

2024

Sustainability Report

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About Essential

Essential Utilities Inc. is one of the largest publicly traded water, wastewater and natural gas providers in the U.S. We are a champion of communities, people and the environment, creating solutions to ensure the provision of clean and safe natural resources for life, and serving 5.5 million people across nine states under our Aqua and Peoples brands.

With each utility lending more than 130 years of experience, Essential is committed to proactive infrastructure investment, regulatory expertise, operational efficiency and environmental stewardship. We believe our nation’s water and gas infrastructure need new thinking and new investments to overcome the challenges of a changing climate and years of neglect. With a nation of crumbling water systems and aging pipelines in need of modernization, we are passionate about investing in infrastructure and bringing new energy solutions to communities, while delivering continued return on investment to shareholders.

We are grounded in a deep-rooted purpose that empowers people to live better lives. Integrity, respect and excellence are the core values that guide us. We put the wellbeing of our customers and communities at the heart of all we do, while preserving the culture of trust and safety for our employees. **We recognize the importance water and natural gas play in everyday life and are proud to deliver clean, safe, reliable services for the greater good of the communities we serve.**





We are Essential.

Providing natural resources for life.



Mission

To sustain life and improve economic prosperity by safely and reliably delivering Earth’s most essential resources to our customers and communities.

Vision

To enhance the quality of life in the communities we serve through sustainable and reliable utility services. Our vision is centered around delivering safe, clean water and natural gas while promoting environmental stewardship and community engagement.

Essential Utilities is uniquely positioned to strengthen our communities by renewing and improving infrastructure, delivering excellent service, acting as stewards of the environment, enhancing economic development, and making charitable contributions. We are committed to attracting and nurturing a workforce that reflects the diversity of the communities we serve and to providing fair and equitable opportunities for all employees. We’re dedicated to working safely and managing our operations sustainably to protect each other and our environment. We believe our efforts will bring value to our customers, employees and shareholders and enable us to continue to fulfill our mission. Together, we will make a difference for generations to come.

Our Utilities



Corporate Profile¹

ESSENTIAL

Revenue
\$2.09B

People Served
5.5M

Employees (full-time)
3,200+

Customer Connections
1.9M

GAS

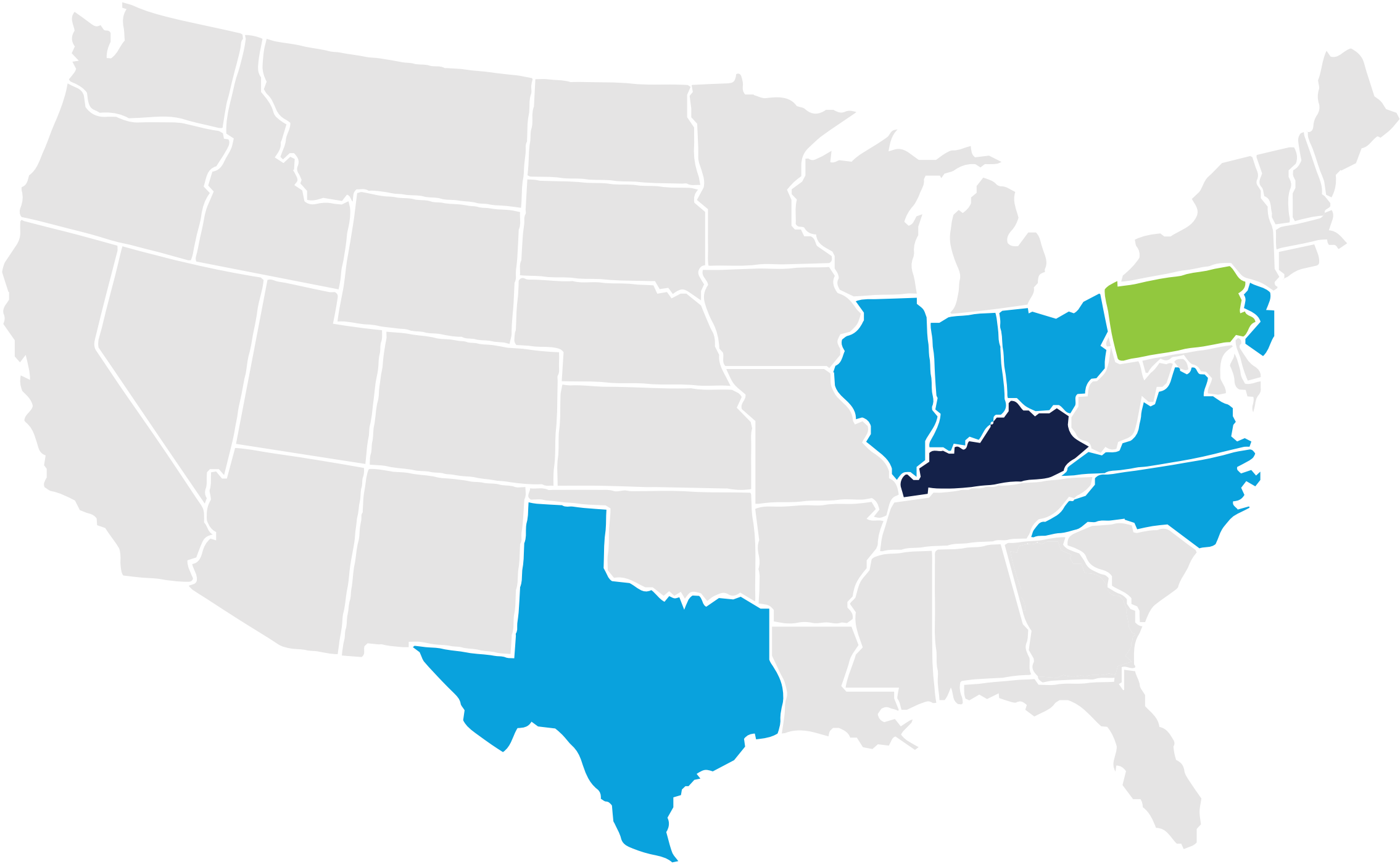
Gas Utility Customer Connections
0.8M

Gas Delivered to Customers
155.6Bcf

STATES

- Illinois
- Indiana
- Kentucky
- North Carolina
- New Jersey
- Ohio
- Pennsylvania
- Texas
- Virginia

- Aqua and Peoples
- Peoples Only
- Aqua Only



WATER AND WASTEWATER

Water Systems
1,512

Wastewater Systems
236

Gallons of Drinking Water Produced²
87.6B

Gallons of Wastewater Treated
16.1B

Water and Wastewater Utility Customer Connections
0.8M

¹Figures as of December 31, 2024

²It is important to distinguish between various volumetric measures of water reported by utilities like Essential. Water withdrawn is commonly defined as “water diverted or withdrawn from a surface water or groundwater source.” This is the raw input of our operations and thus has the largest volume of all figures we report. In 2024, Essential withdrew 82.5B gallons. Practically, a small percentage of this volume of surface water withdrawn is used for routine backwashing at our plants for preventative maintenance so the filter media can be reused. The remaining water volume enters the plant to be treated prior to being sent out through our distribution network to customers. This volume of treated water that was sent out from our plants in 2024, or produced, was 87.6B gallons, including purchased water. As water moves through our distribution network, a portion of the volume does not ultimately make it to the customer. This is considered non-revenue water loss and is comprised of “real” loss (leakage from main), “apparent” loss (such as theft and meter inaccuracies), and other instances such as water main flushing and water for emergency fire services. Across industry, and for Essential as well, these losses amount to roughly 20% of production volume. The remainder reaches the customer, is consumed and ultimately billed.

A Message from the CEO

As careful stewards of the environment, we actively pursue business strategies that are sustainable for our company and the communities we serve, and we are firmly dedicated to ethical corporate governance. These ideals are not tangential to our operations; they are foundational to a high-performing utility like ours. This approach has proven to be successful for Essential Utilities for well over a century and will continue.

The communities we serve trust us to provide clean, safe, reliable water and natural gas, and responsibly manage wastewater treatment and redistribution. We must and will do what is necessary to meet these commitments with excellence.

I invite you to learn more about our recent efforts by reading our 2024 Sustainability Report, watching this video, and monitoring our sustainability website for updates. We are proud of all we’ve accomplished in these important areas and eager to share our future aspirations and plans.

Christopher H. Franklin
Chairman and Chief Executive Officer



About this Report

This is Essential Utilities’ Sustainability Report for the calendar year 2024. Data in this report reflects the company as of December 31, 2024, unless otherwise noted, and includes information for the entirety of 2024 for the water, wastewater and natural gas utilities that comprise Essential.

This 2024 Sustainability Report integrates various reporting frameworks, including those put forth by the International Sustainability Standards Board (ISSB). For more information and to access additional reporting, please visit [Sustainability.Essential.co](#).

Forward Looking Statements

This report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, which generally include words such as “believes,” “expects,” “intends,” “anticipates,” “estimates” and similar expressions. The company can give no assurance that any actual or future results or events discussed in these statements will be achieved. Any forward-looking statements represent its views only as of today and should not be relied upon as representing its views as of any subsequent date. Readers are cautioned that such forward-looking statements are subject to a variety of risks and uncertainties that could cause the company’s actual results to differ materially from the statements contained in this report. Such forward-looking statements include, but are not limited to, statements relating to the capital to be invested by the water, wastewater, and gas distribution divisions of the company. There are important factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements including the factors discussed in our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q, which are filed with the Securities and Exchange Commission. For more information regarding risks and uncertainties associated with the company’s business, please refer to the company’s annual, quarterly and other SEC filings. The company is not under any obligation — and expressly disclaims any such obligation — to update or alter its forward-looking statements whether as a result of new information, future events or otherwise.

Alignment with UN SDGs

At Essential, we are committed to advancing the United Nations Sustainable Development Goals (SDGs), a global blueprint for addressing the world’s most pressing challenges and fostering peace and prosperity for all.

We focus our efforts on the SDGs where our business can make the most meaningful and measurable impact. By aligning with these priority goals, we aim to drive positive change across our value chain and within the communities we serve.

To learn more about our approach and the actions we’re taking to support our priority SDGs, please visit [Sustainability.Essential.co](#) and explore the sections and policies outlined below.

ESSENTIAL’S PRIORITY SDGS



[Contaminants of Emerging Concern](#)

[Managing Water and Wastewater Systems](#)

[Health and Safety](#)

[Environmental and Sustainability Policy](#)



[Diversity, Equity, and Inclusion \(DE&I\)](#)

[Equal Employment Opportunity and Anti-Harassment Policy](#)

[Human Rights Policy](#)

[Human Right to Water Policy](#)

[Labor Rights Policy](#)



[TCFD Report](#)

[CDP Report](#)

[Affordability and Access](#)

[Greenhouse Gas Emissions](#)

[Sustainability and Environmental Policy](#)



[Supply Chain](#)

[Benefits and Compensation](#)

[Governance and Ethics](#)

[Labor Rights Policy](#)



[Water Infrastructure and Resiliency](#)

[Greenhouse Gas Emissions](#)

[Sustainability and Environmental Policy](#)



Environment

Environmental Stewardship

At Essential, our mission is to sustain life and improve economic prosperity by safely and reliably delivering Earth’s most essential resources to our customers and communities fuel everything we do. We have taken these commitments seriously for more than 135 years.



Fresh water is a limited resource on our planet, and we need to manage it responsibly. **Through conservation and stewardship, Essential helps to safeguard water security for future generations. Essential also strives to operate a safe, resilient gas distribution system that provides affordable and reliable energy to our customers.**

Our [Sustainability and Environmental Policy](#) outlines the ways we apply our mission throughout our environmental profile. Our actions reflect the values that permeate our team and operations around the country. Across our operations, we have participated in environmental conservation and stewardship with many community partners to preserve and protect sensitive lands, plant thousands of trees, manage invasive species, reintroduce and reestablish native species and protect habitats. We have also released an ambitious emissions reduction target with concrete actions outlined to achieve this goal.

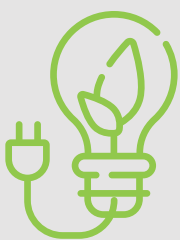
In this report, we expand on our commitment to present our stakeholders with some of the most detailed and transparent disclosures in the utilities industry. Whether we are speaking about water quality, gas system reliability, greenhouse gas (GHG) emissions or our waste program, we aim to provide rigor around both quantitative disclosure and qualitative explanations and context.



2024 Environmental Highlights

28%

cumulative achievement toward our Scope 1 and 2 greenhouse gas emissions reduction target of 60% from our 2019 baseline



Nearly 100%

renewable electricity procurement in PA, NJ, OH and IL

Innovative research

into emissions-reducing energy technologies like hydrogen blending

Progress toward our gas main replacement program’s long-term goal

of approximately 3,000 miles replaced, which reduces fugitive methane, as well as increasing the annual percentage of main inspected from previous years



Another year of **strong outperformance of the U.S. average** for water quality, as measured by quantity of health-based violations¹

¹ Please refer to Managing Water and Wastewater Systems section for detail about methodology used for comparison.



Climate Risk Management and Oversight

Essential understands the urgency of the Paris Agreement and the UN Intergovernmental Panel on Climate Change’s science-based target of limiting the global temperature increase to well below 2 degrees Celsius. Addressing climate change requires a holistic management approach and tracking of our Scope 1, 2 and 3 greenhouse gas (GHG) emissions. Our executive and management teams recognize there are two distinct responses to climate change: adaptation and mitigation. Essential is responding accordingly and has implemented a robust management system to identify associated risks and opportunities.

Essential defines its climate-related impacts though a model that weighs likelihood, cost, magnitude of impact and time horizon. The process also allows for implications to be updated and easily re-evaluated on an annual basis. This reevaluation takes into consideration updates to climate models and the addition of new topics and implications as our businesses and business locations change.

Essential manages climate change matters through significant board-level oversight of climate-related issues. We use various channels and reporting paths to review the risks facing the organization and evaluate operational risk factors associated with climate change. At the management level, the Sustainability Oversight Committee – a group of about a dozen of the company’s senior leaders from across the organization and the CEO – meets at least once each quarter to discuss these topics. Various members of senior management have numerous additional opportunities each month to engage on climate change matters.

We provide much more information on Essential’s climate scenario analysis, board and executive oversight, and risks and opportunities in our [CDP](#) and [TCFD reports](#).



Environmental Management System

As a large and diversified utility, Essential’s strong environmental management system is critical to our operations.

Our Environmental, Health and Safety management program identifies, prioritizes, communicates, mitigates and manages risks to ensure safe and reliable service for our customers. These areas are benchmarked through performance and risk reporting coordinated at all levels of the company.

The Compliance Assurance Program (CAP) is a key tool in Essential’s Environmental Management System (EMS). Each Essential company has designated personnel (environmental directors, environmental managers, environmental specialists, etc.) who are responsible for supporting the CAP while focusing on environmental compliance. As part of our alignment with the elements of ISO 14001, Essential’s CAP is founded on the concept of “Plan-Do-Check Act.”

In addition to routine communications and activities, special CAP meetings are held multiple times per year for each state and business and are attended by presidents, vice presidents, directors, managers and operations staff from corporate and state compliance, operations and engineering. Topics covered in these meetings include compliance metrics, water quality, environmental events, regulatory and company hot topics, and system/project review. Actions, events, activities, documents and records are tracked and managed in our Environmental, Health and Safety Data Management System software.

Additionally, Essential is in the process of implementing a water quality data management system across our water and wastewater utilities. This will ultimately serve as the central repository for all water and wastewater quality data, providing company-wide access to trends and early identification of developing issues.



PLAN

- Policy
- Benchmarking
- Target Setting
- Regulatory Register
- Risk Analysis



DO

- Corporate Programs
- State SOPs
- Communications
- Training
- Emergency Planning



CHECK

- Compliance Checking
- Water Quality Tracking
- CAP Meetings
- Auditing
- Management Reviews



ACT

- Root Cause Analysis
- Corrective Actions
- Programmatic Changes
- External Support
- Peer Reviews

Business Continuity and Emergency Preparedness

Essential Utilities utilizes four plans throughout its operations to ensure the organization is appropriately prepared for emergency response and business continuity (ERBC). These plans are in compliance with various state regulatory requirements through annual self-certification.

Accountability and governance for these plans rest with the company’s senior management team, including the CEO. While numerous ERBC plans exist across the organization, all plans are in accordance with industry, regulatory and company standards, ensuring employee and community safety are primary considerations in all situations. Due to the various geographic regions where our business operates and the diversity of our business units, water, wastewater and natural gas distribution, the responsibility of the various ERBC plans rests with designated organizational leaders to ensure they are effective and appropriate for their business needs and structure.

Core Emergency Response and Business Continuity Plans



EMERGENCY RESPONSE PLANS

Essential’s water and gas businesses have detailed emergency response plans (ERPs) that outline the required procedures, guidelines, organizational support and communication for responding to natural gas emergencies on pipeline systems, customer service outages or other natural disasters that present potential hazards to the public, property or environment. The plan is reviewed and updated annually with all operating personnel, and tabletop exercises and emergency simulations are conducted to enhance preparedness for these types of events.



PHYSICAL SECURITY PLANS

Physical security plans are intended to be a guide for all employees in reference to security measures for facilities and employees, as well as designating a Security Team that will be responsible for all aspects of the plan. The nature and severity of the security event is evaluated to determine the required response, coordination and resources.



CYBERSECURITY PLANS

The cyber incident response (IR) plan outlines the general guidelines for responding to computer security incidents throughout the company’s information technology (IT) and operational technology (OT) environments. In addition to providing a standardized, enterprise-wide IR process flow, it establishes the roles and responsibilities for Essential Utilities and its IR stakeholders, and identifies incident triggering sources, incident types and incident severity levels. This IR plan applies to all Essential Utilities employees and contractors responding to computer security incidents involving Essential Utilities information technology systems and information assets. This IR Plan applies to Essential Utilities IT and OT environments.



BUSINESS CONTINUITY PLANS

Business continuity plans provide mechanisms to ensure an organized response and recovery for any unplanned event that disrupts normal business operations, which could include loss of utility service, loss of access to buildings or any other catastrophic event. The purpose of the business continuity plans is to keep all our water/wastewater and natural gas distribution operating facilities safely online and in compliance with applicable regulatory requirements. This plan also promotes appropriate maintenance of distribution systems, uninterrupted water supply, wastewater processing and gas distribution and the health and welfare of our employees, customers, and their families.

Supplemental Plans

Supplemental plans are used in conjunction with or in a supplemental manner to the Emergency and Incident Response Plans.

AQUA SEVERE WEATHER PLAN

The severe weather plan provides a framework for coordination between state level operational leads and enterprise functional leads related to dangerous weather preparation and emergency response. This plan is applicable to weather events (forecasted or actual), that present a risk to operational and/or business continuity. The framework is flexible and can be used for localized, statewide or multi-state events.

The plan is designed for weather events that are unusual for the area of operation. The main types of weather events include, but are not limited to, snow events unusual for the geographic area, prolonged freezing temperatures, heavy precipitation, high wind, hurricanes or flooding. These types of events can result in economic costs, loss of human lives, operational interruptions and property damage. Additionally, these impending events can be designated by a state governor.

CRISIS COMMUNICATION PLAN

Crisis communication plans are a complement to the ERP and the incident management plan (IMP). It serves as a reference guide for utilizing the company’s internal and external communication vehicles as necessary when responding to events that could compromise the brand. This plan is not intended to replace systems and processes already in place as part of the ERPs or IMPs.

INCIDENT MANAGEMENT PLANS

IMPs provide mechanisms to ensure an organized response and recovery for any unplanned major event that disrupts multiple normal business operations and further provides structure for managing and coordinating the company’s four individual incident plans: emergency response, business continuity, physical security, and IT cyber security.



Managing Water and Wastewater Systems

 Essential provides clean, safe, reliable water and wastewater services.

As a publicly regulated utility, Essential must follow all federal and state water compliance regulations, including those from the Environmental Protection Agency (EPA). We work hard to meet our goal of operating with exceptional compliance with the Safe Drinking Water Act. Across the 1,500+ water systems we own and operate, this compliance allows us to provide safe and reliable drinking water for all customers.

We are committed to providing reliable and efficient wastewater treatment and strive to operate our 200+ wastewater systems in compliance with the Clean Water Act. Most wastewater ultimately ends up back in local rivers or streams, so it is vital that Essential treats all wastewater before it is discharged.

At Essential, we have the technical expertise and experience to offer superior wastewater services that meet all environmental and public health standards. We are continuously modernizing wastewater treatment methods, ensuring our systems protect the surrounding environment and adhere to current standards. Our goal is to return water to our streams and rivers cleaner than when we took it – after a thorough treatment process that includes screening, primary clarification and biological treatment. Beyond returning water to the source, we operate several plants that feature a wastewater reuse program to provide safe and treated irrigation water to local businesses, such as golf courses. This prevents discharge to streams and efficiently reduces demand for freshwater supply. We continue to proactively identify opportunities for wastewater reuse.

¹It is important to distinguish between various volumetric measures of water reported by utilities like Essential. Water withdrawn is commonly defined as “water diverted or withdrawn from a surface water or groundwater source.” This is the raw input of our operations and thus has the largest volume of all figures we report. In 2024, Essential withdrew 82.5B gallons. Practically, a small percentage of this volume of surface water withdrawn is used for routine backwashing at our plants for preventative maintenance so the filter media can be reused. The remaining water volume enters the plant to be treated prior to being sent out through our distribution network to customers. This volume of treated water that was sent out from our plants in 2024, or produced, was 87.6B gallons, which includes purchased water. As water moves through our distribution network, a portion of the volume does not ultimately make it to the customer. This is considered non-revenue water loss and is comprised of both “real” loss (leakage from main) and “apparent” loss (such as theft and meter inaccuracies) and other instances, such as water main flushing and water for emergency fire services. Across industry, and for Essential as well, these losses amount to roughly 20% of production volume. The remainder reaches the customer, is consumed and ultimately billed.

DRINKING WATER

Water Systems

1,512

Connections

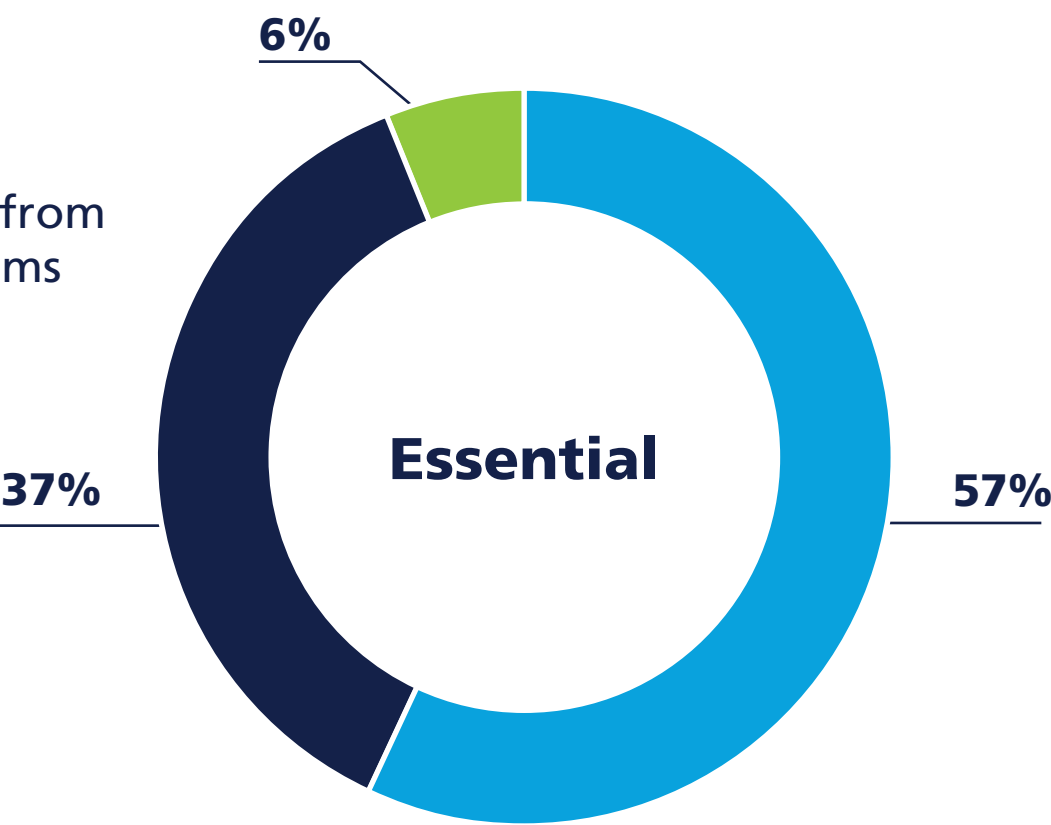
~0.9M

Gallons of Total Water Production¹

87.6B

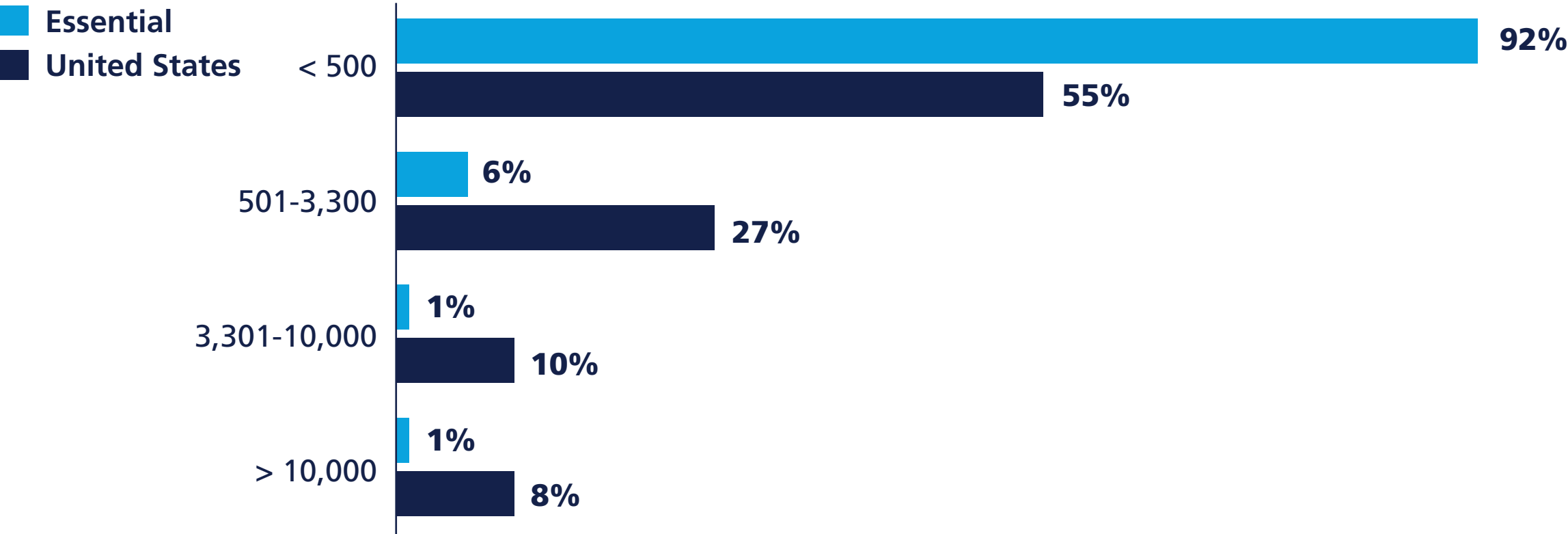
WATER SOURCES

- Surface
- Ground
- Purchased from other systems



COMPARISON OF SIZE OF DRINKING WATER SYSTEMS

(Measured by number of connections and presented as percent of water systems)



WASTEWATER

Wastewater Systems Count

236

Connections

~0.2M

Volume of Wastewater Treated (gallons)

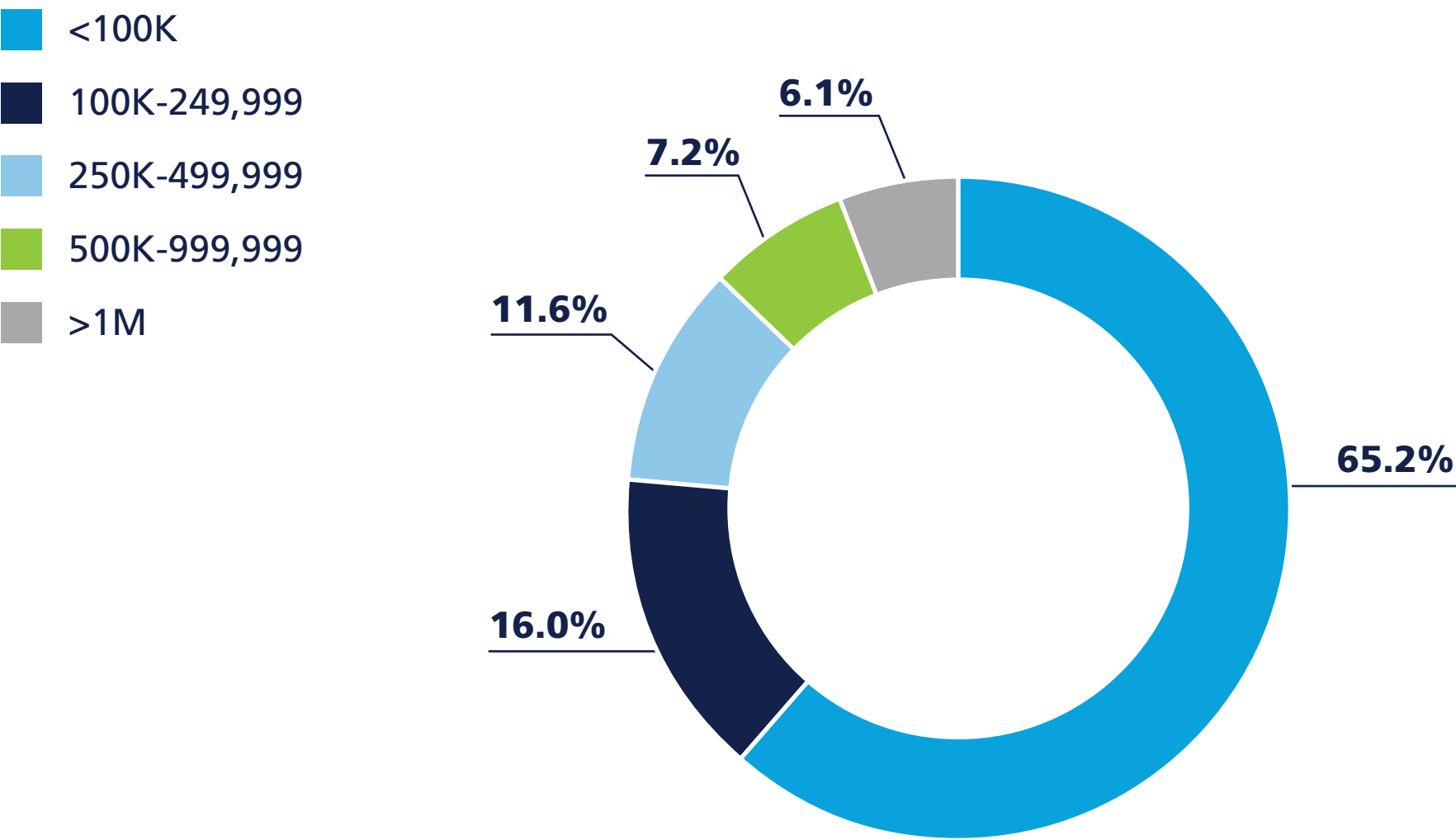
16.1B

Gallons Treated Relative to Total Capacity¹

46.3%

SIZE OF ESSENTIAL'S WASTEWATER TREATMENT PLANTS

(Measured by gallons of permitted capacity and displayed as percent of wastewater treatment plants)



¹17.3 billion gallons of permitted capacity



Compliance and Regulations

Essential’s compliance program ensures we meet all the local, state and federal regulations across our eight-state water and wastewater utility footprint, including requirements for permits for air, water, wastewater and related materials stored or disposed of as the result of our operational activities. Our [Environmental Management System](#) and related governance process also support our compliance efforts.

We track and measure our compliance performance, including the number of days Essential operates in compliance with given permits and regulations for both water and wastewater operations. Over the past five years, we have met increasingly more challenging company targets for both water and wastewater.

	Water	Target	Target Achieved
2013	99.28%	N/A	
2014	99.21%	99.50%	
2015	99.53%	99.50%	✓
2016	99.48%	99.50%	
2017	99.61%	99.50%	✓
2018	99.74%	99.50%	✓
2019	99.68%	99.50%	✓
2020	99.62%	99.55%	✓
2021	99.63%	99.70%	
2022	99.78%	99.70%	✓
2023	99.92%	99.75%	✓
2024	99.80%	99.75%	✓

Water and Wastewater Percentage of Days in Compliance¹

	Wastewater	Target	Target Achieved
2013	91.70%	N/A	
2014	92.50%	90.00%	✓
2015	93.90%	90.00%	✓
2016	93.50%	90.00%	✓
2017	95.00%	93.00%	✓
2018	94.30%	94.00%	✓
2019	95.50%	94.50%	✓
2020	95.20%	94.50%	✓
2021	96.50%	95.50%	✓
2022	97.70%	95.50%	✓
2023	98.10%	96.00%	✓
2024	96.70%	96.50%	✓

¹To calculate the percentage of days in compliance, we utilize the American Water Works (AWWA) benchmarking method, in which the number of days out of compliance, tallied for all our systems, is divided by the product of number of days in the year and the number of systems we operate. We compare this resulting figure against internal targets we had set.

DRINKING WATER COMPLIANCE

According to the EPA, about one in 15 U.S. community water systems have health-based violations¹.

Fewer than one in 50 Essential community water systems have incurred health-based violations in any given year. We are proud of our track record of outperforming the U.S. average at-large by, typically, at least four times and are consistently working toward improving that figure through investments in our water treatment and infrastructure.

WATER COMPLIANCE METRICS FOR ESSENTIAL-OWNED SYSTEMS²

	2024	2023	2022
Systems with Tier 1 violation	7	7	10
Systems with Tier 2 violation	9	6	8
Systems with Tier 3 violation	75	142 ³	39
Total tier violations	89	153	61
% of systems with tiered violations	5.9%	10.2%	3.9%
% of systems with Tier 1 + Tier 2	1.1%	0.9%	1.4%
% of systems with Tier 3 only	5.0%	9.5%	2.6%
Total # of systems	1,512	1,513	1,512

¹There are 50,076 community water systems in America. Of those, close to 40% had a violation and about 7% had health-based violations according to recent annual reporting via the [EPA's ECHO Database](#). The EPA has not updated this database for 2024, and it is not clear if these annual updates will continue.

²Tiers as defined as per [EPA regulations](#).

³There were several factors that led to the increase in Tier 3 events in 2023. These include regulatory agencies requiring notices for reporting violations that previously did not require Tier 3 notices, as well as some missed monitoring. Essential takes these events seriously and has implemented changes in the company's systems to reduce the potential for future similar missed monitoring.

TIER 1 VIOLATIONS

are defined as those of the National Primary Drinking Water Regulations (NPDWR) that require public notice and have significant potential for serious adverse effects on human health as a result of short-term exposure.

These include very short term (one to seven days) boil water notices and can be required due to loss of pressure from a water main break or due to the effects from a major storm for a variety of reasons depending on state regulations, including temporary treatment issues or, less commonly, an elevated nitrate result. From October 2024 forward, this also includes instances where lead levels exceed the action level. In Essential's assessment, the year-on-year increases noted are not material in terms of the overall risk to our systems.

TIER 2 VIOLATIONS

are defined as violations of the NPDWR that require public notice and have the potential for serious adverse effects on human health as a result of long-term exposure.

TIER 3 VIOLATIONS

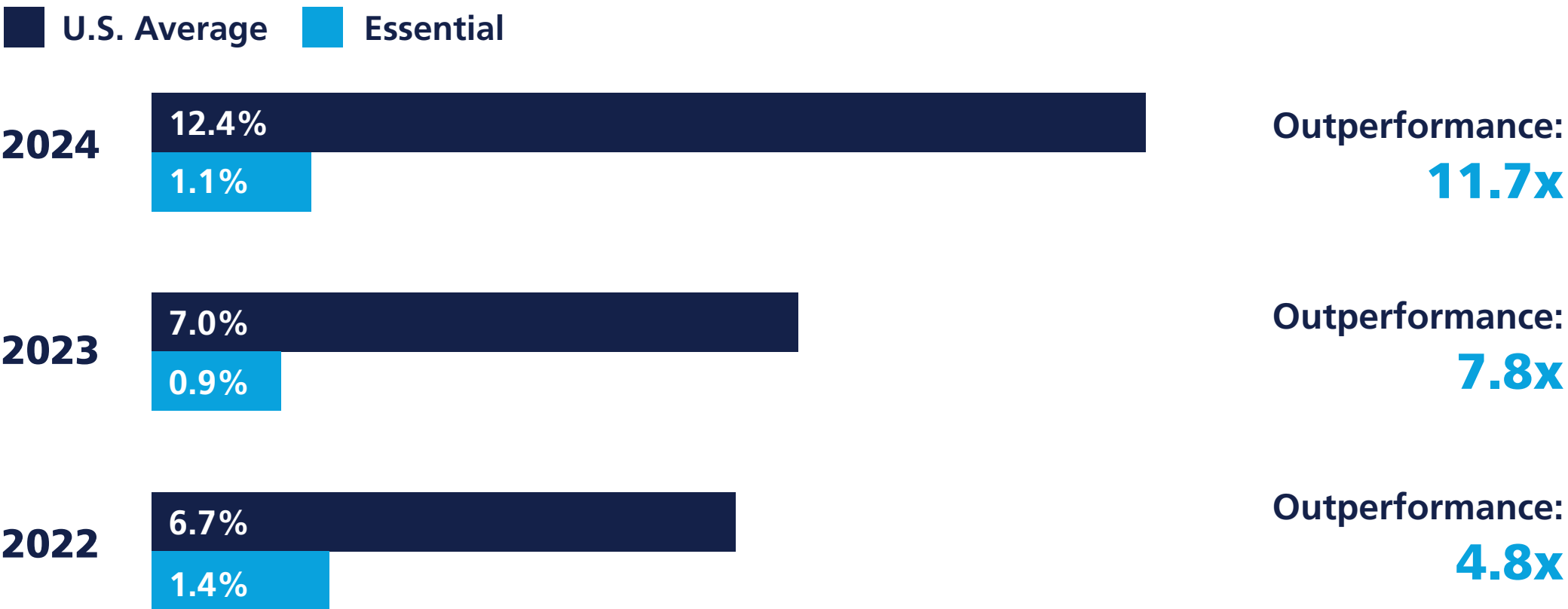
are defined as violations of the NPDWR not included in Tier 1 and Tier 2 that require public notice but are not considered to have a direct impact on human health (such as violations of monitoring and reporting).

PRIOR YEAR DATA REVISIONS

Some prior year data, especially regarding Tier 3 violations, are subject to revision in future report publications. This is driven by timing differences, as regulatory review processes are sometimes finalized after initial disclosure via sustainability reporting.

WATER COMPLIANCE VS U.S. AVERAGES

(Measured as percentage of community water systems with health-based violations. U.S. averages compiled from the [EPA's ECHO Database](#))



About 79% of our public water systems are comprised of fewer than 500 connections. Even when Essential’s very small water systems are compared with U.S. averages for their size bracket, the trend still holds-

we greatly outperform the U.S. average at-large.

OUR STATE-OF-THE-ART LAB WORK

Each year, Essential publishes water quality reports, or Consumer Confidence Reports (CCRs), on its website. CCRs summarize the quality of water Essential provides for each water system, including information about its water sources, what its drinking water contains and how it compares to standards established by the EPA. Please visit our [website](#) for more information and to access these reports. We also encourage our customers to [contact](#) our customer service center with any questions or concerns about their water quality and service.

More than 90 contaminants are regulated in drinking water. They require testing at varying frequencies and locations within a system, depending on several factors. These required monitoring results are published in our CCRs. Beyond this mandated testing, we conduct operational monitoring to optimize our processes and source water monitoring to understand if water quality is changing over time in our systems. This data enables proactive improvements to treatment and investigation of better water sources we can develop and use.

Our state-of-the-art environmental laboratory at our Bryn Mawr headquarters is just one example of our commitment to operational excellence and our mission to protect the public health and ensure clean, safe, reliable water. Since opening in 2021, this laboratory has allowed us to adapt to the dynamic regulatory environment and accommodate our increasing footprint as we continue to acquire additional customers and systems.

The laboratory is certified by the Pennsylvania Department of Environmental Protection and four other state environmental or health regulatory agencies. We feel confident in our ability to deliver safe drinking water and return treated wastewater to our rivers, lakes and streams cleaner than when we withdraw it for drinking water treatment.

The lab employs 20 professional staff members, including microbiologists and chemists who perform approximately 65,000 tests on 30,000 water samples each year. These scientists use 40 analytical methods to assess roughly 150 water quality parameters. And as we’ve transitioned from measuring in parts per million to parts per trillion (ppt)—a millionfold increase in detection levels—we feel confident in our ability to deliver safe drinking water and return treated wastewater to our rivers, lakes and streams cleaner than when we withdraw it for drinking water treatment.

This [video](#) offers a glimpse into our state-of-the-art lab and the role it plays in our operations.



WASTEWATER COMPLIANCE

Essential’s primary duty is to meet the requirements of all local, state and federal regulations for its wastewater treatment plants. This means our wastewater systems must achieve greater than 90% removal of regulated elements during the treatment process.

In 2024, more than 99.97% of the wastewater volume we treated achieved this high level of compliance through our use of secondary treatment processes to remove organics and solid materials. In many sensitive areas—such as the Chesapeake Bay area—we used tertiary treatment processes to remove nutrients such as nitrogen and phosphorus as required by regulations.

WASTEWATER OPERATIONS COMPLIANCE SUMMARY

	2024	2023	2022
Events	207	120	148
Days in Compliance	96.7%	98.1%	97.7%

Note: (Measured in number of non-compliance events associated with water effluent quality permits, standards and regulations)

Contaminants of Emerging Concern

Managing contaminants of emerging concern in drinking water is a continuous process as science improves our ability to detect and understand the impacts of contaminants in water. **We consider the latest science and research to identify potential contaminants of concern for further review, evaluation or action.** Additionally, we review the prevalence and levels of these chemicals and their potential to cause human health or environmental harm in our various processes. We also are involved in industry research, committees and organizations that track and study the latest in emerging contaminants to help us prepare for future needs. For example, Essential is participating in research studies with the Water Research Foundation on Legionella in distribution systems, corrosion control inhibitors and lead service line material identification.

Based on this information, we may choose to look at specific geographic locations or types of systems to further understand how these compounds occur and behave in the environment. If the levels warrant action, then we first prefer remediating the source of the chemical to avoid removal in the water or wastewater treatment process. If the source is too diverse or not easily identifiable, we then evaluate treatment technologies for installation to protect our customers.

With this knowledge, we work with environmental regulators and with public utility commissions to gain the necessary acceptance and permissions we need to implement treatment solutions. To minimize impact on customers, we apply for funding via grants and low interest loans where available and feasible. During this process, we develop systems to communicate our findings with various agencies, organizations and customers. Finally, we review all the impacts from our activity footprint as we consider the long-term sustainability impacts on activities like material disposal.



Essential continuously reviews chemicals such as pesticides, pharmaceuticals and personal care products. We are currently conducting and monitoring scientific activities for per and poly-fluoro alkyl substances (PFAS), cyanotoxins, lead and manganese.

PFAS, or Forever Chemicals, is a concern in communities across the country where groundwater is believed to have been contaminated by nearby military bases or other causes. Since setting a company-wide standard of 13 ppt in 2020, the EPA finalized new drinking water regulations for PFAS with limits on six PFAS compounds—PFOA, PFOS, PFNA, PFBS, PFHxS and GenX—with a compliance deadline of April 2029. Essential is prepared to meet these federal regulations ahead of the required compliance deadline of 2029 thanks to nearly a decade of sustained action to address PFAS.

KEY EMERGING CONTAMINANTS

	What is it?	What are the risks?	How does Essential manage this contaminant?
Cyanotoxins	Blue-green algae source, called by specific sub-names of microcystin, saxitoxin and cylindrospermospin.	Found in harmful algae blooms (sometimes referred to as HABs) in surface waters. Even very low levels of cyanotoxins, if not sufficiently removed during treatment, can trigger health advisory levels leading to “do not drink” or “do not use” orders for customers.	We implement source water protection practices, monitoring, removal technologies and advanced software that uses data-driven learning to develop algorithms for predicting cyanotoxin levels and optimizing their treatment to safe levels.
Lead	Source is lead solder, lead pipes and lead in older fixtures.	If corrosion control is not properly maintained or the material is physically disturbed, dissolved and particulate lead can be released. Lead is toxic and can potentially impact children’s development.	Our lead efforts focus on water quality optimization to prevent lead release, customer education to raise awareness of how to minimize lead exposure, monitoring to identify sources and confirm water quality is optimized, and removal of lead service lines. We are currently inventorying all our water service line materials and replacing any lead service lines that we identify. We inform customers about how to minimize lead exposure both before and after the service line replacement by flushing systems and using pitcher filters that we supply for six months.
PFAS	Per or poly-fluoro alkyl substances, called PFAS, are a family of almost 5,000 constituents that have been used in common household items, military applications and manufacturing since the 1940s, including the more well-known sub-species of PFOS and PFOA. PFOS was primarily used in firefighting foams while PFOA was used in most non-stick materials including common household items, clothing, office supplies and even food containers.	Some PFAS sub-species have been linked to cancer and non-cancer health impacts at very low levels of exposure. Their ubiquitous presence in the environment, along with regulations requiring the removal to very low levels require expensive treatment systems. State regulations differ on the safe levels and standards, while a federal standard has been finalized with a mandatory compliance date set for April 2029.	Essential has surveyed all its systems for PFAS and has the capability to conduct the analysis at its lab. The company has already installed treatment systems on many systems with elevated PFAS levels. We have also developed a capital program to build and install over 200 PFAS treatment systems across its states before April 2029. Essential has taken legal action against the manufacturers and other polluters of PFAS.

Supporting Sustainable Water Practices

We routinely conduct efforts to responsibly manage Essential’s water sources against situations that could stress those sources, including drought planning and increased demands from population growth.

To help inform these efforts, we conducted an analysis using the World Resources Institute (WRI) Aqueduct tool to look at our systems and production through the lens of WRI’s Aqueduct Baseline Water Stress (BWS).¹

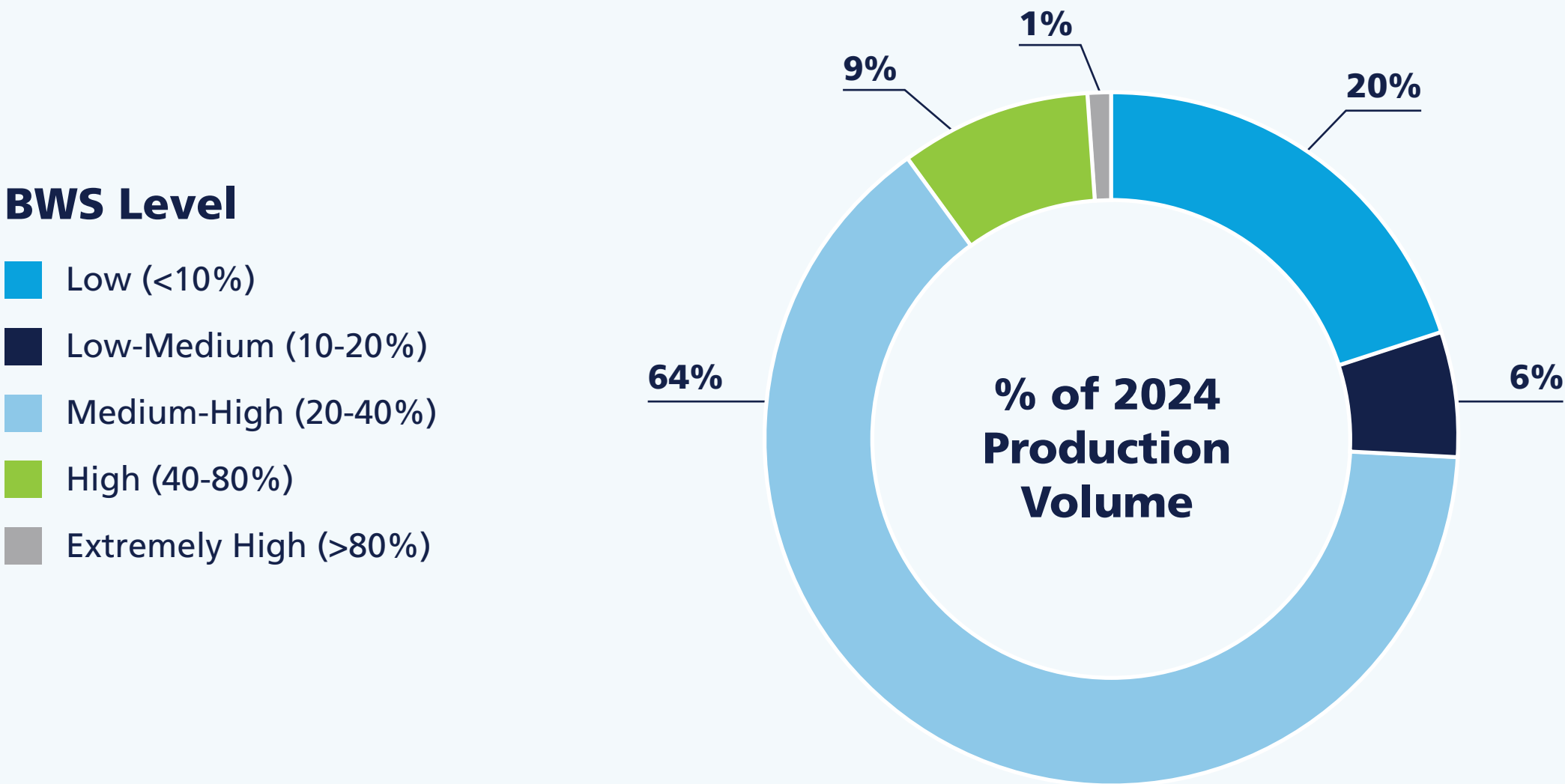
This is a broad, high-level regional analysis that may not represent the true level of stress on a source locally, nor does it consider management of sources by groundwater conservation districts, river basin commissions or other local, state and federal agencies. Regardless, we conducted the exercise to understand the potential regional water stress in Essential’s service areas. The analysis compared the location of Essential systems to the BWS coverage provided by WRI Aqueduct in a Geographical Information System (GIS). The system’s representative annual production in 2024 was then sorted to the BWS categories of low, low-medium, medium-high, high or extremely high as indicated by WRI.

As shown in the table to the right, roughly 10% of Essential’s water produced in 2024 was sourced from regions with baseline water stress identified as high or extremely high. However, it is important to note that several large systems make up significant portions of our water production and thus can significantly influence these results. For example, the Essential main system serving a large region of Southeastern Pennsylvania is located in the Delaware River basin. The entire Delaware River basin baseline water stress is labeled as medium-high in the WRI Aqueduct tool, but this does not factor in the significant regulation and careful management of the entire basin’s water resources by the Delaware River Basin Commission and surrounding states since the 1960s.

Essential will continue to evaluate and examine potential opportunities and technologies to recycle water and reuse wastewater. We monitor and address sites that are more prone to water scarcity individually. In 2024, we recycled approximately 722.1 million gallons of treated wastewater to the groundwater recharge via spray irrigation, drip irrigation and subsurface infiltration. This accounts for 6% of the total wastewater treated in 2024, with the remainder safely discharged to streams, rivers or lakes.

¹ As defined by WRI Aqueduct, Baseline Water Stress measures the ratio of total water withdrawals to available renewable surface and ground-water supplies. Water withdrawals include domestic, industrial, irrigation and livestock consumptive and non-consumptive uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate more competition among users (*Hofste, R., S. Kuzma, S. Walker, E.H. Sutanudjaja, et. al. 2019. “Aqueduct 3.0: Updated Decision- Relevant Global Water Risk Indicators.” Technical Note. Washington, DC: World Resources Institute. Available online at: <https://www.wri.org/publication/aqueduct-30>.)

ESTIMATED WATER PRODUCTION FROM REGIONS OF BASELINE WATER STRESS



RECYCLED WATER VOLUME

	2024	2023	2022
Total Recycled Water (millions of gallons)	722.1	695.7	628.7
% Total Water Production	0.8%	0.8%	0.7%
% Total Wastewater Treated	6.0%	6.1%	5.6%

HELPING OUR CUSTOMERS CONSERVE WATER

Our customers can play a significant role in the promotion of water efficiency.

Essential tracks the water consumption trends of our customers to better manage water resources and to help safeguard sustainable sources of water for future generations. One of the most impactful findings has been a steady decline in water consumption, per household, by our customers over the past several decades – largely driven by improvements in the water efficiency of home appliances.

Essential proactively shares information through mailers and social media with our customers to enhance their experience and provide additional information on topics that help them save money and conserve water.

We also provide WaterSmart alerts, an automated customer notification designed for quick, reliable communications on a customer's water safety and service in the event of a disruption.

The EPA's Fix a Leak Week, which serves as an annual reminder for households to check their fixtures for leaks, also provides us with an opportunity to engage customers via social media and on our [website](#).

We join our customers in pursuing opportunities for efficiency and strive to model environmentally friendly practices. Across our corporate office and facilities footprint, Essential seeks to use efficient appliances, fixtures and building systems where feasible. In various locations, we have implemented low-flow water faucets, water-saving toilets, LED lighting systems and we continue to evaluate solar power and energy-efficient solutions across the company.



Water Infrastructure and Resiliency

INVESTING IN OUR NATION’S INFRASTRUCTURE

The U.S. has a very fragmented network of aging water systems, with more than 150,000 water systems serving nearly 320 million people.

Most Americans receive their drinking water from community water systems, which are primarily run by local municipalities. Unfortunately, maintenance on these systems can be expensive, and costs are rising fast—from stricter regulations to the rising costs of labor and materials, to the additional expertise needed to handle modern challenges—it’s getting harder for municipalities to effectively run their water and wastewater systems. As a result, many municipalities are deferring maintenance—a risky decision that can have serious consequences on the long-term safety and reliability of a water system. We are proud to work with municipalities and play a leading role in providing solutions for communities that are struggling to keep up with these challenges.

Essential recognizes the construction activity in the communities we serve can cause disruption. To minimize the impact of disruptions, we work alongside community leaders to coordinate on paving schedules, aligning these with other public works projects and ensuring our projects address any community expectations. We work hard to leave a street in better condition than when we found it. To minimize disruptions during the construction process, we keep our customers informed through communications and often by going door-to-door to personally discuss the impact and identify mitigation strategies.

By leveraging our compliance expertise, purchasing power and operational efficiencies, we have infused needed capital and resources into the systems we own and acquire to rehabilitate the infrastructure required for reliable water and efficient wastewater services. This commitment is illustrated, for example, through our partnership with Bourbonnais, Illinois. Check out this [video](#) for a profile on our service in this community.

Essential conducts rotational facility audits of our surface water plants to ensure timely reviews of our infrastructure investment requirements. Our asset management program relies on concepts of likelihood and consequence of failure to drive decision-making on which infrastructure to prioritize for repair or replacement.

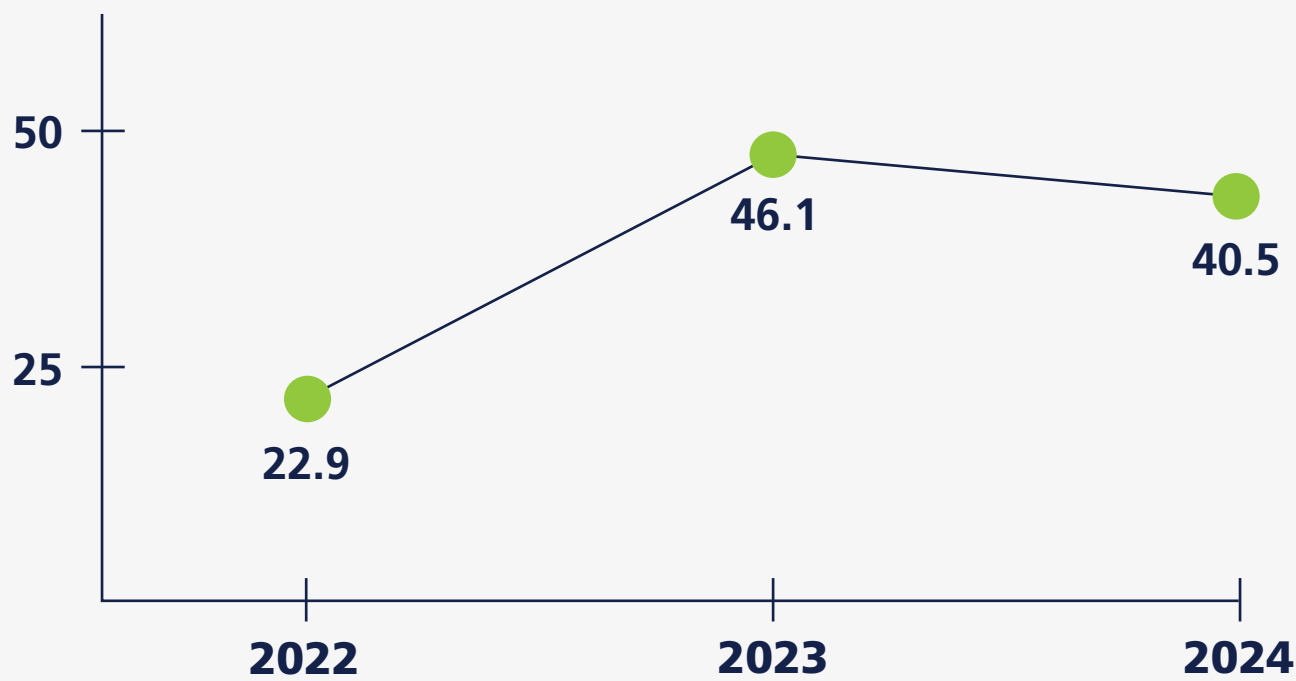
UNPLANNED SERVICE DISRUPTIONS

When an unplanned event occurs in one of our systems, Essential utilizes a customer disruption map to keep our customers informed of planned and unplanned occurrences. This data informs our asset management and capital planning efforts to reduce future occurrences through investment or operational changes.

	2024	2023	2022
Number of unplanned service disruptions	2,546	3,018	2,634
Number of unplanned service disruptions (normalized per 100 miles)	23.2	20.9	18.4

Note: These year-on-year changes are likely primarily driven by better data collection and data quality that we have been working toward in recent years, across each of our states. The company is focusing efforts on more comprehensive disruption tracking and training, which may increase our tracking numbers in the near-term while affording us the opportunity in the long-term to focus our attention on remediation measures that reduce this impact on our customers.

MAIN BREAKS PER 100 MILES



Note: We believe much of the year-on-year variability is the result of better data collection and data quality that we have been working toward in recent years across each of our states. We believe that, in actuality, there has been a decrease in main breaks across the company and this is true when we look at certain individual state operations, such as our largest state of Pennsylvania. We hope these data improvements will allow for more direct year-on-year comparisons in the future. We believe it is likely that these figures are artificially inflated due to a different definition of “main break” used in some of our operations. The company is in the process of implementing new standardized processes and applications to consistently track information.

REDUCING WATER LOSS

One of Essential’s primary responsibilities is the careful management of water resources, which includes actively seeking ways to reduce water loss.

Our significant investment in water infrastructure has proven to be a very successful way to reduce water main breaks and water loss. For example, in 2000, Essential experienced nearly 25 main breaks per 100 miles on the pipe we own in southeastern Pennsylvania. In 2024, we experienced fewer than 8 main breaks per 100 miles on that system. This not only reduced water loss, but lowered the cost of emergency repairs, limited service interruptions and improved water service for customers.

Keeping to this commitment, Essential replaced more than 105 miles of water pipes in 2024 and plans on replacing 127 miles of water pipes in 2025 to continue to address water loss and improve water quality and reliability for customers.

Essential has adopted a suite of innovative technologies to enhance system monitoring and reduce water loss. One such advancement is the integration of GIS mapping software with satellite imagery, which has proven highly effective in identifying leaks and potential contamination sources. This tool enables teams to proactively address issues before they escalate. Additionally, Essential has launched a strategic transient pressure monitoring program to look at main break trends and deploys cellular-based internet of things devices to monitor pressures in an area. Recent examples have identified booster pumps in systems with faulty starting devices that were causing excessive pressure spikes on the system, which would have gone undetected without this technology. Those repairs have shown a direct correlation to reduced water loss, main breaks and improvements to water quality.

145

Five-Year rolling average of annual miles of water main replacement

1.0%

Five-Year rolling average¹ of annual main replacement rate

¹There are many factors that can affect year-on-year main replacement. To stabilize these and provide a more consistent view of our replacement rate, we have elected to disclose the average for the past five years.

NON-REVENUE WATER LOSS

	2024	2023	2022
Volume (billions of gallons)	18.3	17.3	17.8
% of total production	21.0%	20.1%	20.5%

Note: Data is displayed here in both the absolute value of volume as well as a percentage of total production. This normalizes the data and accounts for changes in total water production, or send out, across years. We believe that due to our acquisition of new water systems over time and the practical margin of error with measurement equipment in the field, our levels of non-revenue real water loss have remained materially consistent over the past three years. Non-revenue water losses represented here include leakage (real losses), apparent losses (such as theft and meter inaccuracies), and other instances, such as water main flushing and water for emergency fire services. These values are determined based on the difference between water production and water ultimately delivered to customers and billed.



MINIMIZING UNTREATED WASTEWATER DISCHARGE

There are several ways that untreated or partially treated wastewater can make its way into the environment, creating negative health and safety impacts for humans and ecosystems. Essential takes numerous steps to minimize all discharge occurrences and volumes through operational excellence and proactive capital investment. It is critical to note that Essential treats more than 99.9% of wastewater volume to achieve regulatory compliance. However, in 2024, we experienced 269 wastewater-related discharge events that led to a collective 6.3 million gallons of untreated or partially treated wastewater that regrettably ended up in the environment. More than 90% of these occurrences were related to precipitation events.

Much of this volume of wastewater-related discharge events (49.8%) is attributed to unanticipated plant bypass events. This occurs when wastewater arrives at a treatment plant but is unable to be fully treated. This can be due to unmanageably high flows during storm events, accidents, or failures in infrastructure. We continually work to improve the capacity of our wastewater treatment facilities to handle peak flows and mitigate risk of unanticipated plant bypass.

Nearly all the remaining wastewater-related discharge events by volume (43.6%) are attributed to sanitary sewer overflow (SSO) events. SSOs occur when untreated sewage is discharged from a sanitary sewer into the environment prior to reaching one of our wastewater treatment facilities. An SSO can be caused by a variety of things, including pipe clogging and equipment failures at pump stations. Most frequently, however, SSOs are caused during wet weather periods when the sewer system capacity is exceeded by infiltration and groundwater seeps through cracks in the pipe system. In 2024, we observed 227 SSO events that led to about 2.7 million gallons of discharge into the environment.

We work to reduce SSOs and sewage-related events by regularly inspecting and cleaning sewer pipes, replacing aging sewer pipes to reduce inflow and infiltration, maintaining and upgrading our pump stations, and educating customers about what not to put down the drain and monitoring for fats, oils and grease disposal by businesses.



WASTEWATER-RELATED DISCHARGE EVENT DATA			
	2024	2023	2022
# Wastewater-related discharge events	269	250	149
# SSO events	227	199	86
Miles of system	3,345	2,556	2,678
# SSO events/100 miles of system	6.8	7.8	3.2
Total volume of wastewater treated (gallons)	12.0 billion	11.4 billion	11.2 billion
Wastewater-related event volume (gallons)	6.3 million	2.4 million	9.2 million
SSO volume (gallons)	2.7 million	1.9 million	2.0 million
% Wastewater volume that is fully treated	99.98%	99.98%	99.92%
% Volume of wastewater-related discharge events related to precipitation	90.2%	30.8%	68.2%
% of discharge event volume classified as unanticipated plant bypass	49.8%	6.4%	77.3%
% Plant spill	6.6%	16.4%	0.5%
% of discharge volume classified as plant spill	43.6%	77.1%	22.2%



FLOOD RESILIENCY

Extreme flooding can also pose a risk to the integrity of operations at wastewater treatment plants, presenting a situation where a sanitary sewer overflow, as Essential more broadly defines this, can develop as untreated wastewater escapes into the surrounding environment. In the past year, we have performed a detailed analysis of how much of our wastewater capacity falls within 100-year flood zones (1% annual chance of flooding) by comparing the location of each plant to the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer. Essential operates 203 wastewater treatment plants (WWTPs) across its footprint, and we determined 78 Essential WWTPs (38%) fall within a 100-year flood zone and 111 fall within a 500-year flood zone (55%). This represents 49% and 47% of Essential’s permitted wastewater capacity, respectively. Note that this analysis only considered whether the WWTP was located within the flood zones and did not account for any flood prevention measures that might already be in place at those WWTPs. Essential carefully plans for flooding events and has implemented considerable mitigation efforts and processes to substantially reduce associated risks. We have taken this analysis further by looking at the topography of each site to determine flood risk and guide targeted investments in mitigation.

With recent storm flooding events at one of our major plants, Essential is acutely aware of the impact of flooding associated with climate change. We are utilizing the American Water Infrastructure Act (AWIA) requirements to conduct risk and resiliency studies at each of our large facilities and then cascading down through our system based on size to assess risks posed by flooding and other events. Results from these analyses are used to inform our capital and operational planning efforts.

Managing Gas Utility Operations



Essential’s gas utility operation serves customers in southwestern Pennsylvania and eastern Kentucky.

We operate more than 15,300 miles of distribution and transmission pipelines in these areas. Essential also owns and operates more than 1,700 miles of gathering pipelines, 35 compressor stations and six underground storage fields.

Gas Infrastructure and Resiliency

Of our 15,300 miles of distribution and transmission pipelines, approximately 14% are made of older vintage (prior to 1970) bare steel or cast/wrought iron and has been identified as aging infrastructure in the company’s Long-Term Infrastructure Improvement Program (LTIIP). This modernization program targets replacement of all aging infrastructure by 2035. Our Distribution Integrity Management Program (DIMP) and Transmission Integrity Management Program (TRIMP) formally operate and maintain these facilities thorough asset management processes and procedures.

We integrate newer pipeline materials, most notably plastic, into our system that are more environmentally friendly over their lifetime than the materials historically used. These materials are more durable, safer and more resistant to corrosion and leaks, reducing methane emissions.

LEAK-PRONE DISTRIBUTION

(Percentage of distribution pipeline)

	2024	2023	2022
Cast or Wrought Iron	0.36%	0.40%	0.45%
Bare Steel	14.2%	15.4%	17.8%

INSPECTIONS AND PIPELINE INTEGRITY

Our robust inspection and maintenance activities, which are aligned with state regulations that outline the use of various leak detection technologies and methods, mitigate significant pipeline incidents. The Pennsylvania Public Utility Commission (PA PUC) annually reviews and audits our plans for their compliance with all requirements and regulations.

MINIMIZING THIRD-PARTY DAMAGE

Essential has an aggressive Damage Prevention program to minimize third-party excavation damages. Over the three-year period from 2022 to 2024, we experienced a 12% reduction in damages per 1,000 tickets received. Additionally, we have been installing excess flow valves (EFVs) for new services that operate above 10psi to automatically stop the flow of natural gas if the service line is damaged.

Compliance with Regulations

Essential has developed standard operating procedures that detail the requirements and inspection intervals for all operations and maintenance activities to comply with codes and regulations that govern pipeline safety. A dedicated team of engineers serve as the primary liaisons with the state regulatory bodies that audit and inspect these activities. **In 2024, the PA PUC conducted 241 audits of field operations and associated records, finding no violations, fines or citations.** The Pipeline Safety Division of the PA PUC issued three letters of potential Non-Compliance (NC letters) that recommended minor revisions to procedures and policies to enhance the pipeline safety performance.

GAS SAFETY COMPLIANCE			
	2024	2023	2022
Reportable Incidents	1	1	3
Corrective Action Orders	0	0	0
Notices of Probable Violation ¹	0	0	0
Non-Compliance Letters	3	3	9

PERCENTAGE OF GAS TRANSMISSION AND DISTRIBUTION PIPELINES INSPECTED			
	2024	2023	2022
Transmission	100%	100%	100%
Distribution	40.0%	43.1%	42.9%

¹ In the interest of transparency, Essential also discloses non-compliance letters received (NC), which do not rise to the level of an NOPV and which we generally categorize as relatively minor.

CUSTOMER AND PIPELINE SAFETY

Providing safe and reliable service is the foremost priority for Essential’s operations. Our pipeline integrity programs focus on meeting all regulatory requirements and inspections associated with pipeline safety. The Peoples Gas website has a [section](#) dedicated to safety for customers and the public. In addition, our safety and training team conducts natural gas emergency response sessions for municipalities and fire departments, reaching more than 600 emergency responders. We share various communications (such as emails, bill inserts and mailings) to customers, school districts and rural property owners to alert them of the potential hazards of natural gas and their proximity to facilities. We are proud of our pipeline safety record and will continue to improve and innovate our community outreach and coordination efforts. Our [website](#) for first responders, as well as various in-person trainings and events, provides resources and information that promotes safety in various emergency situations.

The PA PUC and the American Gas Association (AGA) annually benchmark average response time and percentage of issues responded to within 60 minutes as two critical emergency response metrics during emergency events involving natural gas. In 2024, Essential achieved an average response time of 26.4 minutes (with an internal goal of 27.1 minutes). In total, Essential responded to 96.8% of emergency situations within 60 minutes (with an internal goal of 98.4%). We participate in several AGA committees to discuss industry best practices on pipeline safety.

AVERAGE RESPONSE TIME TO POTENTIAL GAS EMERGENCIES			
	2024	2023	2022
Average minutes to respond	26.7	26.5	24.2
% Response within 60 minutes	96.8%	96.7%	98.6%

Greenhouse Gas Emissions



In January 2021, Essential announced a commitment to reduce its Scope 1 and 2 greenhouse gas emissions, targeting a 60% reduction by 2035 from a 2019 baseline.

This commitment is consistent with the rate of reduction necessary through 2035 to keep on track with the Paris Agreement, which aims to limit the global temperature increase to well below 2 degrees Celsius. Across our entire footprint, our utilities – gas, water and wastewater – will all be contributing to this enterprise-wide target by building on important work and progress in recent years. **Each Essential Utilities operation will individually aim to achieve an approximate 60% reduction in Scope 1 and 2 emissions.**

Transparency is at the center of our sustainability program and is a core value of our company. We will report on our progress toward this goal twice a year until we meet our target. This is a strong first step toward an ultimate aspiration of net zero emissions, which we acknowledge will only be possible with further technological and engineering innovation. While we’re optimistic and excited about the pace of technological advancement, this initial 60% Scope 1 and 2 emissions reduction will come from projects and initiatives we have already planned or put into place. These projects utilize existing, proven technology and methods that have demonstrated real and tangible impacts.

CHARTING A COURSE FOR EMISSIONS REDUCTION

(Metric Tons CO₂e)

	2019 Baseline (Scope 1+2 Emissions)	2035 Target (Scope 1+2 Emissions)	% Reduction
Essential	670,923	268,369	60.0%
Gas Distribution	539,742	218,288	59.6%
Water and Wastewater	131,181	50,081	61.8%



Measuring Our Progress

Through 2024, Essential achieved a 28% reduction in its Scope 1 and 2 emissions versus its 2019 baseline, representing substantial progress toward its 60% target. Moving forward, Essential’s remaining progress toward its GHG emissions reduction commitment of 60% will be primarily driven by its gas operations. We expect a steady incremental reduction each year, reflective of continuing replacement of gas main.

For the third consecutive year, Essential engaged a third party, Keramida, to conduct a limited assurance audit of its Scope 1 and 2 emissions in accordance with ISO 14064-3: 2019 Specification with guidance for the validation and verification of greenhouse gas assertion, which is an approved verification standard accepted by CDP. Keramida is a gold accredited service provider to CDP for verification services.

TWO INITIATIVES MADE THIS REDUCTION POSSIBLE:

Water and Wastewater Operations

Procurement of nearly 100% renewable electricity for PA, NJ, OH and IL, as well as nearly 20% renewable electricity procurement for TX

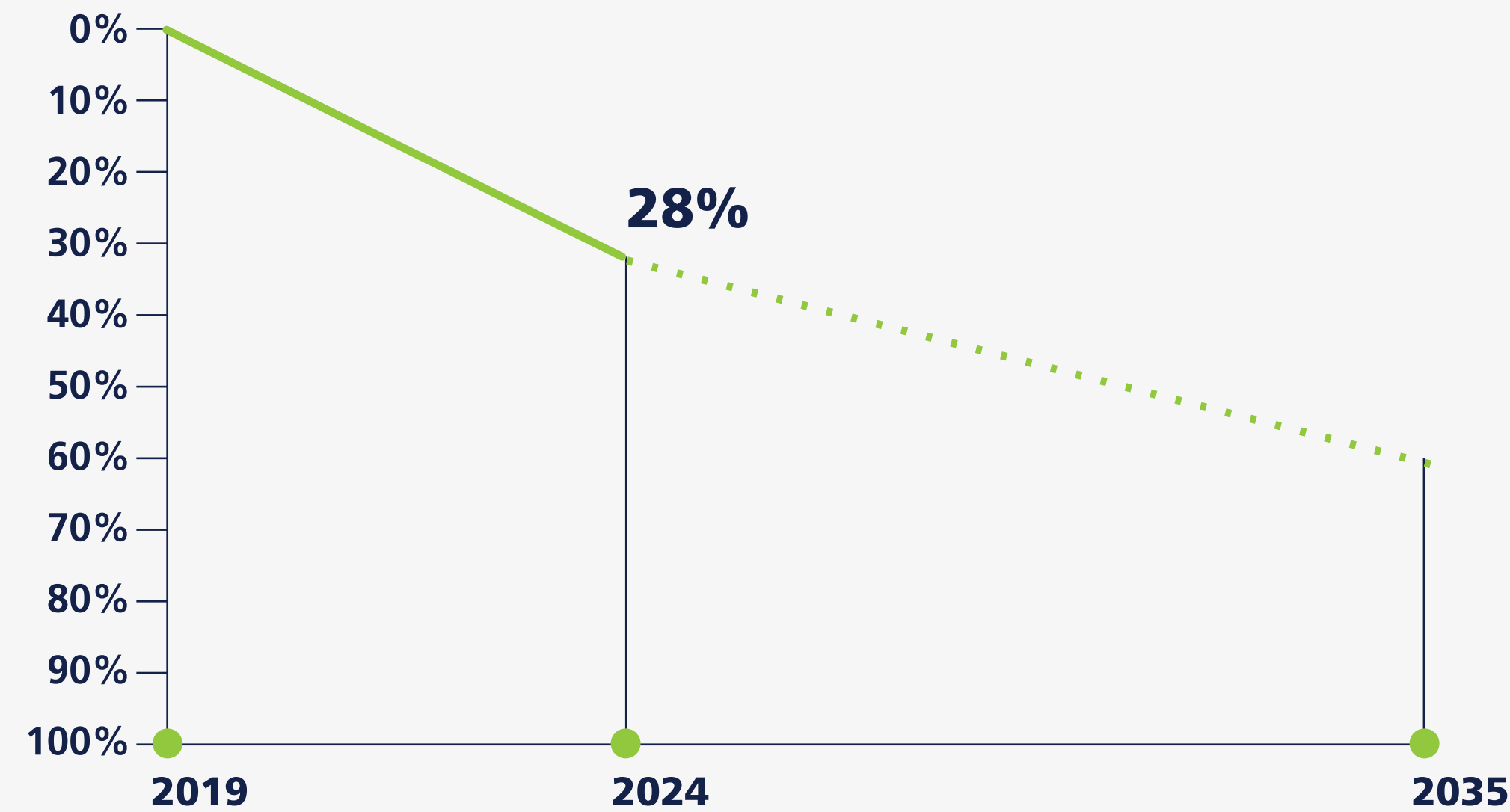
Gas Operations

Continual replacement of older gas main, which reduces fugitive methane leakage

28%

Reduction in Essential’s Scope 1 and 2 emissions versus its 2019 baseline

ESSENTIAL’S GHG EMISSIONS REDUCTION PROGRESS



ESSENTIAL UTILITIES: GHG EMISSIONS¹

(Metric Tons CO₂e)

	2024	2023	2022
Scope 1 emissions	443,483	463,065	489,132
Scope 2 emissions (market-based)	39,198	41,392	51,008
Scope 1 and 2 emissions (market-based)	482,681	504,457	540,141
Scope 3 emissions ²	8,045,213	8,194,886	9,020,390

¹ For historical and more detailed disclosure, please refer to the [Gas Operations](#) and [Water and Wastewater Operations](#) subsections.

² Scope 3 emissions for our gas operations relate entirely to downstream emissions from customer combustion of the natural gas we deliver. This is the only material source of Scope 3 emissions for our gas operations.

GHG Emissions Reduction Across Our Gas Operations

Almost all of Essential’s Scope 1 emissions come from our gas operations. The vast majority of these emissions relate to fugitive methane from pipeline leaks. As natural gas, which is primarily methane, travels through our network of underground pipes on its way to the customer, a very small portion of this volume leaks out and escapes into the atmosphere, often due to corrosion leaks, material defects or excavation damages. Our Long-Term Infrastructure Improvement Plan (LTIIP) seeks to, over time, systematically replace 3,000 miles of older and more vulnerable sections of pipe made of leak-prone materials. Additionally, as is common across our industry and consistent with regulations, we utilize various leak detection technologies to proactively identify sources of fugitive methane and repair leaks as quickly as possible.

Our gas operations contribute a relatively very small amount of Essential’s Scope 2 emissions. Gas distribution is not an electricity-intensive operation. Even so, we continue to assess ways to increase energy efficiency and reduce consumption.

Materially all of Essential’s Scope 3 emissions are driven by our gas operations through carbon dioxide emitted by customers upon combustion of natural gas in their home or business. We continue to assess opportunities and initiatives to reduce these emissions and are aware that Scope 3 emissions are more challenging to address directly than Scope 1 and 2 emissions across industries. Like most of our peer gas utilities, we are examining exciting opportunities for alternative fuels, such as renewable natural gas or hydrogen, which also serve to reduce Scope 3 emissions.

GAS OPERATIONS: GHG EMISSIONS ¹			
(Metric Tons CO ₂ e)	2024	2023	2022
Scope 1 emissions	427,104	446,929	472,807
Scope 2 emissions (market-based)	4,218	3,812	5,198
Scope 1 and 2 emissions (market-based)	431,322	450,741	478,006
Scope 3 emissions	7,939,416	8,070,212	8,911,091

¹Essential chooses to present Scope 2 emissions using the market-based method, as this approach incorporates the impact of various sourcing decisions, such as our procurement of renewable energy. In contrast, the location-based method reflects the average emissions intensity of grids on which energy consumption occurs. We wish to footnote Essential’s location-based Scope 2 emissions for gas operations: 3,749 (2024), 4,172 (2023), 4,575 (2022).



DISTRIBUTION SYSTEM MAIN REPLACEMENT

In 2013 we launched our LTIP, an aggressive 20-year effort to replace and upgrade more than 3,000 miles of natural gas pipelines with new plastic pipelines that will not corrode. These lines are also flexible and can withstand the region’s seasonal freeze and thaw cycle. To date, Essential has replaced more than 1,200 miles of pipeline, and we anticipate completing this project by 2033. Pipelines selected for replacement are based on operating history and location. We assess about 450,000 segments of pipe and assign a relative risk ranking based on probability of failure and consequence of failure to help us prioritize action.

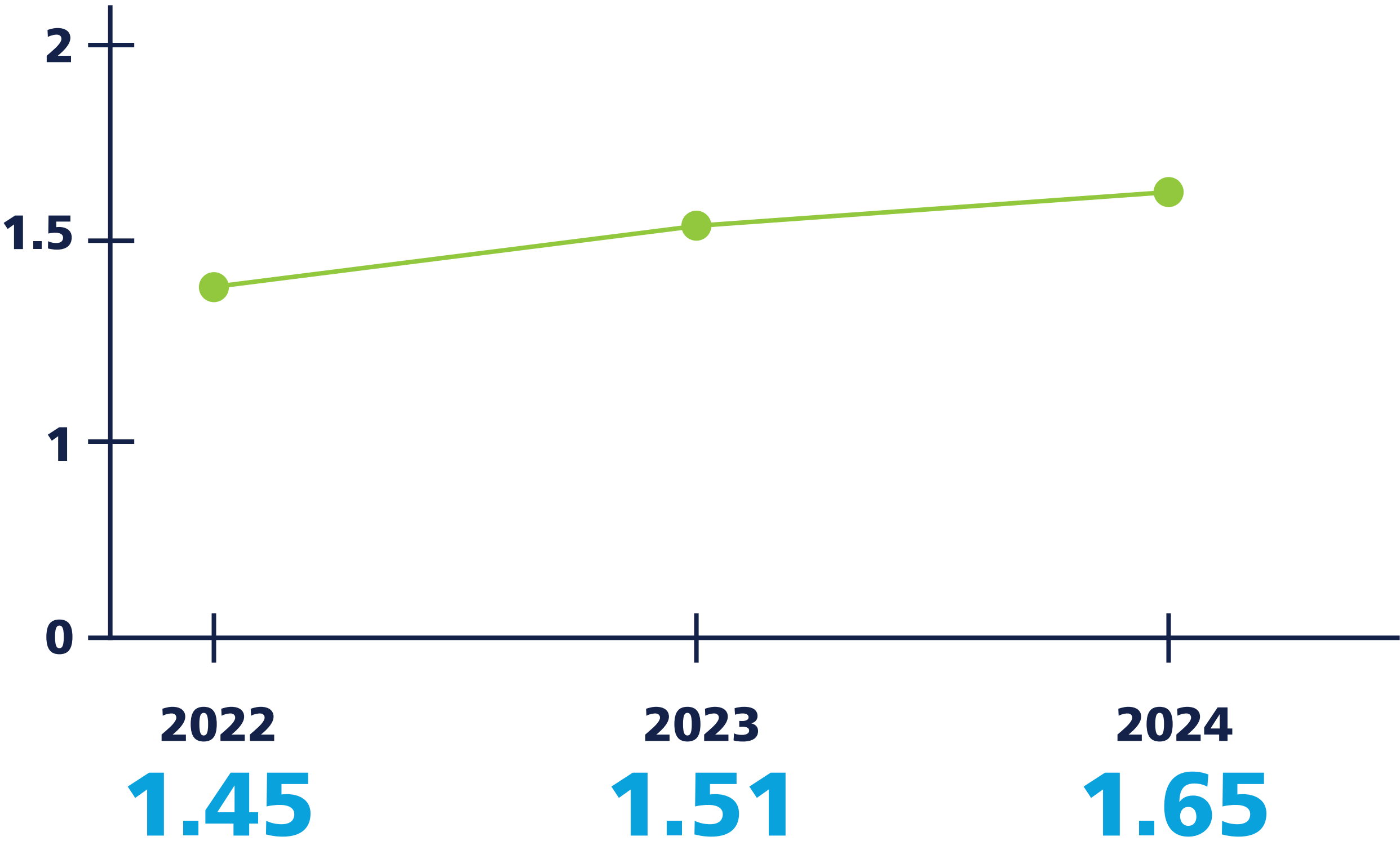
LTIP is currently the most significant of our Scope 1 and 2 emissions reduction efforts.

GATHERING SYSTEM REPAIR PROGRAM

Due to the on-system gas production in our service territory, Essential has a considerable gathering line system that is used to transport natural gas from the wellhead to the distribution system. A separate replacement plan addresses the replacement of gathering assets. As of year-end 2024, Essential’s gas utility has removed or replaced a total of 279 miles of gathering lines from the system.

Gas main replacement is an excellent example of how operational efficiency, reliability, safety and mitigation of climate change can mutually reinforce each other for the benefit of all our stakeholders.

IDENTIFIED LEAKS PER MILE OF PIPE SURVEYED¹



¹ These figures are inclusive of distribution and gathering pipe but exclude that of the Goodwin-Tombaugh system. The quantity of identified leaks is normalized in relation to miles of pipe surveyed in a given year. This trend, which shows a slight increase over time, is likely reflective of our more frequent surveying program for gathering main and speaks to Essential's increasing ability to identify leaks earlier.

GHG Emissions Reduction Across our Water and Wastewater Operations

Scope 2 emissions are most significant for Essential’s water and wastewater operations. It takes considerable electrical energy to treat water and wastewater as well as to pump water through our distribution network of pipes. Year-to-year fluctuations in energy use may be driven by weather events and changes in customer demand for water. We predicate our Scope 2 emissions reduction on three primary strategies, among others. First, we have made strides in making our operations as energy efficient as possible (see [Energy Intensity](#) and [Supporting Innovative Energy Solutions](#)). We also take care to minimize water loss through leaks (see [Reducing Water Loss](#)). By minimizing water loss, we reduce the volume of water that must be treated and moved through our system, thereby reducing energy use. Finally, and most notably, we have made headway in using as much renewable electricity as we can while balancing affordability for customers.



Notably, since 2022, our water and wastewater operations in Pennsylvania, Ohio, Illinois and New Jersey have procured **nearly 100% renewable electricity.**

Our Texas operations have also recently increased renewable electricity procurement to about 25%. This major uptick in renewable electricity consumption has quickly and dramatically cut Essential’s Scope 2 emissions.

Scope 1 emissions have historically been a smaller component of Essential’s water operations’ emissions and are primarily driven by gas consumption for heating facilities and powering vehicles and some equipment.

The impact of indirect emissions, Scope 3, is also notable. Tracking and reducing those emissions comprise an important component of our overall carbon reduction strategy.

Pipe replacement activities, which are necessary to address aging infrastructure, are the largest contributor to Scope 3 emissions. The methods and materials used today extend the serviceable usefulness up to 100 years compared to piping installed just 30 years ago, which translates to reduced frequency of pipe replacement over time. Pipe replacement activities also offer an ancillary benefit to our Scope 2 emissions as better and newer piping means less lost water through leaks and main breaks, resulting in a reduction of water that needs to be produced.

Chemicals are required for water safety and quality, and their purchase is Essential’s second largest source of Scope 3 emissions. We acknowledge that warmer water temperatures brought on by climate change will require Essential to use more chemicals to produce safe drinking water. By tracking GHG emissions associated with chemical purchases, we are able to better understand the impact of climate change on treatment operations.

Additionally, the upstream impacts and energy-related activities of the fuel we need to generate electricity significantly contribute to our Scope 3 emissions. By reducing the amount of electricity consumed and increasing our use of renewables, we can reduce this impact. Other Scope 3 contributors are not as material, but we maintain awareness of these items nonetheless.

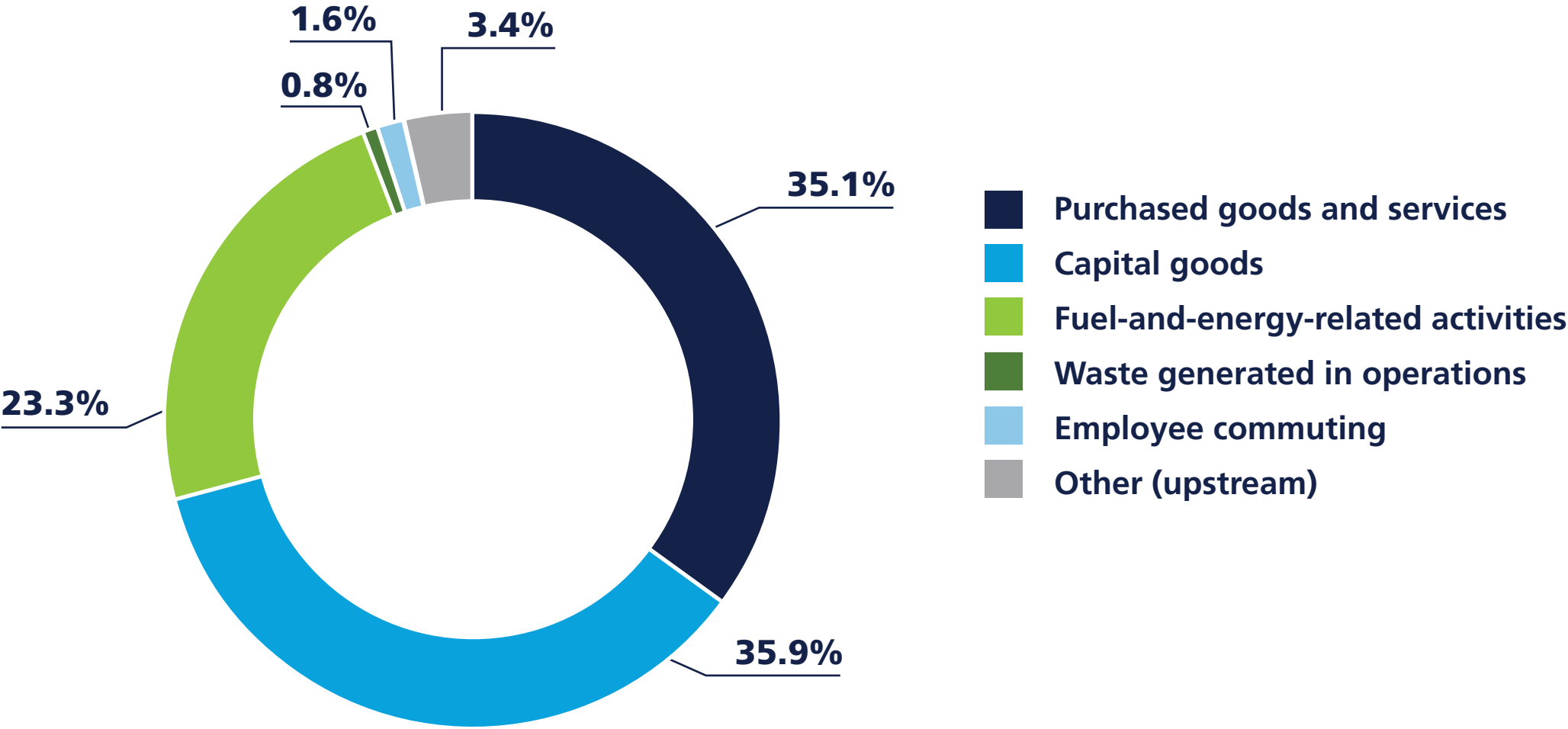
WATER AND WASTEWATER OPERATIONS: GHG EMISSIONS ¹			
(Metric Tons CO ₂ e)			
	2024	2023	2022
Scope 1 emissions	16,378	16,136	16,324
Scope 2 emissions (market-based)	34,981	37,580	45,810
Scope 1 and 2 emissions (market-based)	51,359	53,716	62,134
Scope 3 emissions	105,797	124,674	109,299

¹Essential chooses to present Scope 2 emissions using the market-based method, as this approach incorporates the impact of various sourcing decisions, such as our procurement of renewable energy. In contrast, the location-based method reflects the average emissions intensity of grids on which energy consumption occurs. We wish to footnote Essential’s location-based Scope 2 emissions for its water and wastewater business as follows: 102,983 (2024), 114,408 (2023) and 121,190 (2022). The overall reduction of our location-based emissions is largely a reflection of the energy grid’s mix, transitioning away from coal to natural gas and renewables, and we expect this trend to continue.

WATER AND WASTEWATER OPERATIONS: SCOPE 3 GHG EMISSIONS

Topic	Metric Tons CO ₂ e
Purchased goods and services	37,094
Capital goods	37,956
Fuel-and-energy-related activities	24,691
Waste generated in operations	824
Employee commuting	1,682
Other (upstream)	3,551
Total Scope 3 emissions	105,797

PERCENTAGE BREAKDOWN OF TOTAL SCOPE 3 EMISSIONS BY CATEGORY

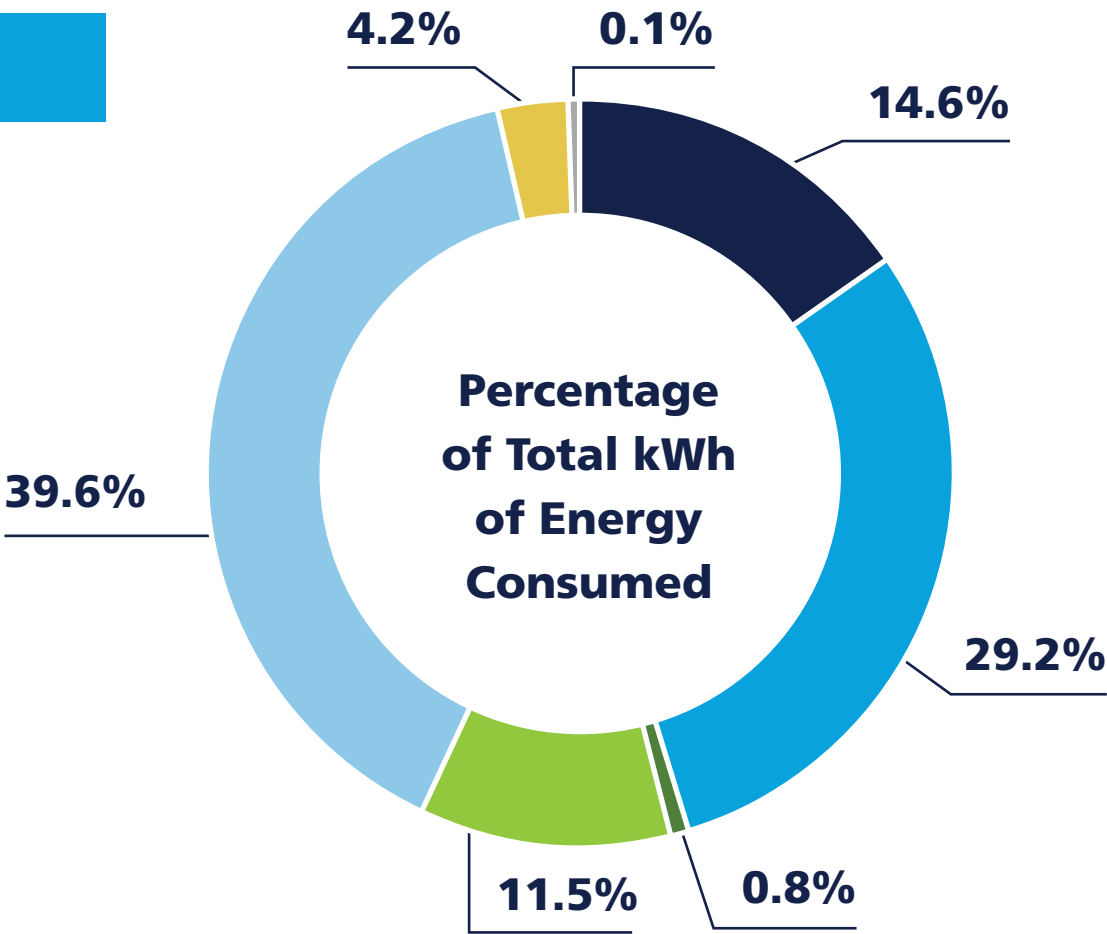


Energy

Essential Utilities Energy Consumption

ENERGY CONSUMPTION BY SOURCE TYPE

- Electricity (grid electric)
- Electricity (purchased wind)
- Electricity (onsite solar)¹
- Motor gasoline
- Natural gas
- Motor diesel
- Compressed natural gas



RENEWABLE ENERGY

	2024	2023	2022
Total Energy Consumed (MWh)	785,663	780,062	761,602
Energy Derived from Renewables	29%	29%	29%

¹While Essential consumes the energy generated from onsite solar installations, we sell the associated renewable energy credits () in the marketplace.



Water and Wastewater Operations

Energy Consumption

The physics of moving vast amounts of water and wastewater through networks of pipes to and from Essential’s plants requires extensive amounts of energy; about 75% of the total electricity consumption required across our operations is related to water operations and about 25% is related to wastewater services. We rely on several different sources of energy for various business activities.

Electricity is our most consumed form of energy and nearly all of the electricity we use is needed to operate pumps and treatment equipment at our plants, with the small remainder used in our offices. Vehicle fuel is the second largest source of energy for Essential, as we operate a fleet of vehicles for regular physical monitoring of our infrastructure. Natural gas is used to heat our facilities and is our third largest energy source.

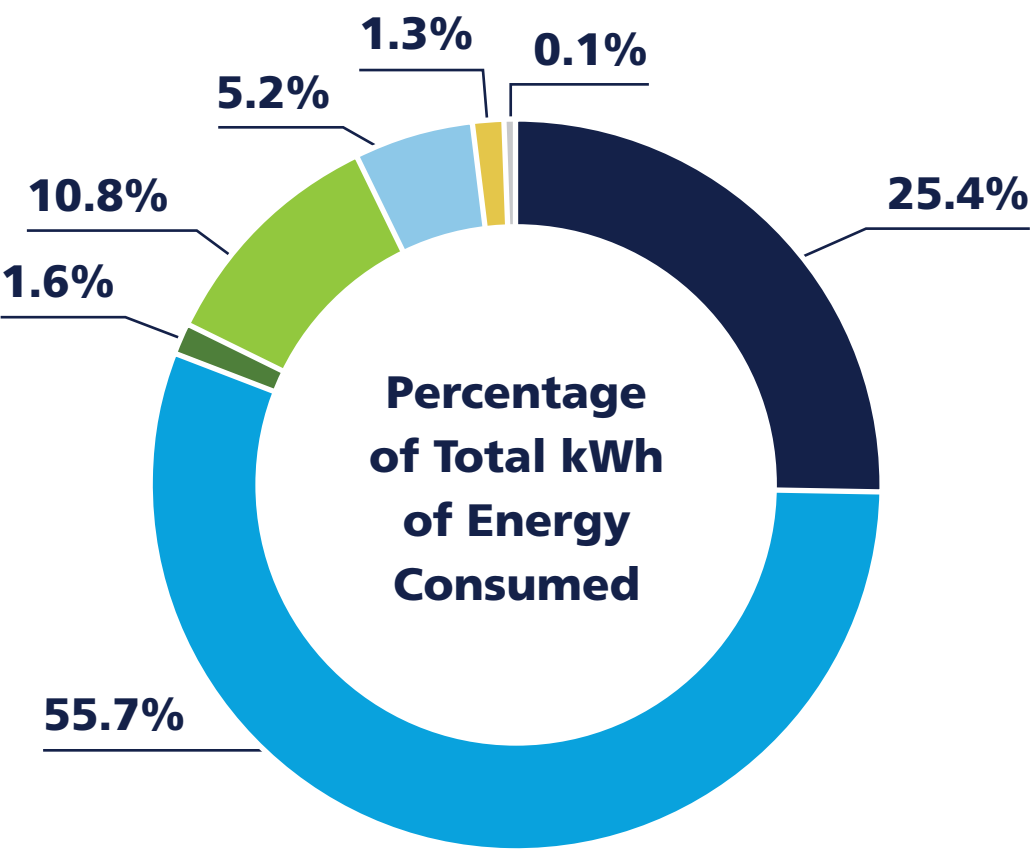
Our total energy consumption in this area of our operations has been relatively consistent over the last three years, with increases attributed to acquisitions and the organic growth of our business.

Essential has also contracted to source nearly 20% of its electricity in Aqua Texas through an offsite solar power purchase agreement (PPA), which started in June 2020. These states feature deregulated energy markets that allow for this arrangement.

Since 2022, Essential has been procuring **nearly 100% renewable electric power** for its water and wastewater utilities in Illinois, New Jersey, Ohio and Pennsylvania.

ENERGY CONSUMPTION BY SOURCE TYPE

- Electricity (grid electric)
- Electricity (purchased wind)
- Electricity (onsite solar)¹
- Motor gasoline
- Natural gas
- Motor diesel
- Compressed natural gas



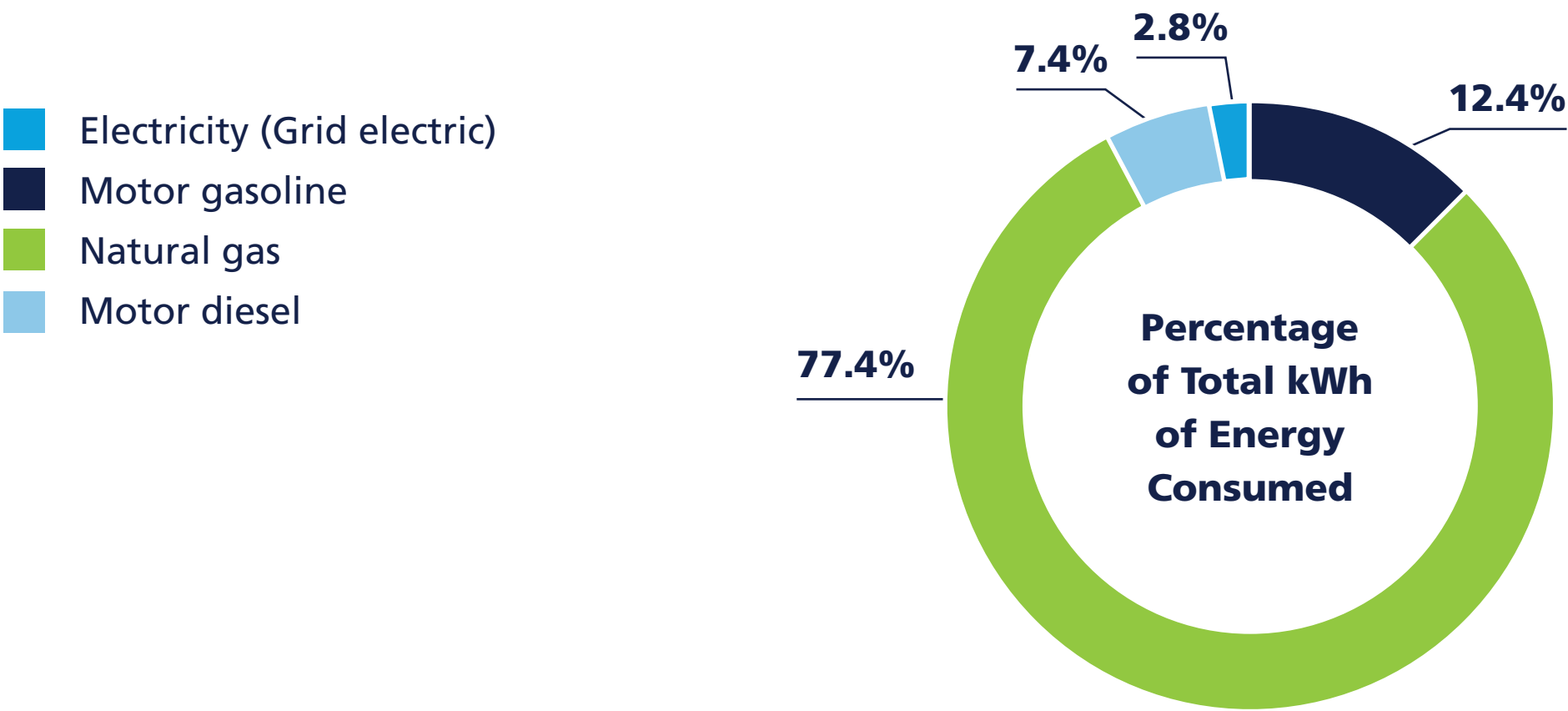
RENEWABLE ENERGY

	2024	2023	2022
Total Energy Consumed (MWh)	411,518	410,392	412,067
Energy Derived from Renewables	56%	54%	56%

¹ While Essential consumes the energy generated from onsite solar installations, we sell the associated renewable energy credits (RECs) in the marketplace.

Gas Operations Energy Consumption

ENERGY CONSUMPTION BY SOURCE TYPE



RENEWABLE ENERGY

	2024	2023	2022
Total Energy Consumed (MWh)	374,145	369,671	351,210
Energy derived from renewables	0%	0%	0%



Energy Intensity

Tracking energy intensity, or measuring energy efficiency from an economical perspective, allows Essential to benchmark operations across our regions and states and compare them to each other and against national metrics. Intensity tracking takes on additional importance with our very diverse network of water systems across eight states. While economies of scale favor larger systems for single efficiency opportunities, our large number of nearly identical smaller systems provides an opportunity to replicate energy efficient methods across many similar systems.

For water, energy intensity is expressed as kilowatt hours (kWh) of energy usage per 1,000 gallons of water (kgal) produced. These energy intensity values are highly dependent on physical factors, which vary not only state to state, but by region and location. Changes in regulations may also lead to more energy-intensive practices over time, making long-term trend analysis difficult. The depth and lift required to gather water and the pressure required to pump water across distances and elevation changes are the most significant factors in energy intensity. Because of our large number of smaller systems, heating pump stations during the winter can often cause the intensity factor to double during the colder months. For wastewater, energy intensity is expressed as kWh of energy usage per kgal of wastewater treated. For gas, energy intensity is expressed as kWh of energy usage per million cubic feet (MMcf) of gas delivered to customers.

It is important to note that Essential’s disclosure of energy intensity includes electricity consumption in addition to other forms of energy as outlined in this section. We also disclose intensity metrics inclusive solely of electricity.

ENERGY INTENSITY BY BUSINESS

	2024	2023	2022
Water (kWh/gal) ¹	3.1	3.2	3.3
Wastewater (kWh/gal) ¹	7.4	7.5	7.6
Gas (kWh/MMcf)	2.1	2.0	1.8

ELECTRICITY INTENSITY BY BUSINESS

	2024	2023	2022
Water (kWh/gal) ¹	2.9	3.0	2.9
Wastewater (kWh/gal) ¹	7.1	6.7	6.1
Gas (kWh/MMcf)	0.1	0.1	0.1

¹ This calculation excludes energy in gasoline used to power fleet vehicles. It is intended as a measure of energy intensity for core treatment, production, and distribution activities at operating plants.



Supporting Innovative Energy Solutions

WATT FUEL CELL PROGRAM

Essential has partnered with WATT Fuel Cell Corp., a company based in Mt. Pleasant Township, Pennsylvania, to launch a pilot program aimed at offering the manufacturer’s Solid Oxide Fuel Cell (SOFC) system throughout our gas service territory.

WATT developed a hybrid SOFC power management system that creates small-scale power, 500W to 1.5kW, from natural gas or hydrogen. Through an electrochemical reaction, the fuel cell converts the energy in gas or hydrogen into electricity with minimal direct emissions.

The company already sells fuel cells using propane for RVs and small watercraft and is scaling its operations through this partnership with Essential’s natural gas utility. To do this, WATT has developed a proprietary manufacturing technique that creates an entire fuel cell tube using an additive manufacturing process. Additive manufacturing, or 3-D printing, uses plastics, resins and metals to print a product by adding layers, different from traditional manufacturing methods that cuts out raw material to create parts.

RENEWABLE NATURAL GAS

Renewable natural gas (RNG), or biomethane, comes from the anaerobic digestion of organic matter, such as manure, agricultural waste, food waste or landfill. The carbon dioxide emissions produced when RNG is used as a fuel are substantially or completely offset by methane captured during the formation of the source feeds. RNG combines low or zero full-cycle carbon emissions with the high energy density and transportability of natural gas. After suitable treatment, the RNG can be injected directly into the natural gas pipeline network, allowing it to use the extensive existing natural gas infrastructure. RNG has the potential to reduce Scope 3 emissions when the utility owns the associated renewable credits.

Currently, Essential interconnects with six landfills that deliver RNG gas directly into our pipeline system. In 2024, this measured to more than 1.5 billion cubic feet (Bcf), or about 1% of our total gas throughput. About 60% of this RNG is transported by Essential into an interstate pipeline or to a third-party pool operator. The remaining 40% is directly purchased by Essential, blended with our traditional natural gas supply and delivered directly to our customers.

Essential does not currently purchase renewable energy credits (RECs) associated with the physical supply of RNG due largely to least-cost gas procurement guidelines set by regulators. Thus, we cannot apply this emissions reduction to our GHG inventory. However, we believe we play a constructive and positive role in the development and function of the RNG market across our footprint by facilitating trade and transport of this environmentally-friendly energy source. Essential is also working with other companies to develop potential additional RNG interconnections in our service territory, and we look forward to expanding the number of partnerships with producers in the region.

HYDROGEN

Hydrogen is a promising alternative fuel that may be efficiently blended with natural gas in energy supply to customers in future years. It can be used as a feedstock, a fuel, an energy carrier or an energy storage medium. Hydrogen emits no end-use carbon emissions and creates minimal air pollution. There are several “types” of hydrogen, classified based on their production method and resulting lifecycle emissions profile. The gas industry is currently examining the feasibility to blend hydrogen within pipelines at scale and determining how this would be efficiently produced at necessary volumes.

Hydrogen-blending targets for existing natural gas infrastructure do not exist today, but there is increasing demand for the alternative fuel. The U.S. National Renewable Energy Laboratory and other researchers have reported that there are current projects across the world that blend up to 20% hydrogen without requiring end-use customers to upgrade boilers and burners.

Essential and the University of Pittsburgh’s Swanson School of Engineering have entered a partnership to explore the use of hydrogen as a future energy source. Together, the organizations are studying the potential of safely and securely transporting hydrogen through Essential’s natural gas delivery systems. The partnership consists of two phases. The first phase involved benchmarking and research focusing on the existing infrastructure, concentrating on technical issues involved with using natural gas pipelines to transport hydrogen or a hydrogen and natural gas blend. The second phase, currently underway, implements a pilot project that tests the injection of hydrogen blend in real-world applications, including pipeline material degradation and the impact of hydrogen blend on end-users’ natural gas- fueled equipment.

STRATEGIC PARTNERSHIPS ON ENERGY INNOVATION

At Essential, we strongly support UN Sustainable Development Goal 17, which calls for greater partnership. We work closely with various academic, nonprofit and industry organizations to discuss and collaborate on opportunities to innovate on energy and GHG emissions reductions.

SOUTHWESTERN PENNSYLVANIA ENERGY EFFICIENCY ROUNDTABLE

Essential is a founding member of the Pennsylvania Department of Environmental Protection’s Southwestern Pennsylvania Energy Efficiency Roundtable. This group is a consortium of energy efficiency stakeholders, and its primary mission is to help business and industry in Southwestern Pennsylvania reduce energy costs through improved energy management, energy efficiency and cutting-edge technology.

UNIVERSITY OF PITTSBURGH’S CENTER FOR SUSTAINABLE BUSINESS

Essential is a founding sponsor of the University of Pittsburgh’s Center for Sustainable Business at the Joseph M. Katz Graduate School of Business. The Center’s mission is to maximize the value of investments in sustainable business strategies for all stakeholders.

UNIVERSITY OF PITTSBURGH’S SWANSON SCHOOL OF ENGINEERING

Essential and the University of Pittsburgh’s Swanson School of Engineering have entered a partnership to explore the use of hydrogen as a future energy source. Together, the organizations will study the potential to safely and securely transport hydrogen through Essential’s natural gas delivery systems.

PITTSBURGH REGION CLEAN CITIES

Essential is a long-time member of the Pittsburgh Region Clean Cities (PRCC) Coalition. PRCC advances the energy, economic and environmental security of the United States by supporting local actions to reduce petroleum use in transportation.

ENERGY INNOVATION CENTER

Essential has been a sponsor of the Energy Innovation Center (EIC) for several years. The EIC is a Pittsburgh-based nonprofit organization with a mission to engage corporate and community leaders, align workforce development and education, develop and demonstrate technology and incubate businesses to support emerging clean and sustainable energy markets. Essential is a key stakeholder and has been instrumental in the adoption of two microturbine-CHP systems that provide the LEED Platinum Certified facility with resilient and efficient heat and power.



HELPING OUR CUSTOMERS CONSERVE ENERGY

Essential works to continuously educate our customers on conservation and energy efficiency opportunities.

By using a variety of channels, our goal is to establish multiple customer touchpoints for these key conservation messages. We use tools like digital marketing, traditional advertising opportunities, bill inserts, and community partnership activation to share this information and drive customers to our website as a central education hub. Some recent examples of how we promoted these messages to Peoples customers include:

- | Paid social media and digital marketing campaigns to share energy-saving tips, including promotion of the [“Gas Guys” YouTube series](#), highlighting at-home energy conservation efforts
- | Facebook Live panel with customer assistance experts, spotlighting our home weatherization program and Emergency Furnace and Service Line Repair Program
- | Email marketing communications to over 410,000 customers, promoting energy-saving tips
- | Cold weather-triggered radio spots advertising customer assistance programs
- | Bill inserts spotlighting customer assistance programs and winter safety tips, including ways to avoid freezing pipes and prevent water line leaks

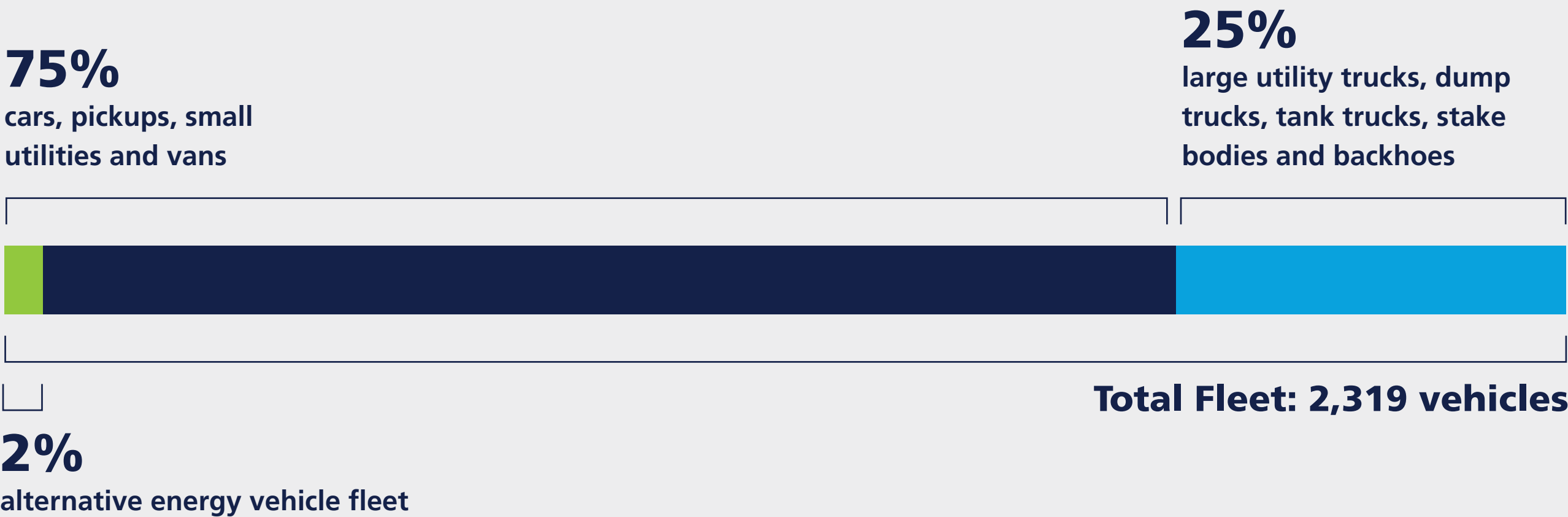
Some of our key customer conservation messages for Peoples customers include:

- [Energy-saving and winter safety tips](#)
- e-Billing options available in the Peoples e-Account customer portal and through Google Pay and Apple Wallet
- Customer gas usage information available in Peoples e-Account
- [Customer assistance programs](#) like the weatherization program and the Emergency Furnace and Service Line Repair Program for qualified low-income customers to help increase energy efficiency and prevent the loss of heat through implementation of home improvements and replacement of inefficient heating systems.

FLEET EMISSIONS

Reducing our fleet footprint is an important and effective aspect of our GHG emissions reduction efforts.

Essential’s gas, water and wastewater utilities have a diverse geographical footprint across nine states, covering thousands of square miles of service area and almost 2,000 individual locations. Many of the locations require visits from employees daily or several times a week, resulting in frequent vehicle usage. There are 2,319 vehicles in Essential’s fleet. Of these vehicles, 1,739 units (75%) are cars, pickups, small utilities and vans (our light-duty fleet). The remaining 580 units (25%) consist of our large utility trucks, dump trucks, tank trucks, stake bodies and backhoes. We currently have 45 vehicles in our alternative energy vehicle fleet, accounting for 2% of our total fleet. These alternative vehicles include five electric and 40 compressed natural gas (CNG) vehicles. Since our strategic partner, General Motors, has put an emphasis on the light-duty market, we will first focus on expanding the electrification of the light-duty segment of our fleet.



Fleet currently accounts for about 6% of Essential’s Scope 1 and 2 emissions.

Waste and Non-GHG Air Emissions

At Essential, we are committed to minimizing the amount of waste generated at our treatment facilities and corporate offices and ensuring it is responsibly managed.

Because the waste produced at our treatment facilities is organic, in many cases it can be beneficially reused in farming and land applications. The nutrients in our organic solid waste can help replenish soil used for growing crops and can therefore replace fertilizer or manure. When it cannot be reused, the waste is sent to a landfill or further processed at another facility.

WASTE METRICS ¹				
(Dry metric tons)				
Description	Beneficial Reuse / Recycled	Landfill	Incineration	2024 Total
Treatment of Water	50,239 (Land Application)	1,859 (company owned landfills) 31 (third-party landfills)	N/A	52,128
Treatment of WW	2,278 (Land Application)	4,941	797	8,016
Office Waste / Miscellaneous Non-Hazardous Waste	353 (Recycled)	4,927	N/A	5,280
Natural Gas Liquids	431 (Fuel Blending)	N/A	N/A	431
Hazardous Waste	3.6	N/A	11.6	15.2



Most of our waste is organic residual from our treatment processes. As stated, a significant majority is beneficially reused.

Because there is a very limited generation of hazardous waste as part of our operations, we do not have an active hazardous waste management program at an enterprise level. We are, however, building better waste management manifests for each of our states and creating a contractor database to promote tracking at the vendor level. Any accidental chemical spills or fuel waste from vehicles and generators are remediated following all local, state and federal environmental rules by certified contractors.

¹ We record waste volumes upon removal from our site, consistent with regulatory reporting requirements. We may temporarily store waste on site in significant volumes and ship in a different year than when generated. Therefore, year over year, this data will vary.

Air Emissions¹

Air emissions data represents non-GHG gas emissions data that has been reported to state agencies for the Essential footprint. These include facilities with compressor stations or multiple large emergency generators. The data below does not include air emissions generated from vehicles and permit-exempt emergency generators.

AIR EMISSIONS BY TYPE			
(Dry metric tons)			
	2024	2023	2022
Nitrogen Oxides ² (NOx)	176.1	203.0	211.0
Particulate Matter (PM10)	< 10	< 10	< 10
Sulfur Oxides (SOx)	0.2	0.2	< 1
Volatile Organic Compounds (VOCs)	52.4	44.8	45.8
Hazardous Air Pollutants (HAPs)	22.1	21.7	23.2

¹ Emission data from sources within the scope of our required regulatory air emissions reporting. VOC and HAP emissions decreased from previous reporting in part due to alterations to regulatory methodology.

² Nitrous oxide (N2O) is a greenhouse gas, but we have included it in this section summed with other nitrogen oxides for completeness and because it constitutes a small amount of our total NOx emissions.



Biodiversity and Ecosystem Health



Biodiversity – the diversity within and between species and ecosystems – offers a huge and critical array of ecosystem services on which people and nature co-depend and is fundamental to the resilience of our planet.”

- Stephenson, P.J. and Carbone, G. (2021). Guidelines for planning and monitoring corporate biodiversity performance. Gland, Switzerland: IUCN.

As a water, wastewater and gas utility, biodiversity and ecosystem health are critical in the sustainability of our organization and fidelity to our mission. While climate change and biodiversity are strongly linked, there are critical distinctions and independent dynamics between them that play a role and have different consequences. However, in each case, Essential acknowledges and is optimistic about the positive impacts we can have as an experienced environmental steward endowed with trust by our local communities.

When we consider biodiversity and ecosystem impacts material to our industry, it is important to note their bidirectional nature: there are impacts from our business operations and to the environment as well as from the environment and to our business operations. As frameworks for corporate reporting in this area continue to develop, Essential will continue to analyze and consider risks and opportunities that are particularly material. For now, we note our awareness of general risks to and from operations typical of our industry and not Essential specifically.

Industry’s risks to biodiversity and ecosystems

RIGHTS OF WAY AND CONSTRUCTION ACTIVITIES

Can disturb local ecosystems (via noise, leak impacts, dams, activity in sensitive wetlands, and other impacts)

WASTEWATER EFFLUENT

Temperature and chemistry can impact aquatic life

WATER WITHDRAWAL

Unsustainable water withdrawal from sensitive areas or scarce sources put wildlife in danger, reducing the health and resilience of their habitats

GREENHOUSE GAS EMISSIONS

Contribution to climate change, which has many environmental impacts

NON-GREENHOUSE GAS AIR EMISSIONS AND SANITARY SEWER OVERFLOWS

Pollution can harm local ecosystems

Industry’s risks from degradation of biodiversity and ecosystems

NATURAL FILTRATION PROCESSES

Many different types of bacteria, protozoa, insects, marine animals, and plants play a role in water source quality

STABLE WATER TEMPERATURE

Forested areas can provide shade and keep temperatures low

PROTECTION OF ASSETS

Mangves, reefs, trees, and other life protect against erosion, storm damage, and flooding

WATER SUPPLY

Wetlands store vast amounts of water, but are under threat from climate change and development

Ecosystem Protection and Preservation

In line with this understanding, Essential has expanded the company’s [Sustainability and Environmental Policy](#). While these stated commitments reflect past efforts and guiding principles we have held for generations, we believe memorializing these in a formal policy offers deeper assurance to our stakeholders and promotes greater awareness for our team.

We strive to:

- Comply with environmental regulations and manage our lands to protect and preserve sensitive habitats and species
- Support efforts to combat invasive species and restore native species
- Avoid sensitive waterways, wetlands, and encounters with endangered species when proposing new pipeline routes and project locations
- Apply mitigation hierarchy (avoid, minimize, rehabilitate, offset, and compensate) through all the processes of new construction or modifications that can impact biodiversity
- Examine ways to monitor impacts and biodiversity on our lands

While we believe many of our activities and operations promote positive ecological impacts, there are some instances and circumstances in which there arises a conflict in need of a solution. In these cases, we strive to act in accordance with a mitigation hierarchy:

AVOIDANCE

Measures taken to avoid creating impacts from the outset (including direct, indirect and cumulative impacts), such as careful spatial or temporal placement of elements of infrastructure, to completely avoid impacts on certain components of biodiversity

MINIMIZATION

Measures taken to reduce the duration, intensity and/or extent of impacts (including direct, indirect and cumulative impacts) that cannot be completely avoided, as far as is practically feasible

REHABILITATION AND RESTORATION

Measures taken to rehabilitate degraded ecosystems or restore cleared ecosystems following exposure to impacts that cannot be completely avoided or minimized

OFFSET

Measures taken to compensate for any significant residual, adverse impacts that cannot be avoided, minimized and/or rehabilitated or restored, in order to achieve no net loss or preferably a net gain of biodiversity. Offsets can take the form of positive management interventions such as restoration of degraded habitat, arrested degradation or averted risk, or protecting areas where there is imminent or projected loss of biodiversity

COMPENSATION

Measures to recompense, make good or pay damages for loss of biodiversity caused by a project that can fall short of achieving no net loss or a net gain.

Ecosystem Stewardship

Essential takes numerous actions across our footprint to promote biodiversity and ecosystem health. As a highly regulated utility, many of these are required or prescribed by authorities. For example, in Pennsylvania, we must abide by Pennsylvania Natural Diversity Inventory (PNDI) requirements. Essential is currently undertaking a GIS-aided biodiversity assessment of areas under our protection across our footprint. Understanding and mapping the richness of life on our lands is a necessary precursor to broader actions or additional enterprise-level commitments we may make moving forward. Further, our Earth Day volunteerism activities across the company, detailed [here](#), educate employees on the vital role we can all play in conservation.

Essential has expanded its reporting and policy language for biodiversity and ecosystems with the awareness that there are international efforts currently underway to develop common frameworks and raise the level of ambition in the business community around these principles. We welcome these proceedings and will be assessing them, particularly the recommendations of the Task Force on Nature-Related Financial Disclosures (TNFD), in the future for possible alignment. We also continue to assess new opportunities within our operations to promote biodiversity and strengthen our current initiatives in this area.

Spotlight

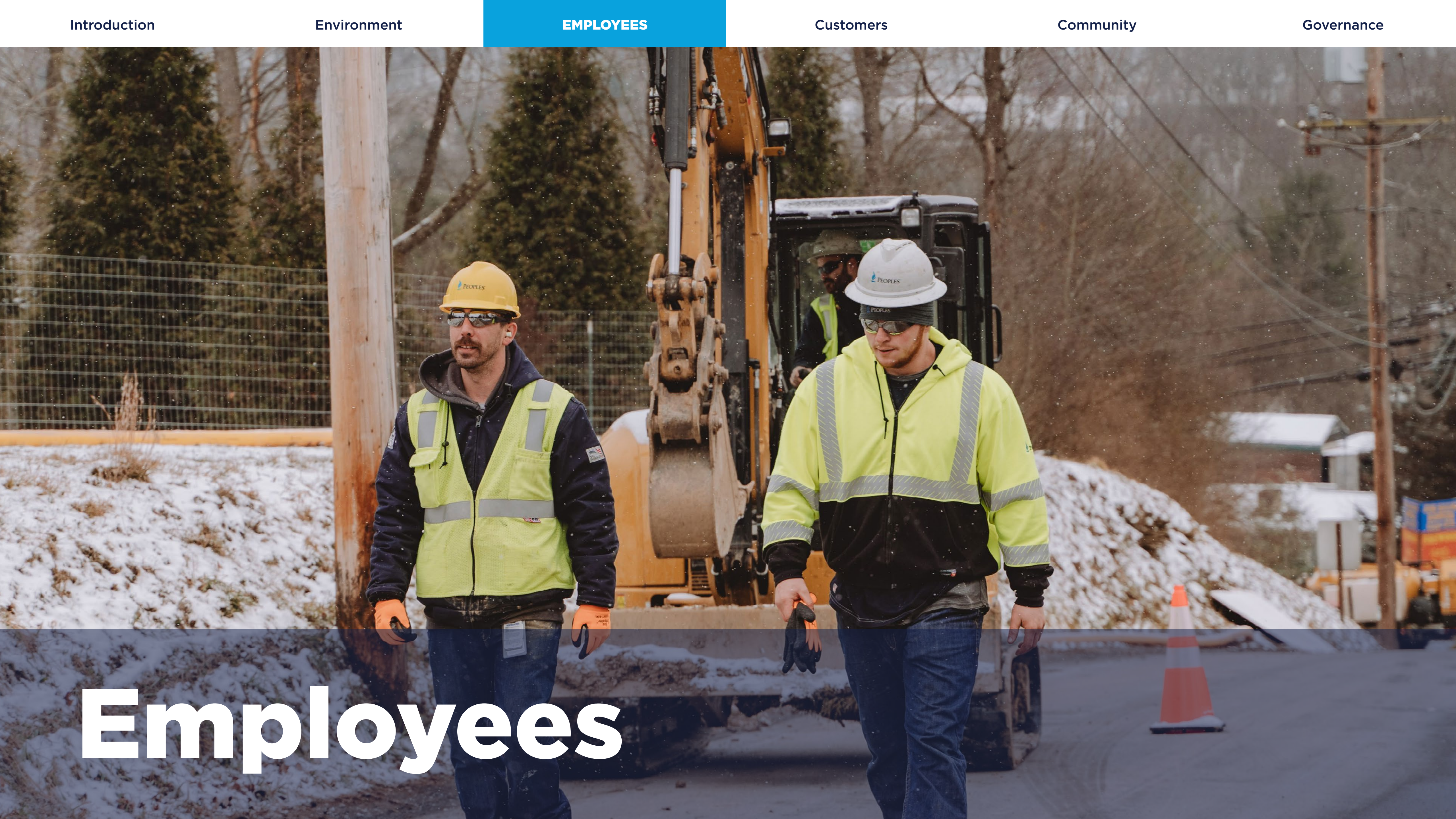
RESTORATION PROJECTS

Across our states and utilities, Essential works with community partners to complete on-the-ground restoration projects including tree plantings, stream channel restorations, stormwater management and agricultural improvement projects. For nearly 20 years, we have worked with nonprofit and governmental partners in Pennsylvania on a grant program called Trees for Watersheds. With Essential’s support, our partnership has restored over 1,000 acres with native species and volunteers have planted about 200,000 trees. Essential also partners with Tree Pittsburgh in support of its mission to restore and protect the urban forest. In addition to financial support, Essential volunteers have also worked with the group. There are many other examples of active community engagement across our footprint, including Ohio team members planting hundreds of trees in a wetland to restore a bare canopy.

Essential funds the Summer Tree Care Training Program, which provides job training opportunities for individuals interested in horticulture and urban forestry, and the Forest Steward Volunteer Program, an initiative that is designed to engage volunteers in tree care and reforestation in parks and other publicly-owned forested areas around Philadelphia.

All of these initiatives have had profound ecosystem benefits, such as reducing air pollution, enhancing open space and improving wildlife habitats. Additionally, it has improved water quality through the stream bank stabilization, temperature cooling, soaking up of contaminated runoff and recharging groundwater.



A photograph of two utility workers in safety gear walking past a yellow excavator on a snowy construction site. The worker on the left wears a yellow hard hat, safety glasses, and a high-visibility vest over a dark jacket. The worker on the right wears a white hard hat, safety glasses, and a high-visibility jacket. Both hard hats feature the 'PEOPLES' logo. The background shows a snowy landscape with trees and a utility pole.

Employees

Human Capital Management

As a premier infrastructure company, Essential offers a wide array of exciting and challenging opportunities for careers that support our mission to provide natural resources for life.

We recognize our 3,200+ employees are our greatest asset in delivering life’s most essential resources, and we seek to build a talented, skilled and diverse workforce that values teamwork as well as a steadfast commitment to our customers and the environment. The Essential companies, including our Aqua water and Peoples Natural Gas utilities, are committed to providing professional opportunities for career growth, competitive benefits packages and a respectful workplace for every employee across the states we serve. We’re dedicated to creating a culture that empowers employees, where all people feel welcomed, respected and recognized for their contributions. At our core, our team is about respect, integrity and the pursuit of excellence.

Essential’s board of directors takes a keen interest in all aspects of human capital management and recognizes that our ability to attract, retain and develop exceptional talent is a key strategic driver for our organization. The Chief Human Resources Officer regularly presents updates to the board, engaging in strategic discussion with the group regarding various topics from employee engagement and corporate culture to workplace safety.



Health and Safety

Safety as a Priority

Safety is one of Essential’s primary commitments. Through continuous improvement efforts, we are establishing a high performing and cohesive safety program across our operations. With this program, we proactively manage employee safety risks, support a healthy safety culture and position Essential as a leader among peers through safety prioritization and encouragement of safety ownership at all levels. Our commitment to safety is highlighted through the firm implementation of our safety program, which is flexible and adaptive to meet the varying needs of our complex businesses. The core components of this program include:

MANAGEMENT COMMITMENT

Essential’s leaders are dedicated to supporting safety by incorporating it into corporate targets and goals, such as Essential’s short-term incentive plan (20% weighting). Focusing on these goals not only helps us compare ourselves to industry peers but also helps us to evaluate ourselves with an eye toward our own past performance. With this commitment, we emphasize the outcomes of our safety efforts, which concentrate on striving towards zero injuries and accidents. Senior leadership and safety staff receive weekly reports on both the current week’s incidents and totals for the year.

In 2024, our water and wastewater operations implemented a Senior Leadership Safety Council, Safety Steering Committee, and individual state safety committee meetings, each focused on topics specific to the group as well as communicating between the committees to ensure that front line safety concerns are raised to the appropriate level, including to senior leadership, for a commensurate response. The company’s gas operations had previously undertaken these actions.

EMPLOYEE ENGAGEMENT

The basis of our safety culture is an engaged workforce, which is nurtured through positive reinforcement of safety program participation, establishing mechanisms for employees to raise safety concerns, rigorously addressing hazards and thoroughly investigating the root causes of incidents. Not only have our employees internalized their authority to stop work but they are also actively involved in identifying safety solutions. In this way, we promote a speak-up culture and work to proactively address the safety hazards our employees may face. For those identified hazards, we communicate to all levels of our workforce to share lessons learned through safety briefs, newsletters, internal website publications and all-employee video events.



HAZARD IDENTIFICATION AND MITIGATION

Identifying the hazards that our employees face is paramount to maintaining our safety culture, and mitigating these hazards is key to protecting our work family. Therefore, safety hazard analysis is one of the most critical aspects of our safety program and is a focus of our safety program’s audits. Hazard recognition and control are also integral to our incident investigation processes, as is the development of emergency response plans.

Essential employees have access to an anonymous helpline and website, which is available 24/7/365 to confidentially report concerns regarding ethics, compliance or safety issues. We also have a 24/7/365 nurse care line used on all calls other than emergencies that require an immediate emergency room visit. There is a concurrent process to engage our worker’s compensation carrier and an occupational clinic.

Through these hazard identification efforts, we work to control our risks, with management and employees working together to either eliminate hazards or control the threats to employee safety. The effectiveness of the controls is reviewed and improved during root cause analyses of incidents and near misses. We also actively participate in industry safety efforts through the American Gas Association (AGA) and the National Association of Water Companies (NAWC).

A near miss program, internally named Safety Learning Opportunity, spans from the traditional reporting of behavioral near misses to reporting of unsafe conditions, environmental impact potential, potential property damage and last-barrier-challenged incidents (cases where the last point of defense against a hazard was engaged). We have empowered our employees with “stop work authority” to shut down work to reassess any dangers. A safety alert is issued within one week of any injury and this is followed by a more in-depth investigation. These findings are then shared with executive leadership and presented to all managers and supervisors on weekly calls throughout the company.

SAFETY TRAINING

Another important tool to reduce safety risks in the workplace is through effective safety training. Training is vital for employees to understand the safety practices and expectations that are part of their jobs. Training also empowers employees to recognize safety hazards in the moment and take steps to correct them to prevent a potential injury.



Essential provides safety-related training through multiple methods, from in-person courses to on-the-job training, computer-based lessons and informal safety discussions and meetings. Based on OSHA requirements, the training programs identify work tasks from field hazard assessments and injury and near miss trending from reports to target and address areas where we are seeing injuries or potential injuries before they occur. In this way, Essential’s leadership and management team continues to support and strengthen safety in our workplaces.

CONTRACTOR SAFETY

Across much of our operations, contractors must provide their OSHA 300 log of the previous year’s injury data and their experience modification insurance rating (EMR). Most states hold contractor meetings at least annually to discuss changes, feedback and project information. We also use contractor worksite inspections, sometimes by a third party, to ensure that work practices are safe and match regulations and expectations. Our gas operations utilize a contractor safety program, and we are assessing opportunities for expansion to our water and wastewater operations.

Measuring Safety

No program is complete without effective ways to measure safety performance and make improvements based on these metrics. To accomplish this, Essential monitors safety through a variety of mechanisms. As noted in the table below, safety performance has improved over the past three years across the organization. Over the past three years, there have been no fatalities or OSHA citations.

LOST TIME AND RESTRICTED TIME INJURIES (LT/RT) ¹					
		2024	2023	2022	Industry Group Average 2024
Rate	Essential	1.1	1.2	1.2	N/A
	Water and Wastewater	1.6	1.6	1.5	3.1 ²
	Gas	0.9	0.9	1.0	1.4 ²
	Essential	36	38	39	N/A
Count	Water and Wastewater	23	24	24	N/A
	Gas	13	14	15	N/A

Rate = 200,000 / Hours Worked. Same as DART rate
This data only pertains to full-time Essential employees.

¹Employee injuries resulting in days away from work, job restriction, or transfer.
²According to the Bureau of Labor Statistics.
³According to the American Gas Association: Rate = Number of Lost Time and Restricted Duty Injuries.

EMPLOYEE-RESPONSIBLE MOTOR VEHICLE ACCIDENTS (RVAS)

		2024	2023	2022
Rate	Essential	2.5	2.4	2.2
	Water and Wastewater	2.6	2.7	2.5
	Gas	2.3	2.1	1.8
Count	Essential	79	78	68
	Water and Wastewater	45	47	42
	Gas	34	31	26

Rate = # RVAs/miles driven*1,000,000
This data only pertains to full-time Essential employees.

FATALITIES

20240

20230

20220

OSHA CITATIONS

20240

20230

20220

NEAR MISSES REPORTED 2024

Essential505

Aqua467

Peoples38

Engaging Our Employees

We believe that our success depends on our employees’ understanding of how their work contributes to Essential’s overall strategy.

We use a variety of communication channels to facilitate open and direct dialogue, including open forums with our executives, monthly town halls, regular engagement surveys, employee newsletters, employee resource groups and regular performance feedback sessions between employees and their supervisors.

Engagement Surveys

Essential’s workforce is surveyed semi-annually to gauge employees’ perspectives on key drivers of engagement and gather feedback.

We have also implemented efforts to build a culture of engagement, including implementing a strategy that ensures all employees are accountable for action planning, increased communication that provides necessary context for changes in a timely manner, leadership development programs and localized participation in post survey action planning.

JUNE 2025 CULTURE SURVEY RESULTS



Summary of Survey Results

Concerted efforts at every level of the organization are being made to create meaningful improvements in team’s work environment.

- Employee engagement survey participation up 23%
- Employee satisfaction scores up 6% to a score of 73, closely aligned with the national benchmark of 74
- Notably, all scores of the survey have risen 7 points on average, with 12 out of 17 scores at or above the national average

Survey Insights

- Employees continue to possess a strong sense of purpose/skill.
- First- and mid-level people leaders’ sense of empowerment and satisfaction with change communication increased substantially, which correlates to results and actions being managed at the local level.
- Employees agree overall that changes and decisions at the immediate teams/departments/functions/state level have had a positive effect on their work experience.
- The manager and employee efforts across the organization so far this year are resulting in better employee satisfaction.

CORE SURVEY DIMENSIONS

Dimensions	Essential	U.S. Benchmark (Comprised of 350 peer firms)
Employee Satisfaction (happiness)	73	74
Purpose (meaningful work)	82	80
Respectful Treatment	82	81
Feedback (manager provides feedback for improvement)	82	77
Communication – Team (open communication between team members)	79	79
Work Life Balance	75	72

TURNOVER RATES

	Retirements	Voluntary Turnover (Excluding Retirements)	Involuntary Turnover
Executive/Sr. Manager Turnover	0%	0.1%	0%
Mid-level Manager	0.6%	0.7%	0.3%
Professional	0.1%	0.9%	0.3%
All Others	1.4%	5.2%	2.4%
Total	2.1%	6.7%	2.9%

Employee Development and Training

Corporate goals, mission and values drive talent management strategies, so Essential evaluates its talent management programs annually to ensure alignment.

Essential's guiding objectives for talent management

- Essential retains employees who are skilled and capable of high performance
- Employees have the ability to grow their career and stay with Essential
- Leaders are well prepared to take on new roles with increasing responsibilities
- Managers lead our culture of engagement and create a positive work environment where employees want to stay
- Essential reinforces commitments to employee groups by supporting employee and labor relations strategies



Talent Management and Development

Essential’s talent management and development model reflects the lifecycle of the employee experience including:

Selection and onboarding that ensures the organization has skilled, talented people in the right positions to leverage their capabilities. Through the use of behavioral based interviewing, assessments for leadership roles, and objective selection criteria, the process for identifying people for jobs provides both the organization and the candidate with the ability to mutually determine fit.

Foundational skills and capability programs are designed to ensure expectations are clearly understood and that employees have the skills necessary to adapt to changes in technology, procedures and goals. These include structured corporate and job-specific orientations, procedure training and assimilation programs for all employees. A formal leadership curriculum for supervisors and managers ensures they have the necessary skills to manage and lead employees in an engaging, objective manner.

Using the best practice 70-20-10 approach to development, Essential recognizes 10% of acquiring new knowledge occurs through a formal learning experience, 20% of development occurs through feedback from assessment and coaching and 70% of development occurs when an employee applies the formal learning and feedback in their job and related scenarios. Formal training sessions reflect this approach as well by introducing skills, practicing the techniques and receiving feedback in a supportive environment.

Essential contributes to personal and professional growth by providing several learning opportunities through partnerships with one of the leading online learning providers as well as business school certificate programs. We also offer tuition reimbursement for post-secondary degree granting programs and individual career coaching. Ninety-three percent of eligible employees utilize professional development courses delivered by Essential. In addition, recognition programs are in place to support retention and acknowledge employees’ contributions.

Performance management and development programs provide the necessary feedback mechanisms to ensure employee efforts are meeting expectations. Employees have the support they need to be successful in the organization through coaching and training. All employees receive goals and feedback through the annual performance management program, which consists of both mid- and year-end performance feedback sessions. A formal recognition platform reinforces organizational values by offering all employees the opportunity to recognize their coworkers. Managers may also combine public social recognition with financial value points to reinforce accomplishments. Additionally, the semi-annual engagement survey also provides managers with the feedback they need to inform their behaviors and approaches to managing their teams.

Essential has workforce planning programs to ensure the company is prepared with the talent it needs for the future. Our workforce analysis and succession planning programs help identify upcoming staffing and skills needs. We also partner with community-based organizations to provide subject matter expertise and labor market career development programs, which help us build strong candidate pipelines.

For current employees, Essential supports their career goals by offering a range of growth and development opportunities, and they are encouraged to actively participate in development discussions with their supervisors and the talent management team. Leadership development partnerships with Drexel University and ExecOnline, which provides access to university-based business school certificate programs, are available to help develop leaders for advanced roles in the organization. In addition, monthly live Learning for Leaders sessions offer the management team the opportunity to learn how they can improve in their roles and support their employees’ performance.



Benefits and Compensation

Compensation Practices

We work best together under a single compensation program that rewards employees consistently for making an equivalent impact on company results.

We also believe in treating employees who joined the Essential team through acquisitions in a fair and equitable manner, therefore we have focused on harmonizing all employee compensation packages to one Essential program. This ensures that total employee compensation will remain at comparable levels aligned with market medians.

Essential
believes

- It is critical to pay market-competitive wages targeting pay around the industry market median in the locations where we operate.
- Individual performance matters. Our goal is to attract, motivate and retain high-performing employees at all levels, including with rewards provided to the top-performing employees.
- Organizational performance is a key driver of our variable pay programs, including achievement awards, short-term incentives and long-term incentives.
- Detailed market research, peer group benchmarking and market surveys are necessary to achieve a high degree of accuracy in our compensation program.



Essential’s hiring practice is to hire and employ directly. However, during peak periods, for high volume positions or for special projects and in a limited capacity, temporary or contract workers are used. It is common for these temporary workers to be subsequently hired on as regular, full-time employees.

LOWEST ENTRY LEVEL HOURLY WAGE

2024
\$18.00

Benefits

Essential recognizes how important benefits are to our employees. That’s why we’re committed to helping our employees enjoy the best possible physical, financial and emotional wellbeing. It’s also why we provide a comprehensive, highly competitive benefits package, with the flexibility to make the choices that best meet our employees’ needs.

Employees who average 30 hours or more per week receive full-time benefits. Thus, over 99% of our total employees are offered:*

- Medical Plans (PPO, POS & HDHP) with Prescription Drug Coverage
- Dental
- Vision
- Health Savings Account (HSA) and Health Care Flexible Spending Account (FSA)
- Employee Assistance Program
- Wellness Program
- Life Insurance
- 401(k) Savings Plans with Roth and After-tax Options
- Tuition Reimbursement Program
- Employee Stock Purchase Plan
- One Week of Parental Leave

Wellness Program

Employee wellness is critical to the success of our business. Studies have shown wellness programs help reduce absenteeism, health care costs and employee turnover, while improving employee morale, strengthening recruitment efforts and enhancing their quality of life.

At Essential, we don’t only focus on physical health but also financial and mental wellbeing with our education and benefits offerings.

We work with our employees to fully understand all proactive wellness benefits available to them through our insurance, including smoking cessation, nutrition services and gym memberships. In addition, we offer onsite gyms and cafeterias with heathy meal choices at several of our facilities.

Through our wellness administration and services vendor, employees have access to an interactive website that helps them to reach their wellness goals including eating better, getting fit, reducing stress and managing certain health conditions. Through this website, employees can develop confidential personal health profiles, use online progress trackers and to-do lists to meet their health goals, access self-guided online workshops, participate in interactive competitions and campaigns and access educational wellness advice and recipes.

All employees are also provided regular meetings with a nutritionist as part of their health insurance plan. We have a recommended list of local nutrition resources at various locations across our operations footprint.

Essential also has a Wellness Resource Group that employees can join, which supports physical and mental wellbeing.

* This list is a representative example of Essential's benefits offerings. It is non-exhaustive and may vary.

Diversity, Equity and Inclusion (DE&I)

Essential is dedicated to creating a culture that empowers employees and where all feel welcomed, respected, and recognized for their contributions.

Affinity-based Employee Resource Groups

Employee Resource Groups (ERGs) are voluntary, employee-led groups of coworkers with shared characteristics or life experiences that foster a diverse, inclusive workplace aligned with organizational mission, values, goals, business practices and objectives. Benefits of ERGs include the development of future leaders, increased employee engagement and a strong culture of inclusion, which creates fertile conditions for diversity to thrive. We have listed, below, the affinity-based ERGs that are currently active at Essential, but we encourage and support formation of new groups, which we anticipate we will have in the near future.

EMPLOYEE RESOURCE GROUP	GOAL
Pride Resource Group	To create a more inclusive company that promotes cultural awareness and employee wellness to ensure LGBTQ+ employees feel a sense of belonging at Essential and in their communities.
Black Resource Group ¹	To support Essential’s diversity, equity and inclusion initiatives, focus on breaking down societal norms that divide us and share information about Black experiences, challenges, opportunities and achievements.
Women’s and Women in Energy Resource Groups	To create a culture where women can thrive, succeed and have a voice.

¹ Currently open to employees of our water and wastewater operations



Employee Demographics Reporting

Essential has published its full, unmodified EEO-1 Summary Table for 2024 [here](#), as well as for 2023 [here](#). The EEO-1 Summary Table is the current benchmark for companies to disclose gender and racial diversity data. With a format and methodology set by the federal government, this table is directly comparable to the same disclosure made by other companies. Essential has not modified the established categories and the only changes are related to formatting for ease of review. Further, our EEO-1 Summary Table is inclusive of all Essential operations.

Our Equal Employment Opportunity and Anti-Harassment Policy is located [here](#).



Customers



**Our customers are our neighbors,
our friends and our families,**

and a deep commitment to our customers and communities is embedded in every fiber of our company. We strongly feel that each and every customer deserves safe and affordable access to water, that their local streams and habitats should sustainably receive safely treated effluent, and that their gas service should be reliable and low-cost. Our responsibility to do right by our customers is foundational to delivering

essential resources for life.

Affordability and Access

Water and Wastewater Operations

Essential recognizes that providing clean, safe, reliable water and wastewater service at reasonable rates is a fundamental tenant of our mission and expressed clearly in the [Human Right to Water Policy](#). To do this, we strive every day to operate efficiently, encourage water conservation and prudently invest in aging infrastructure. This [video](#) sheds light on how customer rates are prudently reinvested into modernized infrastructure and efficient operations, using our Pennsylvania utility as an illustrative example that can be applied across our footprint.

However, even with planning and conservation practices, there are low-income customers in our communities who have difficulty paying their bills. These issues occur in any area, regardless of the location, demographic or income distribution. In addition, a variety of issues can impact customer bills, including the condition of the infrastructure and work that has been done in the system, ability to utilize single tariff pricing, weather, irrigation, household usage or the potential of a leak. Generally, the cost of providing water service is a main driving factor behind water rates which, in turn, impact customer bills.

Essential works proactively with customers who have difficulty paying their bills, including offering payment plans and recommending conservation tips. In several states, we locally operate low-income assistance programs. For example, in Pennsylvania, Essential has launched an assistance program for limited income households designed to both reduce current monthly bills through discounts and to assist in eliminating prior arrearages through monthly bill credits for each monthly payment made. The program also offers water conservation kits that provide information and tools for how to use less water. In 2023, Essential implemented a water repair program, designed to assist limited income homeowners with unexpected water repairs that are impacting affordability by raising monthly bills or could potentially impact their water service. Essential has developed a comprehensive consumer education and outreach plan and partners with local social service agencies to ensure its Pennsylvania customers are aware of and have ease of access to this suite of assistance programs. In 2025, Aqua has launched a bill discount assistance program for income-eligible households in Illinois.

Aqua Aid is a customer assistance program operated in Illinois and New Jersey through partnership with Salvation Army and NJ SHARES, and in Pennsylvania through partnership with a local community action agency. Essential actively participated in the implementation of the federally administered Low Income Household Water Assistance Program (LIHWAP) that was initiated in December 2020 and received additional funding through the American Rescue Plan of 2021. LIHWAP programs, offered in all of Essential’s nine states, provided an important resource to low-income customers seeking assistance with their water bills. Essential supports the creation of a permanently funded LIHWAP to address the ongoing needs of customers.

Customers are encouraged to visit our newly updated Aqua website to [download a report](#) detailing their specific rate information. Our Customer Service Center also includes helpful information on how to read your bill and how to contact us if you have any questions. For those customers seeking assistance, Aqua’s website has added a [section](#) dedicated to customer assistance that allows customers to click on their state and immediately access information on all available programs.

RESIDENTIAL WATER DISCONNECTIONS

	2024	2023	2022
Number of residential customer water disconnections for nonpayment	31,174	24,325	20,577
Percentage reconnected within 30 days	56.0%	54.3%	51.9%

Gas Operations

Providing gas service at reasonable rates is critical for Essential and our customers.

Pennsylvania customers may be eligible for the Customer Assistance Program (CAP), which provides monthly payments based on household income while also offering additional credits toward arrearages as each monthly payment is made. Low-income customers in Kentucky can also receive assistance with their winter heating bills through the Delta Energy Assistance Program which provides bill credits in the winter heating months. Pennsylvania customers may also be eligible for assistance through Essential’s Hardship Fund, administered by Dollar Energy Fund. The Hardship Fund brings together shareholder dollars and customer donations to provide support to those who need assistance in paying their utility bill.

Essential offers the Pennsylvania Low-Income Usage Reduction Program (LIURP) to qualified residential customers. This program implements energy efficiency measures in low-income households to help them reduce their energy consumption. Measures include heating system improvements and replacements, insulation, caulking, weatherstripping and tank improvements and replacements. LIURP targets customers with high energy usage and accepts enrollment in a bill assistance program as a form of income qualification. The program is implemented in collaboration with local electric utilities to ensure qualified customers receive all energy reducing benefits available to them. Essential partners with local nonprofits and community assistance agencies to educate them on LIURP and encourage referral of eligible customers. While the LIURP program is targeted to those living at 150% of the Federal Poverty Level, we are authorized to provide services to customers up to 200% of the Federal Poverty Level if there are special needs. Essential also offers emergency furnace and gas line repair and/or replacement to income-eligible customers who own their home in Pennsylvania. This program extends to some eligible renters as well.

We also encourage customers in need to apply for the Low-Income Home Energy Assistance Program, a federally funded program designed to help customers with their home heating needs. States administer the program, typically through their Department of Human Services, and eligibility varies across Essential’s footprint in Pennsylvania and Kentucky.

Our online [Program Finder](#) guides gas customers through the process of identifying and applying for assistance. Promotion of available resources and programs is a key component of our CAP communication strategy, which includes using multiple channels from traditional bill inserts to email, social media and paid advertising in the community. Essential has developed a comprehensive consumer education and outreach plan and partners with local social service agencies to ensure its customers are aware of these resources.

GAS AFFORDABILITY METRICS ¹			
	2024	2023	2022
Average retail gas rate per MMBtu for (1) residential, (2) commercial, (3) industrial customers, and (4) transportation services only	\$9.49	\$8.49	\$14.49
	\$7.56	\$7.16	\$12.16
	\$7.06	\$6.89	\$11.96
	\$1.67	\$1.62	\$1.87
Typical monthly gas bill for residential customers for (1) 50 MMBtu and (2) 100 MMBtu of gas delivered per year	\$55.21	\$50.01	\$72.32
	\$94.76	\$85.78	\$131.17
Number of residential customer gas disconnections for non-payment, percentage reconnected within 30 days	\$25,329	27,238	18,827
	59.4%	54.3%	57.4%

¹ Gas rate data disclosed pertains only to Peoples Natural Gas Division of Peoples Natural Gas Company LLC and excludes Peoples Gas Division of Peoples Natural Gas Company LLC, as well as the legal entities of Delta Natural Gas and, for historical years, the recently divested Peoples Gas West Virginia. Peoples Natural Gas Division represents a significant majority of all gas customers and is deemed materially representative for disclosure purposes.

Customer Experience

Essential is consistently focused on improving the customer experience through our capital investments that impact the reliability of the services we provide and the interactions customers have with our company. We have the resources and channels in place to respond to reports of emergencies 24/7, and we utilize social media to keep customers informed geographically. Our customer-facing websites allow for self-service options to assist customers quickly. Our water, wastewater, and gas utilities are equipped to handle calls from people who speak a language other than English. Metrics related to customer experience comprise 10% of Essential’s short-term incentive plan, to further ensure this remains a top priority for our company’s management.

Our goal is to drive improvement in overall satisfaction, customer effort, field service experience and first contact resolution. We standardized contact center technology for our water, wastewater and gas utilities. The technology includes an Integrated Voice Response (IVR) system, workforce management, call recording, a quality management system and improved reporting. This suite of enhancements allows us to better serve our customers.

We are committed to efficient processes, technology, customer engagement and supplier partnerships across our Essential footprint.

Our Voice of the Customer survey is sent to customers who had a recent interaction with the company (in the field, through our contact center, online or via any of our self-serve options). Through this survey, we gather feedback from customers regarding their overall experience with us and individual interactions with our contact center and field services.

In 2023, Essential launched the Customer Tangible program, a multi-year plan designed to create a more robust omnichannel experience, giving the customer the option to connect by phone, email, chat or social media. Additional technology such as a refreshed customer portal, will provide our customers with the ability to self-serve for activities such as moving, appointment scheduling, payment arrangements and setting up recurring credit card payments.



Essential’s water and wastewater operations scored #2 in customer satisfaction with midsize water utilities in the Northeast Large region in the J.D. Power 2024 U.S. Water Utility Residential Customer Satisfaction Study. In 2023, Essential’s gas operations scored #1 in the overall quality of service, according to the Pennsylvania Public Utility Commission Customer Service Performance Report.



Community

Community Engagement

While Essential operates in several states across America, our impact is felt locally because we are an integral part of each community we serve.

We primarily source water and gas nearby our customers, we do business with many local suppliers and our employees often live in the communities they serve. We have team members in our treatment plants, offices and facilities all across our footprint working to provide reliable, essential services to their families and neighbors. Our water, wastewater and gas utility services make houses into homes, protect public health, support commerce and enable communities to flourish.

We understand that we thrive when our communities thrive. Our culture of giving back is felt at every level of the organization, whether through donations from our Essential Foundation and employee giving campaign or volunteer time put in by our dedicated team members. As a utility, we make a long-term investment in the wellbeing of the areas we serve, and we partner with other organizations that do the same.

We believe it is critical to transparently engage with our community stakeholders through constructive dialogue. Each state where we operate sets regulations that govern public participation hearings. This is an opportunity for Essential’s customers and neighbors to learn about and provide input regarding company plans and projects that will affect their community or utility service. With official recordkeeping and facilitation of these events, we consider such public hearings a core element of our stakeholder engagement activities. Feedback from this dialogue is reported to senior management and the board of directors.

We encourage our customers and community to visit the website of their state’s public utility commission, or equivalent regulatory body, to learn more about the specific processes, procedures, and regulations that govern this engagement.



Charitable Giving and Essential Foundation

Our philanthropic efforts are led by the Essential Foundation, which seeks to enhance the quality of life for our customers by engaging in collaborations that result in measurable success for the communities we serve and support the mission, vision and values of Essential Utilities.

In 2024, Essential’s charitable giving to 501(c)(3) organizations totaled **\$4.6 million**, supporting the missions of more than 450 nonprofits.

Like us, our community partners work to provide essential resources for life. Our primary areas of giving include environmental initiatives, direct human services, emergency services, community economic growth and education.

In addition to making donations, Essential also works with partners on collection drives, fundraisers, service projects and other opportunities to engage our employees, who receive eight hours of volunteer PTO, matching gifts of up to \$500 per year, and up to a full day of vacation time for participating in our annual United Way campaign. In addition, we help match our company leaders with nonprofit board opportunities so they may share their talents. This culture of service is core to who we are as a company and as a team of more than 3,000 dedicated community members.

SPOTLIGHT Employee Giving Campaign

Perhaps the longest-standing tradition at Essential is our culture of giving, and we are proud of our team members for always going above and beyond for their communities. To support their commitment to giving back, Essential invites all its employees to take advantage of a gift-matching program. Essential matches 100%, up to a maximum of \$500 per calendar year per employee, for personal contributions made by an employee or their spouse or domestic partner to qualifying nonprofit organizations.

In addition, Essential hosts an annual giving campaign through the United Way that is also matched dollar for dollar through the Essential Foundation. For more than two decades, Essential’s partnership with the United Way has provided vital funds for the communities we serve while offering team members a simple process for donating. Through its annual workplace giving campaigns, Essential builds collective impact while inspiring employees to donate in a way that is meaningful to them. Each year, Essential team members give to a variety of initiatives, including health and human services, education, housing and hunger relief, the environment and animal welfare.

During Essential’s 2024–2025 campaign, more than 2,000 employees pledged \$386,490 to support more than 550 community organizations across the company’s footprint. Since 2020, Essential and its employees have raised more than \$3.9 million through these campaigns and the company’s match.

SPOTLIGHT Supporting Local Fire Departments

As a water and gas utility company, our relationship with local fire departments is critical to keep our facilities and communities safe. We often find ourselves working alongside these brave individuals to respond to emergency situations, and they work closely with us in our drinking water service areas, where we service the hydrants required to fight fires. In addition, many Essential employees are firefighters themselves! To show our appreciation and support for the tireless work that volunteer fire departments do to keep our communities safe, we established a program at the Essential Foundation to help fund these essential services. **In 2024, our Essential Foundation provided more than \$130,000 to 67 fire departments.**

Employee Volunteerism

We recognize that volunteer service can be as meaningful to our employees as it is to the community organizations we serve. Essential's paid volunteer time supports food banks, environmental projects, youth mentoring programs, honoring veterans, health-based initiatives and critical resource provision for low-income families. In addition, our operations staff lend their technical expertise to humanitarian projects on service trips. Employees report volunteer hours for tracking purposes throughout the organization.

Our major service opportunities take place during our Essential Earth Day and Fall for Food Banks initiatives to protect the environment and fight food insecurity, respectively. We encourage volunteer participation across our nine-state footprint to raise awareness of these issues.

In 2024, hundreds of Essential employees across corporate, water, wastewater and gas operations tracked almost 4,500 hours of paid volunteer time.

Our employees came together to volunteer their time on a number of projects impacting their local communities. We packed 1,500 backpacks with school supplies for children in need, outfitted low-income individuals with warm clothes for winter, fed 15,000 families by supporting local food banks, packed 50 bags with comfort items to surprise people receiving cancer treatment, marked veterans' graves with flags for Memorial Day, hosted collection drives to provide essential items for low-income families, mentored dozens of students through our partnerships with schools and nonprofits, built infrastructure in other countries through humanitarian programs and much more!

SPOTLIGHT Essential Earth Day

To carry out Essential's mission of providing natural resources for life, it is vital that we protect those resources as well. Each year, throughout the month of April, Essential team members celebrate our commitment to environmental protection during our Essential Earth Day initiative by participating at dozens of volunteer events across our footprint. In partnership with local environmental organizations, the activities include cleaning up litter from streams, planting trees and gardens, supporting environmental education programs and enhancing outdoor recreation sites.

In 2025, Essential Earth Day empowered 450 volunteers to clean up more than 180 bags of litter and plant more than 11,000 native plants in our communities. In addition to volunteering, hundreds of team members attended educational presentations to learn about environmental topics and how to live more sustainably. Additionally, the Essential Foundation announced more than \$1.2 million in nonprofit grants for environmental causes.

Essential Earth Day is part of the company's comprehensive commitment to the environment and the communities it serves. Since the initiative launched in 2022, Essential has donated \$2.9 million and more than 1,820 employees have participated in 150 events, logging more than 6,500 hours to support environmental causes, including litter cleanups, reforestation projects and other conservation efforts. The company remains dedicated to providing high-quality water, reliable natural gas service, and fostering a sustainable future for generations to come.

SPOTLIGHT Fall for Food Banks

In line with our mission to provide essential resources for life, one of our largest charitable initiatives focuses on food insecurity. In addition to making related grants throughout the year, each November, hundreds of employees participate in our company-wide Fall for Food Banks campaign by volunteering with local hunger relief organizations and raising awareness of this key issue.

Service activities include stocking pantry shelves, preparing meals, packing food boxes, and hosting food drives. In 2024, our volunteerism directly served 15,000 people at more than 50 pantries. Since the program's launch, 650+ employees have volunteered more than 2,100 hours, and our Essential Foundation has donated over \$800,000 to address food insecurity in the communities we serve.



Governance

Governance and Ethics

An organization is only able to fulfill its responsibilities to its many stakeholders through strong governance and a culture of ethics consistently embodied at all levels. Some issues generally related to governance include the role of the board of directors and how the code of ethics drives the way a company operates. For Essential, we ensure this consistency through how we provide adequate oversight of our sustainability activities and strategy, including how we keep the board of directors and leadership abreast of trends. Essential has carefully considered its structure to maximize its ability to carry out its significant responsibilities as a utility with the utmost integrity and ethical foundation.

Essential’s corporate governance policies are available on Essential’s [website](#) for download. These policies comprise a critical complement to this Sustainability Report and our data disclosures. As board-approved documents, they represent the most formal articulation of Essential’s sustainability commitments to our stakeholders. The performance and achievements noted in our Sustainability Report are consistent with the directives and bedrock principles the board has explicitly outlined for the organization in these approved policies.

Sustainability and Environmental Policy

Human Rights Policy

Human Rights to Water Policy

Political Spending Policy

Code of Ethical Business Conduct

Conflict of Interest Policy

Equal Employment Opportunity and Anti-Harassment Policy

Labor Rights Policy

Corporate Governance Guidelines



We hold ourselves to the highest corporate governance standards, ensuring effective oversight, accountability, and transparency across all levels of the organization.

By cultivating a board with diverse expertise and upholding robust governance structures, we reinforce our dedication to ethical leadership and responsible decision-making. These principles guide our long-term strategy and support sustainable business practices that create enduring value for our stakeholders. More information about our board of directors can be found in our [Proxy Statement](#).



Board Oversight of Sustainability

The board of directors is briefed on sustainability matters in its regularly scheduled meetings and through various channels and reporting paths. Senior management presents an update to the corporate governance committee of the board on notable sustainability matters related both to the company and to the broader industry or sustainability landscape. The corporate governance committee takes primary responsibility for providing board oversight for the company’s sustainability profile, strategy and activities.

Related risks are reviewed by the risk mitigation and investment policy committee of the board and reported to the full board at each of its regularly scheduled meetings. These discussions are led by our general counsel and include the CEO and the presidents of both of the operating units. Also, the audit committee, informed about sustainability-related risks through the compliance and disclosure committees, provides additional oversight. These committees are comprised of the independent members of the board of directors and Essential’s management. Written reports are provided to the full board at each meeting and, for certain sustainability matters, presentations are made to the full board.

The CEO is a member of the risk mitigation and investment policy committee and the executive committee. As such, the CEO provides a valuable voice and perspective to board discussions on sustainability matters, as he is separately tasked with the responsibility for the overall direction and strategy related to sustainability for operations and aligning corporate growth with consideration of these issues. This arrangement serves as a crucial bridge between the board and our company’s management with respect to sustainability.

Management Oversight of Sustainability

Flowing from governance of sustainability by the board of directors, the management of Essential Utilities is responsible for designing, implementing, reporting and executing a strong and comprehensive program. Every member of the executive team is expected to understand the principles and importance of sustainability, be aware of the latest developments and trends in their area, identify relevant risks and opportunities and continually seek creative means to foster innovation and contribute to the overall development of the Essential sustainability profile. Further, this orientation and focus is disseminated through the organization, and we seek to build company culture around an inherent regard for our communities and environment, in line with our corporate mission and purpose.

Our CEO is responsible for the overall direction and strategy related to sustainability issues for operations and aligning corporate growth with consideration of such issues.

Further, the CEO is the most direct interface with current and future investors in addressing our company’s alignment with sustainability goals. As such, the CEO provides a valuable voice and perspective and serves as a crucial bridge between the board and our management to facilitate alignment.

Essential’s sustainability manager is dedicated to further developing and maturing the sustainability profile of our company. The sustainability manager oversees the reporting process, monitors the latest trends and emerging best practices, supports existing projects and helps develop new initiatives so that we can continue to grow as a recognized sustainability leader within the utilities industry.

Additional management oversight of sustainability is provided by the sustainability oversight committee. Members of this group include over a dozen senior leaders from across the organization, each lending a unique and valued perspective. The group meets at least once per quarter to discuss recent progress with sustainability initiatives, industry news and trends, strategic short and long-term planning, approval of various initiatives and policies and to recommend matters to be presented to the CEO and the board.

Many leaders and team members across the organization contribute to Essential’s sustainability profile and program. We encourage our entire leadership team to remain aware of the sustainability trends and issues within their areas and the industries in which Essential operates. We also expect our leadership to engage employees on these matters and infuse the principles and mission of our company within the daily work and priorities of the team.

Enterprise Risk Management

The primary objective for Essential’s formalized Enterprise Risk Management (ERM) Program is to develop a center of excellence for effective awareness, understanding and management of emerging and existing enterprise-wide uncertainties of every type and every function that can affect the organization, along with the achievement of its strategic business objectives and goals.

Sustainability, when it optimizes costs and resources, drives risk mitigation and decision-making, increases organizational preparedness and affords an ongoing, holistic review of risk across the organization and its individual business functions, is another program objective.

The program’s framework eliminates silos, fosters cross-functional investments into risk understanding and emphasizes the interconnectedness of effective risk management and the organization’s achievement of its strategic business objectives and goals.

ERM governance is centrally coordinated and monitored by the Risk Management Department via automated ERM process model facilitation and an electronic risk repository, which yields taxonomies, sophistication and informed decision-making. There is active participation in this process at the highest levels of the organization and across all areas of the business as well.



Code of Conduct

Essential’s [Code of Ethical Business Conduct](#) (the “Code”) reinforces the company’s longstanding tenet for doing business with integrity and in accordance with its core values and ethical standards. The Code emphasizes that maintaining this level of integrity depends upon the conduct of all employees, adherence to our core values and commitment to acting in a safe, legal and ethical manner at all times.

The Code provides specific rules and concrete examples concerning ethical business conduct, but also emphasizes these should be viewed expansively and be broadly applied to business conduct. It encourages employees to discuss potential ethical issues with their supervisors and prohibits any retaliation for raising good faith questions about ethical conduct. Employees may raise ethical issues with the company’s chief compliance officer, any manager or members of the board of directors or the board’s audit committee. A process for making an anonymous report is also provided, with options to file by phone or online through a third-party site. This mechanism is available to all company stakeholders. Confidential and anonymous reporting is available 24 hours a day, seven days a week. Reports are investigated by the chief compliance officer, the audit committee or the full board of directors depending upon the nature of the matter.

While the board of directors has overall responsibility for ensuring ethical business conduct, the chief compliance officer is charged with implementing and enforcing the Code. However, all officers and managers accept responsibility for enforcing and communicating about the Code and are subject to disciplinary action for violations either personally or by employees under their management.

Every Essential employee is required to complete annual training about the Code via interactive web programming. Upon completion of the training, each employee must demonstrate a proficiency level by answering a series of questions about the Code’s requirements and their applications to business situations.

Commitment to Human Rights

Essential Utilities is deeply committed to human rights; this care spans across our operations and through all our activities. We recognize the influence and importance our business has on many stakeholders, and we strive to consider and address the impacts our operations have on each of these groups and promote universal human rights in all our practices. **Our board of directors is responsible for overseeing human rights risk management and our management team is accountable to the board for ensuring our [Human Rights Policy](#) is effectively implemented.** All employees are urged to consider the promotion of human rights in their roles and are expected to be strong and ethical community partners. Further, our commitment applies to all suppliers and vendors without exception and is independent of what governments may or may not require.

While minimizing and mitigating risk is vitally important, we also believe our operations play a constructive role in both safeguarding and expanding opportunity for human rights development. This is an inherent responsibility of Essential as a supplier of water for our communities and is directly connected to UN Sustainable Development Goal 6, which calls for the “availability and sustainable management of water and sanitation for all.” Our [Human Right to Water Policy](#) makes clear our commitment to providing an affordable and accessible supply of clean, safe, reliable water in accordance with regulations at rates established by governing public utility commissions.

We acknowledge our responsibility to customers while also fulfilling our responsibility to sustainable and resilient communities by investing in our nation’s water infrastructure and protecting water sources and local environments. Coordination of all these activities helps safeguard every human’s right to water. We agree with the November 2002 resolution of the United Nations Committee on Economic, Social and Cultural Rights which both calls for a human right to water and acknowledges this as a “prerequisite for the realization of other rights.”

We can never take this right for granted and must continually invest in our water infrastructure for future generations.

LABOR RIGHTS

Because 50% of our employees are represented by a labor union, Essential leverages an interest-based approach rooted in partnership between the company and union to achieve goals that are important to both our employees and our other stakeholders. We strive to promote a safe, engaging, inclusive and respectful workplace for all union and non-union employees alike.

Using this critical approach, we published a board-approved [Labor Rights Policy](#). This framework mutually reinforces our [Human Rights Policy](#) and [Code of Ethical Business Conduct](#).

We outline commitments and principles related to:

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| Workplace safety | Freedom of association and collective bargaining
Employee engagement |
| Prevention of human trafficking, forced labor and child labor | Vendor responsibility |
| Standards for working hours and compensation | Communication and improvement |

Public Policy Participation

We take our role in the public policy process seriously. We have various outlets to participate in public policy at our disposal. Essential engages with government and trade associations in order to educate and address issues impacting our service. It is important to engage in this activity to support candidates who want to maintain our mission by providing a strong water, wastewater and natural gas distribution infrastructure for the next generation, protect the environment and allow our company to remain financially viable. In addition, our management team can participate in the Essential Political Action Committee (PAC). Transparency is critical to building trust in political activities and the activities of the PAC are overseen by a board that meets on a quarterly basis. All PAC and lobbying expenditures are reported in accordance with federal, state and local laws. For further information, please refer to our [Political Spending Policy](#).

Essential has been in close collaboration with industry associations to advocate for both state and federal-level funding for customer assistance in affording water and wastewater services. Essential and the Pennsylvania chapter of the National Association of Water Companies (NAWC) have urged the Pennsylvania state legislature to continue and expand a support program that was put in place in 2020. Pennsylvania’s Low-Income Household Water Assistance Program (LIHWAP) has supported tens of thousands of customers in the state, and we hope that it continues to do so. On a federal level, Essential supported industry efforts to formally study the issue of water affordability and advocate for the creation of a permanent national assistance program.

More recently, in May of 2025, the Texas legislature overwhelmingly passed into law a mechanism allowing for utilities to use a Future Test Year in rate case filings. This will significantly encourage utilities to proactively upgrade water and wastewater infrastructure throughout the state, while ensuring timely and more accurate recovery. Essential played an active role in engaging and educating lawmakers throughout the process.



Data Security and Privacy

Essential is committed to the safe, secure and reliable operation of its information technology and operations technology systems. Essential has a robust and longstanding cybersecurity program, which is aligned to the National Institute of Standards and Technology (NIST) Cybersecurity Framework. As cybersecurity threats continue to evolve and increase in both sophistication as well as complexity, the Essential strategy has been to operate utilizing a risk based approach.

Essential's Risk-based Approach

GOVERNANCE

The information security and cybersecurity program is overseen by a diverse and cross-functional committee of senior business leaders. This committee meets quarterly and is charged with ensuring that cyber risk is managed and that the program is aligned to business goals and objectives. Updates are also provided to the board's risk committee quarterly and the full board once a year.

RISK MANAGEMENT

The information security organization is responsible for ongoing vulnerability assessments and threat analysis to essential assets such as customer and employee data, critical business systems and industrial control environments. Risk assessments are executed quarterly in conjunction with a third party to promote objectivity. Information security and cybersecurity risk management functions are also integrated into the enterprise risk management program. There have been no security breaches in the past year across our enterprise and Essential maintains a cybersecurity insurance policy to promote resiliency and reduce risk.

CONTROLS, POLICY, AND COMPLIANCE

Essential has implemented enterprise-wide security policies, standards and controls that incorporate best practices in security engineering, technology architecture and data protection, which support regulatory compliance. The information security controls framework has been developed around the NIST Cybersecurity Framework but also incorporates best practices from ISO 27001 Information Security Management Systems, CIS Critical Security Controls and ISA 99 Industrial Automation and Control Systems Security. An annual review of Essential's security framework controls is conducted in conjunction with a third party to promote objectivity.

AWARENESS, TRAINING, AND ASSESSMENT

Essential has created a corporate culture that is conscious of cybersecurity, with a focus on continual assessment, development and improvement. Essential has implemented specialized programs, such as computer-based training, enterprise-wide communications, presentations, phishing simulations and focused training for specific roles. We have developed and implemented a general cybersecurity training program required for all employees annually.

Supply Chain

Being good stewards of community natural resources aligns with being good community partners, because we provide gas, water and wastewater treatment locally. We recognize that, in many cases, our customers are also our suppliers and vendors. We recognize the importance to partner with suppliers who work and live in a community within the footprint of our infrastructure. These deep, multifaceted connections between Essential and fellow community members enrich and strengthen neighborhoods, as well as develop a more resilient local economy.



In 2024, Essential made over \$1 billion in controllable spend purchases related to our gas, water and wastewater businesses. We are proud to say that more than half of this spend was with suppliers from within the states in which we operate.

Building Supplier Resources

In addition to our efforts to maximize business with vendors local to the communities we serve, Essential is committed to building broad and sustainable supplier resources to ensure the company has access to the most highly qualified vendors and business partners. This means removing potential barriers to becoming a supplier to Essential and ensuring that all potential vendors, including diverse-owned vendors, have equal opportunity and equal access to our supply chain.

Essential operates in diverse communities. Insofar as we strive to source from and partner with businesses owned by individuals in our local communities, it is critical to ensure that all suppliers in our local communities have the opportunity to compete for our business. To that end, our Supplier Code of Conduct reflects our commitment to ensure equal opportunity and equal access. We also monitor our spend with diverse suppliers to ensure that we identify any potential barriers to access to our supply chain.

In addition, we engage in pipeline-building activities, such as outreach to organizations that work with diverse suppliers. For example, the Essential purchasing department is a member of the National Minority Supplier Development Council, Eastern Minority Supplier Development Council, Women’s Business Enterprise National Council, Women’s Business Enterprise Center East, and Women’s Business Development Center. We regularly participate in networking events sponsored by these and other organizations, and we engage with other companies with mature supplier diversity programs to understand and take advantage of their outreach activities.

Ultimately, all decisions about who we invite to be part of our supply chain are based strictly on merit- qualifications, experience, capacity, service, and competitive cost.

Supplier Code of Conduct

Essential has established a [Supplier Code of Conduct](#) to define the basic requirements for suppliers of goods and services and their responsibilities to the environment and their stakeholders. We are committed to purchasing from suppliers that strive to improve the environmental quality of our water, wastewater, and gas operations, and that use reasonable efforts to minimize pollution and improve environmental protection and sustainability. Our suppliers are also responsible for the health and safety of their employees, which includes controlling exposure to hazards, taking reasonable efforts and precautionary measures against accidents and occupational hazards, providing education and training in health and safety issues and having reasonable health and safety management systems. We also expect suppliers to subscribe to the principles of nondiscrimination, follow high standards of business ethics and professional conduct and adhere to our [Human Rights Policy](#).



Essential™

Providing natural resources for life.

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