



2020

SASB AND ESG METRICS INDEX

TICKER SYMBOL: WTRG

2020 SASB and ESG Metrics Index

During Essential's first year as a combined water, wastewater, and natural gas utility, we have built upon the strong ESG foundation of each of our businesses to make strong progress toward our goals. We publicly announced new, aggressive targets across our business to support our efforts to be a premier sustainable and equitable company. 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.

This document contains disclosure of relevant metrics to Essential's operations, as well as those included in the Sustainability Accounting Standards Board (SASB) standards for the Water Utilities & Services and Gas Utilities & Distribution industries. The document covers disclosures for the period Jan. 1, 2020 through Dec. 31, 2020, unless otherwise noted, and should be read in conjunction with our [2020 ESG Report](#).



Alignment with UN Sustainable Development Goals



Essential is committed to supporting the achievement of the United Nations' Sustainable Development Goals (SDGs), which aim to address global challenges and achieve peace and prosperity for all.

Of the 17 SDGs, our business can most significantly positively impact:



Clean Water and Sanitation



Affordable and Clean Energy



Climate Action

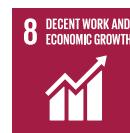
Among those remaining, our ESG program most directly supports:



Good Health and Well-Being



Gender Equality



Decent Work and Economic Growth



Industry, Innovation and Infrastructure



Reducing Inequalities

Corporate Profile*

\$1.46B

Revenue

85.4B

Gallons of drinking water produced

3,100+

Employees (full-time)

221

Wastewater systems

5.0M

Approximately 5 million people served from
almost 1.8 million connections

151,965

Wastewater connections

10

States (IL, IN, KY, NC, NJ, OH, PA, TX, VA, WV)

11.5B

Gallons of wastewater treated

1,522

Water systems

751,502

Gas connections

895,336

Water connections

155.4Bcf

Gas delivered to customers

*Figures are as of December 31, 2020

Environment

Essential Utilities

Greenhouse Gas (GHG) Emissions*

	2020	2019
Scope 1 emissions (metric tons CO ₂ e)	483,214	499,259
Scope 2 emissions (market-based) (metric tons CO ₂ e)	111,262	117,393
Total Scope 1 and 2 emissions (metric tons CO ₂ e)	594,476	616,652
Total Scope 3 emissions	8,653,218	—
Strategies to reduce GHG emissions	In January of 2021, Essential announced a commitment to substantially reduce Scope 1 and 2 GHG emissions. By 2035, Essential will reduce its emissions by 60% from its 2019 baseline. This will be achieved by extensive gas pipeline replacement, renewable energy purchasing, accelerated methane leak detection and repair, and various other planned initiatives that are highly feasible with proven technology. See the Greenhouse Gas Emissions Reduction (Essential) section of 2020 ESG Report for more details on our aggressive emissions reduction target and initiatives. We also have committed to providing a transparent progress tracker on our ESG website.	

*2019 was the first year for which Essential disclosed Scope 1 and 2 GHG emissions for its combined water, wastewater, and gas utilities. This served as the baseline for our emissions reduction target. 2020 is the first year for which Essential is disclosing Scope 3 emissions for its combined water, wastewater, and gas utilities.

Essential has recalculated its 2019 Scope 1 and 2 baseline from 583,408 metric tons CO₂e to 616,652 metric tons CO₂e. This decision was driven by changes to methodology for the calculation of emissions relating to our gas utility. These changes have led to a more complete and accurate representation of 2019 emissions. Essential's 60% Scope 1 and 2 emissions reduction commitment remains confidently in place.

Energy Management*

SASB: IF-WU-130a.1

	2020
Total energy consumed (MWh)	747,018
Energy sourced from the grid (percentage grid electricity)	39.4%
Energy derived from renewables (percentage renewable)	4%
Strategies to reduce energy use	See the Reducing Energy Use section of the 2020 ESG Report

*2020 is the first year for which Essential is disclosing energy consumption for its combined water, wastewater, and gas utilities.

2020 Waste Generation (dry metric tons)

Description	Beneficial Reuse / Recycled	Landfill	Incineration	Total
Treatment of water	26,469 (Land Application)	6,764 (88% in company owned landfills)	0	33,233
Treatment of wastewater	2,535 (Land Application)	3,099	527	6,161
Office waste / miscellaneous non-hazardous waste	402 (Recycled)	2,156	0	2,558
Natural gas liquids	498 (Fuel Blending)	0	0	498
Hazardous waste	0	0	8	8
Total waste	29,904	12,019	535	42,458

2020 Air Emissions*

Emission Type	Dry Metric Tons
Nitrogen Oxides (NOx)**	264.2
Particulate Matter (PM10)	< 10
Sulfur Oxides (SOx)	<1
Volatile Organic Compounds (VOCs)	201.3
Hazardous Air Pollutants (HAPs)	45.2

*Emission data from sources within the scope of our required regulatory air emissions reporting. 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.

**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.

Strategies for managing waste and non-GHG air emissions

See the [Waste and Non-GHG Air Emissions](#) section of 2020 ESG Report

Water and Wastewater Business

Distribution Network Frequency*

	2020	2019	2018
Water main replacement (miles of main replaced)	178	130	181
SASB: IF-WU-140a.1			
Volume of non-revenue water losses (billions of gallons)	17.8	16.8	17.7
SASB: IF-WU-140a.2			
Percent of total production (%)	20.9%	20.0%	21.1%

*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. For more information, refer to the Reducing Water Loss section of our 2020 ESG Report.

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.

Effluent Quality Management

	2020	2019	2018
Number of incidents of non-compliance associated with water effluent quality permits, standards, and regulations	334 events, 95.2% days in compliance	290 events, 95.5% of days in compliance	377 events, 94.3% of days in compliance
SASB: IF-WU-140b.1			
Discussion of strategies to manage effluents of emerging concern	See the Managing Water and Wastewater Systems section of the 2020 ESG Report		
SASB: IF-WU-140b.2			

Water Affordability and Access

	2020	2019	2018
Average retail water rate for (1) residential, (2) commercial, and (3) industrial customers SASB: IF-WU-240a.1		We do not currently believe SASB's water utility standards reflect the differences in water rates (as opposed to electric and gas) that exist. Given Essential's wide geographic footprint across eight states and operation of over 1,500 systems of varying size, the complexity of our operations and the necessary variance in tariffs and rate structures make calculation of materially accurate average and typical rates not representative. We will continue to support efforts to further develop and refine SASB's industry guidance so that it better allows transparency into this issue. We also continue to interface with state public utility commissions to approve rate structures that are both affordable for customers and necessary to adequately maintain infrastructure and promote the safety of this critical resource.	
Typical monthly water bill for residential customers for 10 Ccf of water delivered per month SASB: IF-WU-240a.2		Across our entire footprint of eight states, the average water rate for residential customers per 10Ccf (7,480 gallons) in 2020 was \$89.91. However, there are many factors that influence water rates across our over 1,500 systems, each of which has different infrastructure needs that may contribute to different costs of operation. Customers are encouraged to visit our Aqua website for a lookup tool to download a report detailing their specific rate information. The average residential customer consumption varies across our footprint and may be more or less than 10Ccf of water per month in many households or regions, but this volume is provided as per guidance from SASB.	
Number of residential customer water disconnections for non-payment, percentage reconnected within 30 days* SASB: IF-WU-240a.3	16,437 43.0%	31,078 60.0%	35,600 62.6%
Discussion of impact of external factors on customer affordability of water, including the economic conditions of the service territory SASB: IF-WU-240a.4		See the Affordability and Access section of the 2020 ESG Report	

*Given the unique circumstances surrounding the COVID-19 pandemic, 2020 residential customer water disconnection data is not comparable to prior years. Essential observed moratoriums on disconnections consistent with public utility commission guidance.

Drinking Water Quality

	2020	2019	2018
Number of incidents of non-compliance associated with water effluent quality permits, standards, and regulations	4 15	12 8	16 9
SASB: IF-WU-250a.1	76	63	57
Total tier violations	95	83	82
Percent of systems with tiered violations	6.2%	5.5%	5.5%
Percent of systems with tier 1 + tier 2	1.2%	1.3%	1.8%
Percent of systems with tier 3 only	5.0%	4.2%	3.8%
Total # of systems	1,522	1,497	1,490
Discussion of strategies to manage drinking water contaminants of emerging concern	See Managing Water and Wastewater Systems section of the 2020 ESG Report		
SASB: IF-WU-250a.2			

End-Use Efficiency

	2020	2019	2018
Percentage of water utility revenues from rate structures that are designed to promote conservation and revenue resilience	About 4%*	About 4%*	0%
SASB: IF-WU-420a.1			
Customer water savings from efficiency measures, by market	Across our footprint, our tariffs are designed so that a larger percentage of the total bill is recovered through a volumetric charge thereby incentivizing customers to conserve both water and wastewater use on a monthly basis. In addition, our customers' average consumption has fallen significantly over time, largely driven by more efficient appliances. We also have efforts in place to educate customers on this issue and raise awareness of water-saving practices. It is difficult to ascertain the volumetric water savings directly attributable to Essential's efforts because this depends on many variables and factors, but we will continue to educate customers and encourage them to use water efficiently as we all share the responsibility of caring for natural resources.		
SASB: IF-WU-420a.2	For additional information, see the Helping Our Customers Conserve section of the 2020 ESG Report.		

*In Illinois, a volume balancing adjustment (VBA) was introduced and covers the volumetric revenues of our water and wastewater operations, which comprises roughly half of the state utility's total revenues. As Aqua Illinois, in 2020, comprised 8.3% of the revenue of Essential's regulated water segment, roughly half of this comes from the VBA rate structure. Customer water consumption in the state has declined roughly 1.6%, on average, per year over the past 15 years. The VBA tracks actual volumetric revenue and compares against what is allowed in the regulatory rate case. The difference becomes the "rider" or financial adjustment. Essential began tracking this in April of 2018 and the first rider calculated 12 months later. It did not result in a financially material adjustment.

Water Supply Resilience

2020

Total water sourced from regions with high or extremely high baseline water stress, percentage purchased from a third party

SASB: IF-WU-440a.1

11% of water sourced from high or extremely high baseline water stress regions.

This analysis is considered a broad high-level regional analysis and may not represent the true level of stress on a source locally, nor does it take into account management of sources by groundwater conservation districts, river basin commissions, or other local, state, and federal agencies. Sites that are more prone to water scarcity are monitored and addressed on an individual basis. For more information on how we conducted this analysis and what comprises this figure, see the [Promoting Sustainable Water Sourcing](#) section of the 2020 ESG Report.

Volume of recycled water delivered to customers

SASB: IF-WU-440a.2

In 2020, we recycled to the groundwater recharge via spray irrigation, drip irrigation and subsurface infiltration approximately 526.6 million gallons of treated wastewater. This is 5% of the total wastewater treated in 2020, with the remainder safely discharged to streams, rivers, or lakes. Essential will continue to evaluate and examine potential opportunities and technologies to recycle water and reuse wastewater.

Strategies for managing the quality and availability of water resources

SASB: IF-WU-440a.3

In the environment in which Essential currently operates, we have not assessed that there is a large-scale risk associated with quality and availability of water resources. On a case-by-case basis, sites that are more prone to water scarcity are monitored and addressed. Essential continuously strives to be a responsible user of its water sources by reducing leakage and encouraging conservation. In addition, routine efforts are conducted to responsibly manage water resources and sources against situations that could stress sources, including drought planning and future demands from growth.

For more information, see the [Promoting Sustainable Water Sourcing](#) section of the 2020 ESG Report.

Network Resiliency & Impacts of Climate Change

	2020	2019	2018
Wastewater treatment capacity located in 100-year flood zones		In the past year, we have performed a detailed analysis of how much of our wastewater capacity falls within 100-year flood zones. We determined that this proportion is 22% and the capacity volume is estimated to be 8.6 million gallons per day. Essential carefully plans for such events and has implemented considerable mitigation efforts and processes to substantially reduce such a risk. Further, this analysis only considered whether the treatment plant was located within the 100-year flood zone and did not account for any flood prevention measures that might already be in place. For more information on the detailed analysis we performed, see the Minimizing Sanitary Sewer Overflow section of our 2020 ESG Report.	
SASB: IF-WU-450a.1			
(1) Number and (2) volume of sanitary sewer overflows (SSO)* (gallons), (3) percentage of volume recovered**	118	118	138
	226,050	511,945	909,780
SASB: IF-WU-450a.2	99.998%	99.996%	99.992%
(1) Number of unplanned service disruptions, and (2) customers affected, each by duration category (normalized by 100 miles)***	1,805	2,486	2,407
	13.2	18.2	17.6
SASB: IF-WU-450a.3			
Description of efforts to identify and manage risks and opportunities related to the impact of climate change on distribution and wastewater infrastructure		We report through CDP and TCFD to align and document risks and opportunities resulting from climate change across our portfolio. See our most recent CDP submission and TCFD Report for more information.	
SASB: IF-WU-450a.4			

*Precipitation events are associated with almost all the SSO volume. At Essential, we capture and treat >99.99% of the wastewater from our customers despite challenges arising from heavy storms, hurricanes, clogs, and blocks.

**Percent reflects annual wastewater volume that is treated without an SSO.

***These year-on-year changes are likely primarily driven by better data collection and data quality that we have been working towards 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 providing us the opportunity in the long term to focus attention and remediation measures to reduce this impact to our customers.

Gas Distribution Business

Energy Affordability and Access

	2020	2019	2018
Average retail gas rate per MMBtu for (1) residential, (2) commercial, (3) industrial customers, and (4) transportation services only	\$8.03 \$6.55 \$6.23 \$1.62	\$8.50 \$6.89 \$6.67 \$1.47	\$7.95 \$6.77 \$6.21 \$1.40
SASB: IF-GU-240a.1			
Typical monthly water bill for (1) 50 MMBtu and (2) 100 MMBtu of gas delivered per year	\$48.34 \$82.19	\$50.28 \$86.06	\$46.97 \$80.46
SASB: IF-GU-240a.2			
Number of residential customer gas disconnections for non-payment, percentage reconnected within 30 days*	1,131 60.9%	23,528 49.6%	18,605 49.5%
SASB: IF-GU-240a.3			
Discussion of impact of external factors on customer affordability of gas, including the economic conditions of the service territory	See the Affordability and Access section of the 2020 ESG Report		
SASB: IF-GU-240a.4			

*Given the unique circumstances surrounding the COVID-19 pandemic, 2020 residential customer gas disconnection data is not comparable to prior years. Essential observed moratoriums on disconnections consistent with public utility commission guidance.

End-Use Efficiency

	2020	2019	2018
Percentage of gas utility revenues from rate structures that (1) are decoupled or (2) contain a lost revenue adjustment mechanism (LRAM)	44.4% 0.0%	42.1% 0.0%	42.5% 0.0%
SASB: IF-GU-420a.1			
Customer gas savings from efficiency measures by market	Across our state operations, rate structures are designed to promote efficiency through the use of a fixed cost customer charge and a volumetric charge which varies every month based on usage. While there is not a formal customer efficiency and conservation program and this precludes a calculation of gas savings by market, Essential proactively educates our customers on the importance of energy efficiency. For more information, see the Helping Our Customers Conserve Gas section of the 2020 ESG Report.		
SASB: IF-GU-420a.2			

Integrity of Gas Delivery Infrastructure

	2020	2019	2018
Number of (1) reportable pipeline incidents, (2) Corrective Action Orders (CAO), and (3) Notices of Probable Violation (NOPV)	2 0	2 0	1 0
SASB: IF-GU-540a.1	0	0	0
Percentage of distribution pipeline that is (1) cast and/or wrought iron and (2) unprotected steel	0.51% 21.3%	0.54% 22.2%	0.57% 23.1%
SASB: IF-GU-540a.2			
Percentage of gas (1) transmission and (2) distribution pipelines inspected	100% 38.4%	100% 35.5%	100% 35.5%
SASB: IF-GU-540a.3			
Description of efforts to manage the integrity of gas delivery infrastructure, including risks related to safety and emissions	See the Gas Infrastructure and Resiliency section of the 2020 ESG Report		
SASB: IF-GU-540a.4			

Employees

Essential Utilities

Health and Safety*

	2020	2019	2018
Lost Time/Restricted Time Rate (per 200,000 hours worked) (also regarded as DART Rate)	1.2	1.9	1.9
Employee-Responsible Motor Vehicle Accident (RVA) Rate**	2.5	2.9	3.2
Fatalities	0	0	0

See the [Health and Safety](#) section of 2020 ESG Report for details about our program and commitment to employee safety

*Data pertains only to full-time Essential employees

**Number of RVAs per one million miles driven

Human Capital Management

	2020 Employee Turnover Rates	
	Voluntary	Involuntary
Executive/Sr. manager	0%	5%
Mid-level manager	2%	2%
Professional	4%	2%
All others	5%	2%
Total	4%	2%

Description of human capital management programs and employee engagement efforts

See the [Engaging our Employees](#) section of the 2020 ESG Report

Diversity, Equity and Inclusion

Strategies for expanding and promoting companywide diversity and inclusion efforts

In January of 2021, Essential announced a multi-year plan to reach 17% employees of color, up from about 14% today. See the [Diversity, Equity and Inclusion](#) section of the 2020 ESG Report for more information on both this goal and our program's tenets and strategies. We also have committed to providing a transparent [progress tracker](#) on our ESG website.

2020 Age Diversity

	>50	30-50	<30
Board	78%	22%	0%
Management	58%	40%	2%
All employees	38%	46%	16%

Gender and Racial Diversity:

Male

Job Category	Total	Male	Black	White	Hispanic	NHOPI	Asian/ P.I.	Two or More Races	Native American	Un- Disclosed
Executive/Senior Level Officials and Managers	33	2	31	—	—	—	—	—	—	—
First/Mid Officials & Manager	319	11	298	4	1	2	1	—	—	2
Professionals	211	10	185	1	—	13	—	—	—	2
All Other	1,924	146	1,683	39	12	7	21	3	13	—
Total Workforce	2,487	169	2,197	44	13	22	22	3	17	—

Female

Job Category	Total	Male	Black	White	Hispanic	NHOPI	Asian/ P.I.	Two or More Races	Native American	Un- Disclosed
Executive/Senior Level Officials and Managers	10	—	10	—	—	—	—	—	—	—
First/Mid Officials & Manager	93	10	79	1	—	1	1	1	—	1
Professionals	171	15	138	3	—	7	7	—	—	1
All Other	419	100	291	17	—	2	2	1	6	—
Total Workforce	693	125	518	21	—	10	10	1	8	—

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

Governance

Policies

[Code of Ethical Business Conduct](#)

[Human Rights Policy](#)

[Human Right to Water Policy](#)

[Political Spending Policy](#)

[Equal Employment Opportunity & Anti-Harassment](#)

[Conflict of Interest Policy](#)

[Sustainability and Environmental Policy](#)

Corporate Governance Highlights

Board Composition	Metric
Age of Directors	57.9
Female Directors	33.3%
Directors of Color	22.2%
Total Diversity (% diverse)	55.5%
Average tenure (years)	3.9
Independence (% independent)	88.9%

Best Practices

Shareholder engagement program

Diverse board

Board oversight of ESG

Stock ownership guidelines for executive officers and directors

Continuing education for directors and orienting for new directors

15 year term limit for directors elected after 2015

Independence

Lead Independent Director with delineated responsibilities

100% standing Board Committee membership independence

Accountability

All directors elected annually

Annual Board and Committee self-evaluation

Annual evaluation of CEO by independent directors

Clawback policy

Resignation policy

Shareholder Rights

No poison pill

One-share, one-vote

No dual-class common stock

Right to call special meeting

No cumulative voting

Supplier Diversity

In January 2021, Essential announced a multi-year plan to increase diverse supplier spend to 15% of controllable spend, which excludes spend where there is no opportunity to include diverse suppliers or spend that cannot be sourced from a diverse supplier due to a policy or law. See the [Supply Chain](#) section of the 2020 ESG Report for more information on both this goal and our program's tenets and strategies. We also have committed to providing a transparent [progress tracker](#) on our ESG website.



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 release. 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 is filed with the Securities and Exchange Commission. For more information regarding risks and uncertainties associated with the company's business, 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.



762 Lancaster Ave
Bryn Mawr, PA 19010
610.525.1400
ESG@essential.co
essential.co