptions prove incorrect, our actual results and plans could differ materially from those expressed in any forward-looking statements.

This Corporate Sustainability Report contains statements based on hypothetical or severely adverse scenarios and assumptions, and these statements should not necessarily be viewed as being representative of current or actual risk or forecasts of expected risk. While future events discussed in this report may be significant, any significance should not be read as necessarily rising to the level of materiality of certain disclosures included in our SEC filings.





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Keeping you healthy, safe and environmentally responsible, every day at work!