

ANNUAL REPORT 2018

Transforming
Our Community's
Waterways for a
Brighter Future



1800 Limerick Street, Alexandria, VA 22314 | 703.549.3381 | alexrenew.com

OUR PARTNERS

City of Alexandria

Virginia American Water

Alexandria Chamber of
Commerce

Eisenhower Partnership

First Night Alexandria

Urban Alliance Foundation

Metropolitan Washington
Council of Governments

Friends of Dyke Marsh

Earth Sangha

Northern Virginia
Cooperative Extension

INOVA Hospital

Value of Water Campaign

Potomac Riverkeeper Network

Chesapeake Bay Foundation

Yoga Toka

Substance Abuse Prevention
Coalition of Alexandria

George Mason University

CONNECT



Alexandria Renew Enterprises



@AlexandriaRenew



Alexandria Renew Enterprises



callmemoxie



The U.S. water industry
employs approximately

500,000
people.

U.S. Bureau of
Labor Statistics



Because of you, we are one of the foremost clean water experts.

When you look at a drop of water, what do you see? We see you – our community of Alexandria, Virginia. We are here because you are our customer, our neighbor, and our environmental ally. The AlexRenew workforce has been cleaning water for the City of Alexandria and parts of Fairfax County for more than 62 years, providing a critical service to our community while improving the health of our local waterways and the vitality of our community. We clean over 35 million gallons of water each day – over 13 billion gallons each year – while consistently meeting or surpassing EPA standards and setting new goals for quality.



GALLONS OF
WATER CLEANED



35
million
DAILY



13
billion
ANNUALLY

MORE THAN **62** YEARS CLEANING WATER



UPGRADES:
1956 - PRESENT

1970s-1980s:
CLEAN WATER ACT
EXPANSION

1999-2006:
CHESAPEAKE BAY
IMPROVEMENTS

2011-2016:
STATE-OF-THE-ART
NITROGEN UPGRADE
PROGRAM (SANUP)

\$750
million

TOTAL
COST

320,000
CUSTOMERS SERVED



100
TEAM MEMBERS



Consistent excellence is a priority worth pursuing for you.

We are one of the nation's foremost clean water experts, leading the way with an experienced workforce – 100 people strong – and a mission to serve 320,000 people every hour of every day.

In 2018, AlexRenew demonstrated that consistent excellence is a priority worth pursuing for you, our customers and community. We earned the National Association of Clean Water Agencies (NACWA) Platinum PEAK Performance Award for the 13th consecutive year, as well as its Excellence in Management Platinum recognition – a recognition that only 20 organizations like ours have won since 2012.

Left to Right: Karen Pallansch, AlexRenew CEO; Bill Dickinson, Treasurer; James Beall, Member; John Hill, Chairman; Patti Turner, Member; Bruce Johnson, Vice Chairman





As Alexandria Grew, So Did We

As Alexandria has grown, AlexRenew has supported the city and our county partners by expanding its capacity to clean up to 54 million gallons of used water per day. We have also upgraded our technology to remove additional nitrogen, phosphorus, and solids from our water, as required by the Clean Water Act and other regulatory actions. We have invested \$750 million to enhance our facility. These upgrades have improved our local waterways over the past 62 years.



There are approximately
14,750
wastewater treatment plants
in the United States.

(University of Michigan Center
for Sustainable Systems)



13th
YEAR OF PEAK
PLATINUM
PERFORMANCE

Your water-cleaning team: experience and passion.

AlexRenew's water transformers are committed to providing the City of Alexandria with cleaner, healthier waterways. Our team of licensed and certified water-cleaning professionals are dedicated to public service and clean water. Forty percent of AlexRenew employees have more than 20 years of experience, and our water-cleaning team commits to 80-100 per-person hours of training and more than 30 hours of continuing education each year per

employee to improve their skills and expand their water-cleaning technology knowledge. AlexRenew is also investing in our future workforce: We have 18 operators and maintenance team members who have either graduated from or are still active in our apprentice program. We also host two interns annually through our partnership with Urban Alliance Foundation.

LICENSES & CERTIFICATIONS



Team
Members



Certified Maintenance
& Reliability Technicians



Electrical
Journeymen



Professional
Engineers



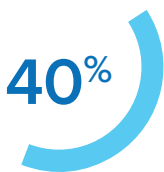
Wastewater
Works Licenses





Working to Ensure a Promising Future for the Potomac River

From the late 1800s to the mid-1900s, raw sewage was piped directly into the Potomac River from Alexandria and other cities in the Metropolitan Washington, D.C. area. Before the implementation of water and wastewater treatment protocols, poor water quality was a major threat to public health, the environment, and economic growth. AlexRenew was created in 1952 by the Alexandria City Council and began operations in 1956. Since then, we have invested almost \$1 billion in water-cleaning facilities to clean 13 billion gallons of water annually and ensure that we consistently adhere to some of the strictest clean water standards in the country.



40%

EMPLOYEES WITH
20+
YEARS' EXPERIENCE

CONTINUING
EDUCATION HOURS

30-36

PER EMPLOYEE

TRAINING
HOURS

80-100

PER YEAR

18

APPRENTICE GRADUATES

8

URBAN ALLIANCE INTERNS

Your water cleaning investment: cleaning used water to the highest standards.

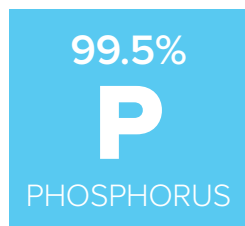
We are recognized by our peers as one of the best in the nation at cleaning used water, and we are most proud of our exemplary record of serving you, our community, by protecting public and environmental health through clean water.

NACWA PEAK Performance

Platinum Award

In 2018, the National Association of Clean Water Agencies (NACWA) recognized us for 100 percent compliance with National Pollutant Discharge Elimination System (NPDES) permit requirements for 13 years in a row. We removed 99.5 percent of phosphorus and 95 percent of nitrogen from the water we cleaned in 2018, meeting or exceeding regulatory levels. We also prevent sediment and harmful pathogens from entering our local waterways, allowing fish, shellfish, and plants to live and thrive. As a result, all of us can enjoy fishing and other water-related recreational activities.

REMOVED FROM WATER IN 2018



NACWA Excellence in Management

Platinum Award

NACWA also recently awarded AlexRenew with its Excellence in Management Platinum award. The program honors member agencies that are implementing management practices that address the range of challenges identified in the Ten Attributes of Effectively Managed Water Sector Utilities, including product quality, customer satisfaction, stakeholder understanding and support, and financial viability.



There are
1.5 sextillion
molecules
in one drop of water.

(Dr. Anne Marie Helmenstine, Ph.D.
in Biomedical Science)



\$1B
IN TECHNOLOGY

10,000+
LAB TESTS
ANNUALLY

VEEP Sustainability Partner

Since 2016

As a continuing Extraordinary Environmental Enterprise facility in the Virginia Environmental Excellence Program (VEEP), AlexRenew is expected to achieve the highest levels of environmental performance and leadership within our community. Since 2016, we have been recognized as a VEEP Sustainability Partner. This recognition is for organizations that make environmental sustainability a part of their culture.

George Mason University PEREC Partner

AlexRenew partners with George Mason University's Potomac Environmental Research and Education Center (PEREC) to closely monitor water quality and wildlife activity in the Potomac to ensure that our work has a positive impact on the environment. In 2018, PEREC staff and students monitored water quality in Hunting Creek, where we release our cleaned water back into the Potomac River. They found a healthy ecosystem despite urban uses. Indicators included more than a dozen species of fish and submerged aquatic vegetation carpets throughout Hunting Creek.

ALEXRENEW • HUNTING CREEK • POTOMAC RIVER



Your waste is our resource.

At AlexRenew, we believe that your wastewater is a resource that is too good to waste. Our goal is to continue to cultivate a sustainable operation that reuses resources in order to save energy and money.

We reuse a nutrient-rich organic solids product generated through the processing of the solids that you send us in your used water. These solids separate from wastewater during our water-cleaning process. AlexRenew produces Class A Exceptional Quality solids that we provide free to local farmers to use as fertilizer, which helps recycle 100 tons of nitrogen back to the soil each year. In 2018, AlexRenew reused approximately 5,500 tons of organic solids and distributed it to 50 farms in 18 Virginia counties. Transforming a waste product into a valuable benefit to the environment is a win-win for our community, our city, and our local waterways.

We also captured and reused more than 95 percent of the methane gas from our solids-processing digester facilities because we are committed to offsetting our natural gas usage, which helps keep your rates stable.



More than
1 billion gallons
per day of treated wastewater
is reclaimed to meet non-potable
water needs in the U.S.

(Seametrics)



5,500 tons

SOIL AMENDMENT

50

farms

18

counties

100 tons

NITROGEN
RECYCLED
EACH YEAR

95%

METHANE GAS
CAPTURED
AND REUSED





**1.5 billion
gallons**

RECLAIMED
WATER USED
IN 2018



We also believe that every drop of used water can be reused again and again. We produce reclaimed water – clean, odorless, highly treated wastewater – through a state-of-the-art treatment process regulated by the Virginia Department of Environmental Quality (DEQ). We use our reclaimed water for flushing, cleaning equipment, irrigation, and in educational water features on our campus. In 2018, we used more than 1.5 billion gallons of reclaimed water at AlexRenew.

ENERGY USED PER GALLON
OF WASTEWATER TREATED

↓ **15%**
REDUCTION

ANNUAL ENERGY
CONSUMPTION

↓ **17%**
REDUCTION

GREENHOUSE GASES
(GhGs)

↓ **9%**
REDUCTION

Your community organizations are our partners.

Our passion for public service is also expressed in our community connections. Through family-oriented water-centric and environmental events, outreach at our Environmental Center and Four Mile Run Pump Station, and educational partnerships with local organizations, we strengthen our community's understanding of the importance of clean water and our connection with local waterways.

In 2018, we worked with 35 partners and organized and participated in more than 50 local events and tours while hosting nearly 5,000 visitors at our Environmental Center and water-cleaning campus.

AlexRenew works closely with our water partners, Virginia American Water and the City of Alexandria, to improve water quality in our local waterways, protect public health, and promote economic vitality throughout our community. Virginia American Water provides quality clean drinking water, while the City of Alexandria maintains the sewers and pipes that collect used, dirty water from our homes and businesses. From there, the used water flows through AlexRenew's interceptor pipes to our water resource recovery facility, where our water-transforming team cleans it before discharging it back into the Potomac River.



Serving Our City's First Responders

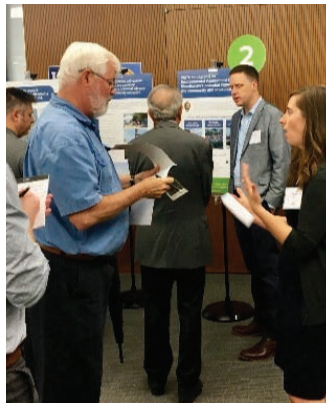
Alexandria's Fire and Police Departments use our facilities for training throughout the year to help strengthen their skills and readiness to protect and serve our community. Our water-cleaning campus, with multi-level buildings and tunnels, provides a natural and realistic setting in which safety and emergency response personnel can conduct drills, train police dogs, and practice rescue procedures.



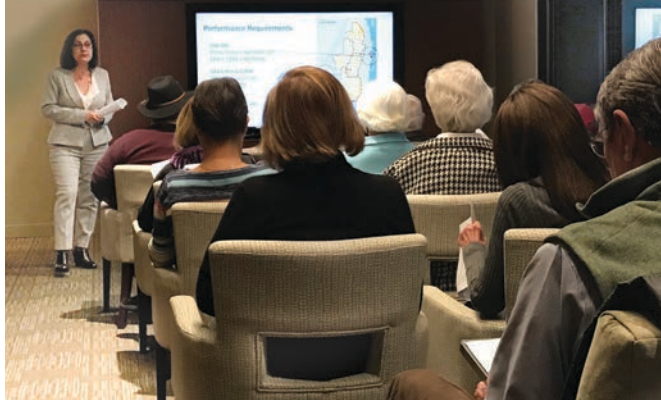
35
COMMUNITY
PARTNERS



23
EVENTS
EXECUTED
WITH
PARTNERS



5,000
ANNUAL VISITORS
TO OUR CAMPUS



16
COMMUNITY
DISCUSSIONS
REGARDING
OUTFALLS

Your investment in AlexRenew enables innovation.

Transforming our community's used water into clean water and reusable resources is an energy-intensive process. To become more energy efficient, we conducted an energy master plan study in 2006, and since then we have implemented more than 15 improvements, including converting our campus exterior lamps to LED, resulting in an overall 17 percent annual reduction in energy consumption since 2008. We also generate energy through solar panels atop our Leadership in Energy and Environmental Design (LEED) platinum-certified Environmental Center. These panels produced almost half of the energy used in the building in 2018.



In 2017 and 2018, **solar** was the fastest-growing source of electricity in the U.S.

(Business Insider)



(Almost) No Smells!

Cleaning used water can be a smelly process, especially in the beginning, when we have to screen out used wipes, diapers, and other items that do not dissolve in water. Since we have neighbors close by, we do everything we can to prevent odors from leaving our plant. Throughout our urban campus, we capture odors in large pipes during the water-cleaning process and push the smelly air from the pipes to a few central air-cleaning locations where we use our cleaned water or carbon to “scrub” the odors out of the air before we safely release it – smell free – back out into the atmosphere.



More Innovation to Further Improve the Bay

In 2010, water-cleaning facilities were required to implement additional measures to support the health of the Chesapeake Bay, further limiting discharged amounts of nitrogen and phosphorus, which can cause harmful algae blooms in water bodies. While upgrading our systems to meet the new requirements, AlexRenew implemented a number of award-winning innovations, such as the introduction of naturally occurring red microbes called Anammox, which clean water more efficiently, and a nutrient management facility with a multi-purpose athletic field on top, serving a dual purpose: providing green space while storing the dirty water we receive during high-flow periods until it is ready to be cleaned. Last year, we removed 99.5 percent of phosphorus and 95 percent of nitrogen from the water we cleaned.

Your water future is cleaner and brighter than ever.

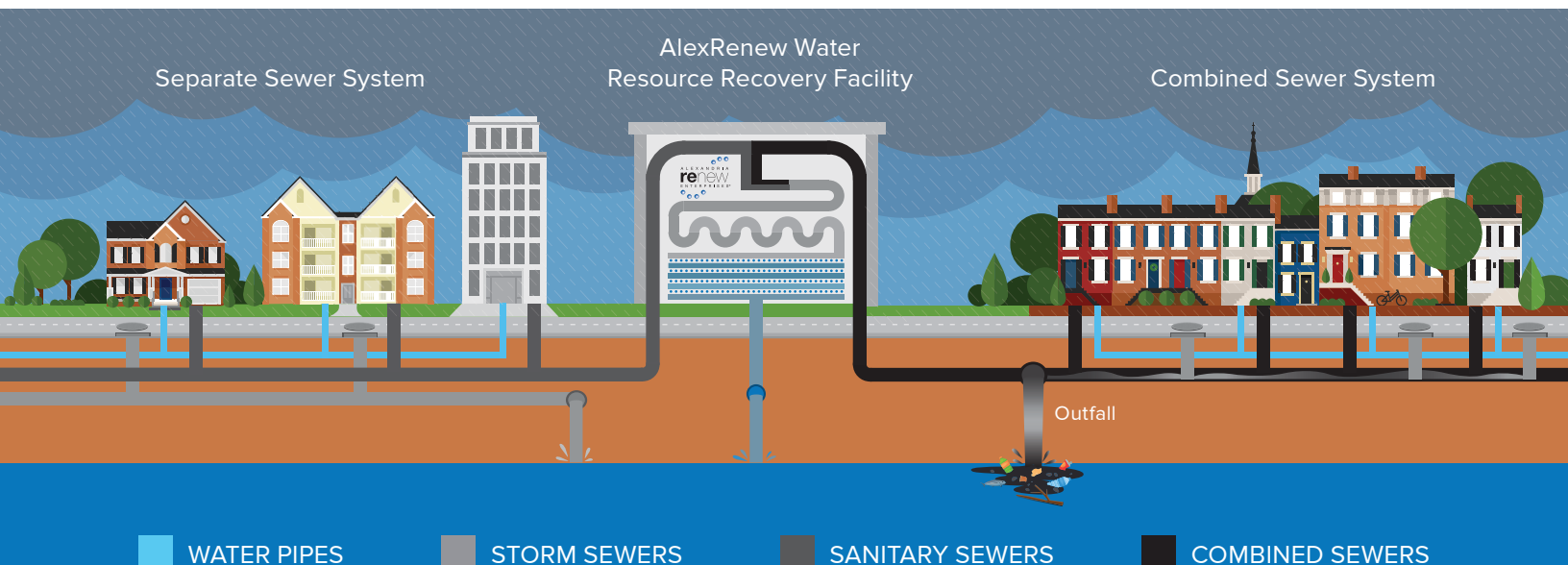
In older parts of Alexandria, wastewater flows into pipes that are part of a combined sewer system that was constructed in the late 1800s. This sewer system was designed to collect both rainwater from roads and sidewalks and sewage from homes and businesses in the same pipes. During some rainstorms, an excess mixture of rainwater and sewage overflows from these pipes into Alexandria's waterways through four points, called outfalls, carrying pollutants that have a negative impact on the health of local rivers and streams.

AlexRenew is leading a significant program to fix this problem by 2025. The program, called RiverRenew, involves building a network of deep tunnels and sewers that will capture almost all of the combined sewer overflows and send them to our wastewater recovery facility for treatment, improving the water quality in local waterways for generations to come.



There are **1.2M** miles of drinking water pipes and **600,000** miles of sewer pipes in the U.S.

(American Water Works Association and University of Michigan's Center for Sustainable Systems)





At the recommendation of a stakeholder group convened by the City of Alexandria to advise on resolving the combined sewer issue, AlexRenew officially took ownership of four outfalls from the City of Alexandria in July 2018. We are now the singular manager of the program, which will simplify the permitting processes and create a more efficient workflow, thanks to the experience AlexRenew

employees have working on projects like this one. We have launched a new website, RiverRenew.com, where community members can learn more about the program and keep track of our progress, and we continue to hold outreach meetings in the community to ensure our neighbors in Alexandria understand and provide feedback on the RiverRenew program and its impact on the city.

4
OUTFALLS OWNED

From 60 to fewer than 4
OVERFLOWS PER YEAR

96%
REDUCTION IN OVERFLOWS

13
STAKEHOLDERS

6
CSS STAKEHOLDER MEETINGS

2.5
MILES OF TUNNELS

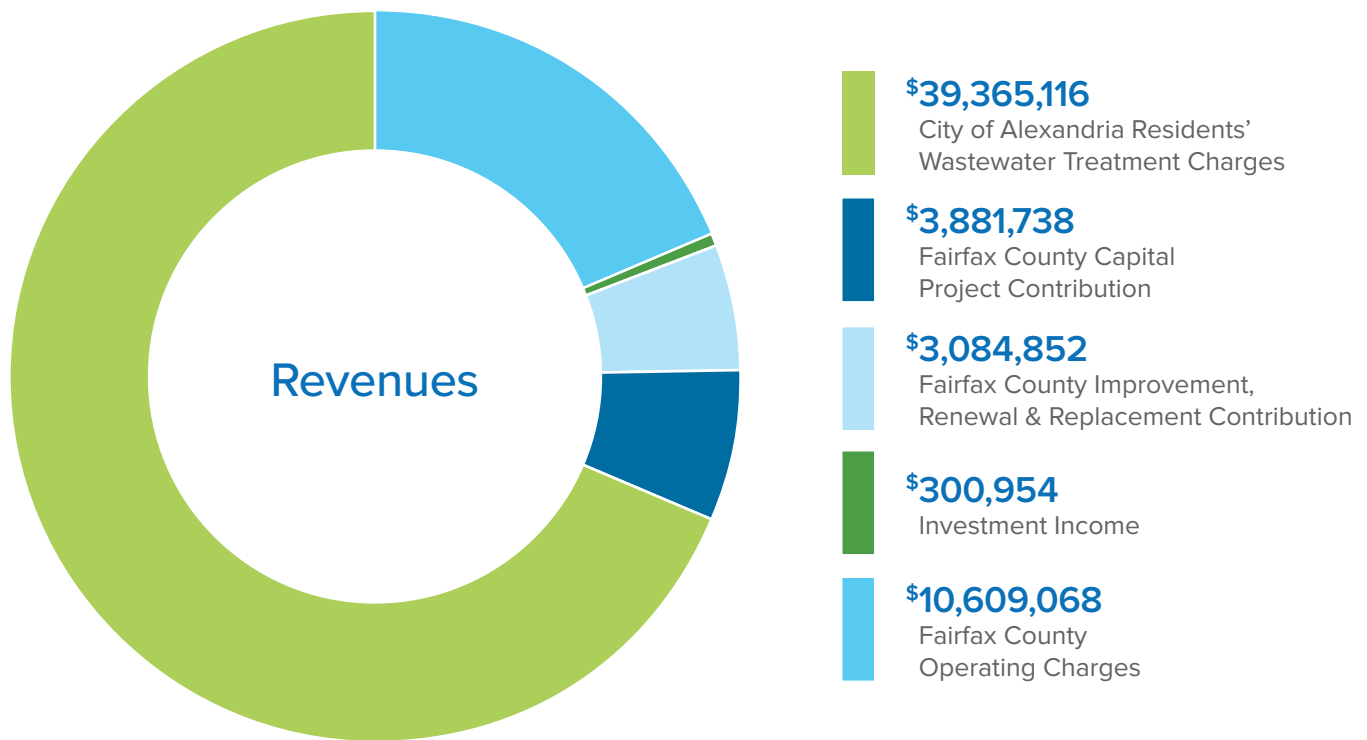
7
YEARS TO COMPLETE

 Nearly **860 communities** in the U.S. have combined sewer systems.

(U.S. Environmental Protection Agency)

Your clean water investment is carefully stewarded.

We invest your money in the water-cleaning process to ensure financial stability and minimize the impact of our work on our customers.



America's water and wastewater infrastructure will require more than **\$650 billion** worth of investment over the next 20 years just to maintain current levels of service.

(Association of Metropolitan Water Agencies)

How we turn your dollars into clean water:



\$2,339,819

Improvement, Renewal & Replacement

Repairing and replacing critical equipment and infrastructure so we can continue to clean water effectively and efficiently for our customers.



\$12,481,860

Capital Improvements

Investments in capital infrastructure improvements to meet our chartered objectives.



\$1,429,464

Arlington Sewage Disposal

Supporting the operations and maintenance associated with the City of Alexandria's allocated wastewater treatment for a small portion of Alexandria in the Arlington County Water Pollution Control Plant.



\$11,632,499

Organizational Competency

Providing best-in-class water professionals for effective and safe operations.



\$2,623,835

Watershed Partnerships

Obtaining specialized, expert services to support AlexRenew's core function of cleaning water for our customers.



\$104,169

New Ideas & Innovations

Continually improving existing processes while investing in new technology to be good water and economic stewards.



\$5,795,188

Operational Excellence

Costs for the energy, chemicals, and other resources needed to transform our water.



\$1,560,409

Community Benefit

Customer service and education functions to share the benefits of clean water in our community.



\$1,452,175

Revenue Stewardship

Maintaining our infrastructure and technology to most efficiently and effectively clean dirty water.



\$13,913,466

Debt Principal & Interest Payments

The repayment of loans necessary to fund the expansion and maintenance of our water resource recovery facility.

* Unaudited numbers

