2012 Sustainability Report

Aqua continually invests in sustainable efforts that work towards our goal of a greener planet, so nature can do what nature does best.

For Us, Being Green Comes Naturally.

AQUA℠

Message from the Chairman

Water is the substance of all life and the ultimate sustainable resource. It is the most recycled natural resource on the planet. At Aqua America, Inc. water is our business, and we are committed to its collection treatment and delivery in ways that are both sustainable and beneficial for today's society.

Aqua America traces its beginning back to 1886 and fully expects to provide services to a continuously growing number of customers well into the future. We understand that a key component to our sustainability is our capital investment program that has allowed us to continue to provide quality drinking water and reliable service to an increasing number of customers for the past century.

But what exactly is sustainability? One widely used definition comes from the 1987 Bruntland Report from the World Commission on Environment and Development. It defines sustainability as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." During the early part of my career both as a former environmental secretary for the Commonwealth of Pennsylvania, I had the opportunity to manage those sometimes-competing interests.

At Aqua, we agree that sustainability involves conducting business in ways that can be maintained for generations, while being mindful of the impacts on society and the environment over future generations. However, sustainability requires more than making efforts to reduce a carbon footprint and reducing greenhouse gas emissions. It also requires investing in needed infrastructure improvements, being stewards of natural resources and building a corporate culture and organization that will outlive current management.

The federal Safe Drinking Water Act and the Clean Water Act establish criteria and standards for drinking water and wastewater discharges, respectively. Aqua America's ability to comply with these federal regulations has not only allowed us to be in business for as long as we have; it has been key to our ability to grow our customer base. We have worked hard to earn our reputation as a "go-to" utility for other smaller, under-capitalized systems when they find that they can no longer operate in today's more stringent regulatory environment.

This update on our 2011 report features continued improvements in our fleet fuel economy, more efficient and environmentally friendly handling of our water treatment residuals and expansion of our use of solar energy. The report also cites the metrics by which we measure our own performance toward these goals for comparison to other utilities.

Whether it is our extensive reinvestment in aging water and wastewater infrastructure; our leak detection or wastewater reuse programs; the replacement of some traditional fleet vehicles with electric hybrids; recycling used motor oil for heat where appropriate; or the construction of the second largest solar array in Pennsylvania, Aqua is proud of its accomplishments. And we are committed to building on our accomplishments to improve sustainability for the future.

Nicholas DeBenedictis
Chairman and Chief Executive Officer

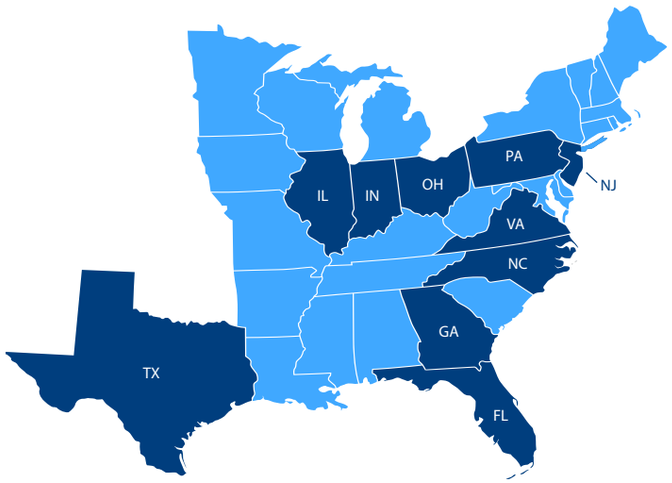
Corporate Profile

Aqua America, Inc.

Aqua America provides water and wastewater services to approximately 3 million people in 10 states: Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Indiana, Florida, Virginia and Georgia. It owns and operates more than 20 surface water treatment plants, 3,000 wells, 200 wastewater treatment facilities and almost 10,000 miles of water and sewer mains. The company employs about 1,700 people.

Aqua America traces its roots to the Springfield Water Company, which was founded in 1886 by professors from Swarthmore College in southeastern Pennsylvania. The utility built one of the nation's first water filtration plants on the Crum Creek in Delaware County.

Total Service Territory



Springfield Water changed its name to Philadelphia Suburban Water Company (PSW) in May 1925 and in 1968 created a holding company — Philadelphia Suburban Corporation (PSC) — which was listed on the New York Stock Exchange in July 1971.

Following its expansion into several other states, in January 2004, PSC changed its name to Aqua America, PSW changed its name to Aqua Pennsylvania and the Aqua "state name" became the name of all of Aqua America's state utility operating companies.

Today, more than half of Aqua America's customers are located outside of Pennsylvania, although Aqua Pennsylvania remains the company's largest operating subsidiary. Aqua America is the second largest publicly traded water utility in the United States and continues to trade on the New York Stock Exchange under the ticker WTR.

Aqua Pennsylvania

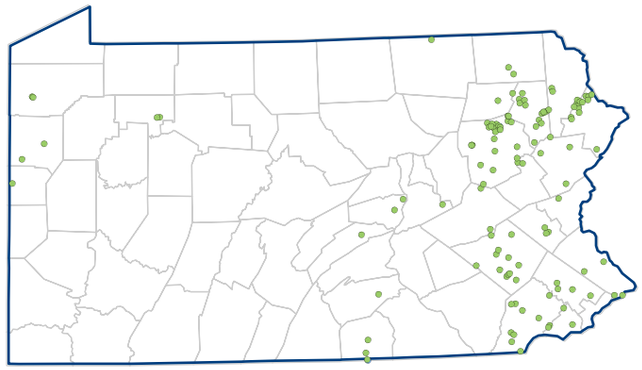
Aqua Pennsylvania serves 1.4 million people in 30 counties. The company owns 21 impoundments that hold more than 10 billion gallons of water and more than 100 treated-water storage facilities, with a combined capacity of 190 million gallons. Water is supplied from the Schuylkill, Delaware, Shenango and Allegheny rivers; the Pickering, Neshaminy, Crum, Ridley, Chester and Roaring creeks and various tributary streams. Groundwater is supplied by approximately 270 wells and the Upper Merion Reservoir — a former quarry — now impounding groundwater.

Basis of Research

In preparing data for this report, Aqua America found that very few water utilities had comparable documents that contained substantive metrics and data. It was also discovered that not all Aqua America business units had the historical information and records needed for inclusion in this report. This was particularly true for systems Aqua America acquired in the past decade.

As a result, this report is based largely on data from Aqua Pennsylvania — the company's largest and oldest business unit, which represents half of its operating revenues (52 percent) — and more specifically its southeast Pennsylvania operations (Aqua Pennsylvania Southeast). The report includes data from other business units when and where information was available.

Pennsylvania Service Territory



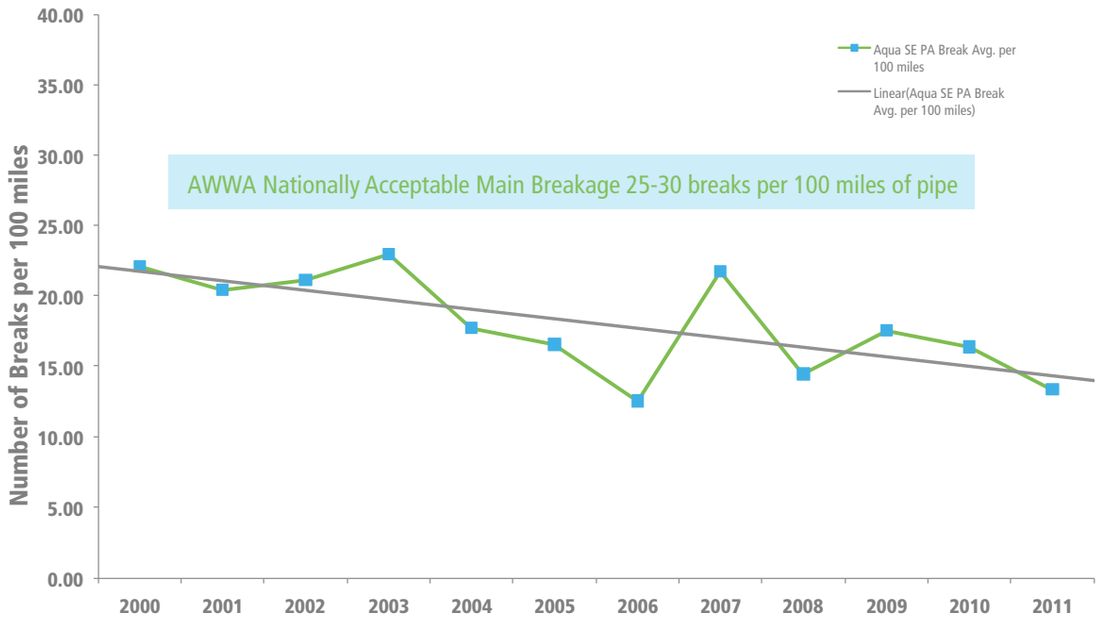
Sustainable Infrastructure

Distribution and Collection Systems

In 2009, the American Society of Civil Engineers issued a report card on America's infrastructure giving a grade of D+ to the nation's drinking water and wastewater systems. A 2008 Environmental Protection Agency (EPA) needs survey has stated that replacing the nation's infrastructure is the third largest category of expenditure (behind defense spending and Social Security) that the country faces. The EPA estimates that over the next 20 years more than $335 billion will need to be invested in infrastructure to continue delivering safe drinking water.

With much of the nation's distribution pipes nearing the end of their usable life, many of the 55,000 community water systems in the U.S. will have difficulty raising the necessary capital to invest in these projects. Aqua America is a leader among U.S. water suppliers in infrastructure replacement and rehabilitation investments and is proud to have built, rebuilt and rehabilitated much of the environmental infrastructure that continues to sustain the regions it has served throughout its 125-year history. Collectively, Aqua America's utility subsidiaries have invested nearly $1.4 billion in water and wastewater infrastructure between 2007 and 2011.

Aqua Southeastern Pennsylvania Main Break Averages



A typical water utility rehabilitates or replaces less than half of one percent of its distribution system each year. Aqua America is a leader in infrastructure renewal. For example, in some older systems Aqua Pennsylvania Southeast is replacing more than 2 percent of the distribution system annually. Replacing aged water mains reduces damage from breaks, inconveniences to customer, water loss from leaks and cost of emergency repairs, water production at plants and water transportation in the distribution system.

Aqua America takes a strategic approach to determine what pipe to replace and when, based on the age, material, size and location of the main, its break history, and water quality in the area. According to the American Water Works Association (AWWA), the national average for water main break occurrence is 25 to 30 main breaks per 100 miles of pipe per year. Break rates vary from system to system, and most of Aqua's water systems have break rates that are within or below this range. Aqua's largest distribution system is in Southeast Pennsylvania, and averages fewer than 19 breaks per 100 miles per year — a number that continues to decline. In fact, the break rate for 2011 was the lowest value in the last decade at an average of 13.37 breaks/100 miles.

The break rate is dependent on the age and characteristics of thepipe and its environment. Aqua America is committed to a proactive — as opposed to a reactive — approach to main replacement and rehabilitation. As regulation continues to strengthen, Aqua stays ahead of the curve, often beating the most stringent of goals.

Credit Rating

Access to capital is crucial to execute an adequate capital reinvestment program. In the utility business sectors, Standard & Poor's (S&P) analyzes qualitative business and operating characteristics to determine bond ratings that serve as a benchmark for evaluating the relative credit risk of the issuer/utility. Aqua Pennsylvania has an "A+" corporate credit rating, which S&P equates to a "stable" outlook, and ranks in the top 30 percent of water utilities and the top 5 percent of investor-owned utility companies. Strong credit ratings increase a company's access to capital at lower interest rates.

Aqua Pennsylvania's first mortgage bonds have a senior secured debt rating of "AA–" with a recovery rating of "1+" indicating a full recovery of principal under the rating agency's default scenario models. Aqua Pennsylvania is the number one investor-owned user of the Pennsylvania Infrastructure Investment Authority (Pennvest) loans in Pennsylvania.

These prudent investments and timely loan repayments support annual growth in earnings. In August 2010, Aqua America's annualized dividend rate increased 6.9 percent to $0.62. This marked the 20th consecutive increase in the past 19 years. In 2010, Aqua was named a "Dividend Achiever" by Mergent, Inc., for annual dividend increases over a 10-year period.

Tracking Water Production and Delivery

Aqua Pennsylvania uses efficient and modern technologies to monitor its distribution network and to measure water production and delivery in two distinct ways.

Unaccounted Water

Water utilities have two methods of tracking water once it leaves the water treatment plant. Non-revenue water (NRW) is water that is sent from the treatment plant (sendout), but cannot be identified as having been sold to a customer. It includes both metered and unmetered water. Examples include water lost from identified and unidentified leaks and breaks in the distribution system and water used for public services like firefighting or flushing. Some lost water, like leaks, can be accounted for after discovery using AWWA-accepted estimating protocol. A subset of NRW, unaccounted water (UAW), is much more difficult to accurately measure. UAW is water the utility has no way to track and includes unknown leaks and breaks, malfunctioning meters and theft. Aqua Pennsylvania closely monitors available UAW data to target main replacements.

The national average for UAW among large water suppliers across the U.S. is just over 20 percent and is considerably higher in many older systems. Aqua Pennsylvania, however, on average has been able to maintain unaccounted water below the national average since 2002, despite acquiring operating systems that contain many water mains well over 100 years old. Aqua Pennsylvania currently is investigating even better methods to track and reduce UAW. One example of an inherited high-loss system that has reduced water loss is Laurel Lakes. This system had an average UAW of more than 50 percent two years ago. However, after careful monitoring, research, more efficient equipment and targeted infrastructure investment, that amount has been cut in half to under 25 percent.

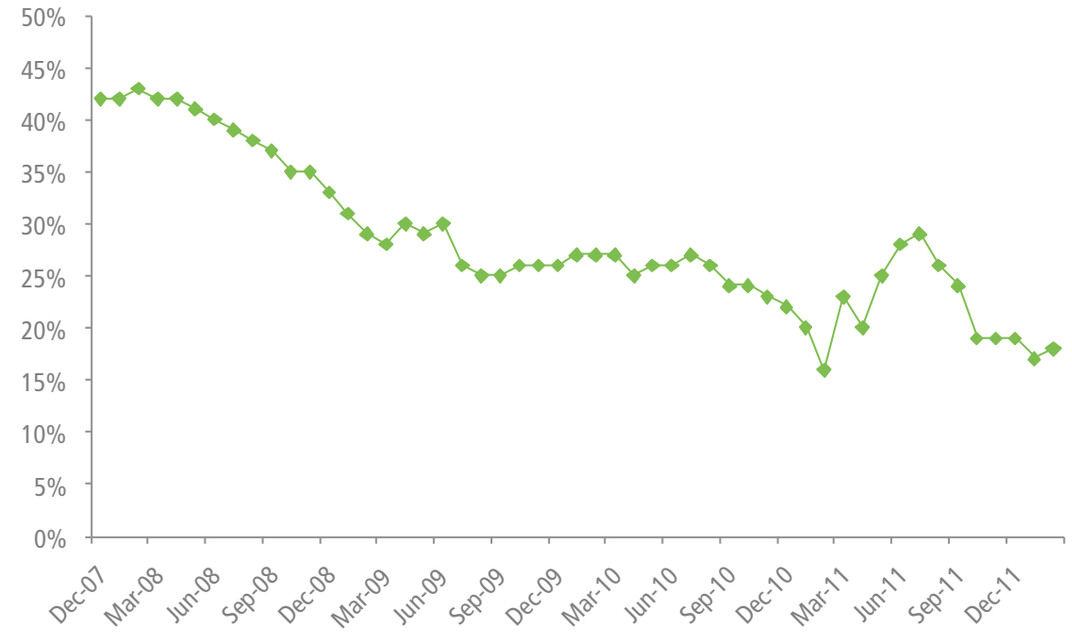
PUC Audit Participation

Aqua Pennsylvania is currently participating in a Pennsylvania Public Utility Commission (PUC) audit that employs AWWA methodology to more closely track the company's sendout and customer consumption in its older and smaller distribution systems. Aqua Pennsylvania has included approximately 11 systems in its Northeast operations division (Aqua Pennsylvania Northeast) with higher unaccounted water. The company is hopeful that the audit will highlight the benefits of the AIMS and GIS systems currently used primarily in Southeastern Pennsylvania, and support decisions to expand the use of this technology to small systems elsewhere.

Leak Detection

Aqua Pennsylvania Southeast currently employs three full-time employees dedicated to the detection of distribution system leaks. They perform block-by-block surveys of the entire 4,400-mile distribution system using advanced acoustic leak detection equipment. On a rotating basis, they are able to cover the entire distribution system every four years. Pipeline stream crossings are also monitored on an annual basis, as are major transmission mains, valve-by-valve. The team finds hundreds of leaks each year, preventing substantial water loss and avoiding more costly emergency repairs. A consultant provides the same services to Aqua Pennsylvania Northeast.

Laurel Lakes Annual Running Average UAW%



Infrastructure Management Software

The ability to track and monitor its 4,000-square-mile service area is critical for Aqua Pennsylvania's growing business strategy. This spurred the creation of two cutting edge GPS-based leak-tracking software programs beginning in 2005. The Asset Information Management System (AIMS) and Geographic Information System (GIS) programs have replaced outdated hard-copy maps.

In 2008, Aqua Pennsylvania won the "Management Innovation" award from the National Association of Water Companies for its AIMS and GIS programs. AIMS allows users to electronically retrieve detailed information on pipes, hydrants, main breaks and customer taps. It also provides a link to more than 50,000 scanned images of as-built construction plans, providing "one-stop shopping" for distribution system information.

AIMS is combined with a robust GIS that allows users to retrieve and display visual information about the distribution system network with a web-based map application. Both initiatives were designed to meet Aqua Pennsylvania's need for a formal and efficient means to prioritize infrastructure projects while optimizing the use of capital to replace or upgrade the company's distribution system infrastructure.

AIMS currently includes data on:

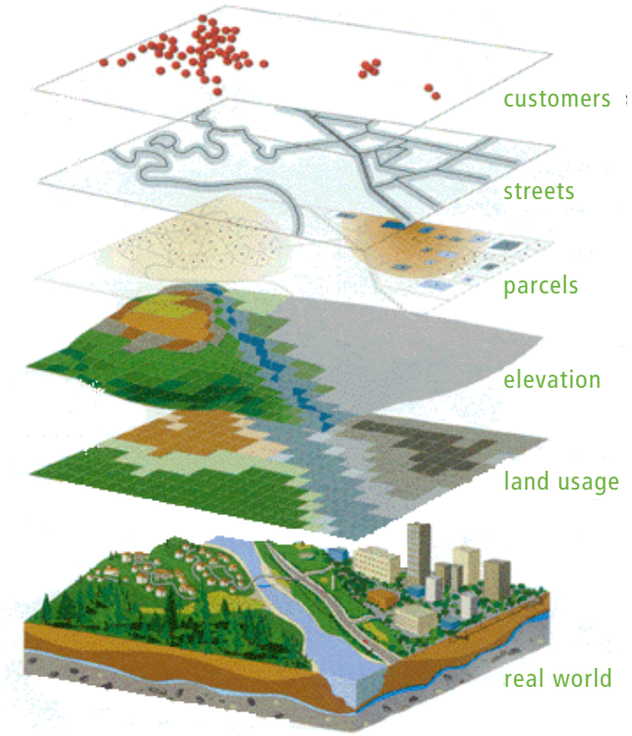
- 23,697 hydrants
- 34,146 water main breaks and leaks over 50 years
- 474,249 tap (service) records
- 29,208 extensions (pipe projects).

The GIS was created with existing scanned distribution system maps and data acquired from the past 50 years. The GIS database currently includes:

- 5,569 miles of pipe
- 68,114 valves
- 175 pressure zones
- Aerial photos of the entire service area
- Tax parcel maps for the five southeastern Pennsylvania counties served.

In addition to serving as critical management and organization tools, AIMS and GIS have also proven their value in day-to-day operations. Aqua Pennsylvania field personnel regularly use laptops equipped with secure wireless Internet access to pull up detailed construction drawings from the central server. Emergency crews can access the necessary drawings any time, locate leaks at the service line, and have a plan in place for dealing with the situation before they even reach the site, saving thousands of dollars in repairs and man hours. Currently there are more than 200 AIMS and GIS users including engineering, operations, laboratory, customer service, meter shop and field personnel.

In 2010, the use of AIMS and GIS was expanded to include all Aqua Pennsylvania systems. Similar GIS efforts began in Aqua Ohio in 2010 and Aqua Illinois in 2011.



A GIS is fundamentally a specialized relational database called a geodatabase.

Neighborhood map of the GIS outlining current pipe and valve locations. This system allows workers to quickly locate and identify pipe breaks and leaks while in the field.

Customer Usage

Hach Water Information Management System Software

In 2010, Aqua Pennsylvania began using Hach's Water Information Management System software (WIMS) — a full-function water quality data integration/data management and analysis system. WIMS automatically imports and integrates water quality data from multiple sources and stores it in a single, easy-to-access database. The software has built-in functionality that automatically prepares compliance reports and contains more than 100 built-in formulas that automatically perform complex calculations for the end user.
The software enhances Aqua's predictive and preventive troubleshooting, and problem identification potential with specific emphasis on water quality. It also enables the timely completion of regulatory compliance reporting.

Asset Management Software

In 2009, Aqua Pennsylvania employed new asset management software at its southeast Pennsylvania, Roaring Creek and Shenango division production facilities. The software is a repository for all of the divisions' production assets, which captures and records all preventive, predictive and corrective maintenance. The information is used to identify patterns that help the company make key maintenance decisions.

In the fall of 2011, approximately 400 supervisors and field personnel in Florida, North Carolina, Texas, Virginia, Illinois, Indiana and Ohio were trained on the software. Currently the database contains information on nearly 54,000 assets in eight states. As of May 2012, the system has generated more than 85,000 routine/preventive work orders and more than 2,000 corrective work orders.

In 2012, Aqua America's New Jersey subsidiary, Pennsylvania's wastewater division and its Northeast Division will begin initial use of the software. Also, the company will focus on expanding the system through further data collection, as well as preventive and corrective maintenance work orders.

Remote Meter Reader Technology

Water meters accurately track and display customer usage. Aqua America employs advanced metering technology to accurately track both water production and consumption. Production meters are monitored and data is recorded in the company's Supervisory Control and Data Acquisition (SCADA) systems.

To ensure accuracy, production meters are calibrated every six months. Eighty-two percent of Aqua America's customer meters are outfitted with radio-frequency (RF) remote read meters.

The transition to the RF devices began in 2000 for efficiency purposes. Unlike gas and electric, water meters in many states must be protected from freezing, so are often located indoors. Historically, this limited the locations for placement of meters and complicated the task of meter readings. RF systems have eliminated these problems. A specially configured RF meter-reading vehicle remotely collects and records more than 8,000 accurate meter readings in a day, compared to approximately 350 reads from manual meter recording. The current system has been installed for nearly 664,000 customers and continues to grow.

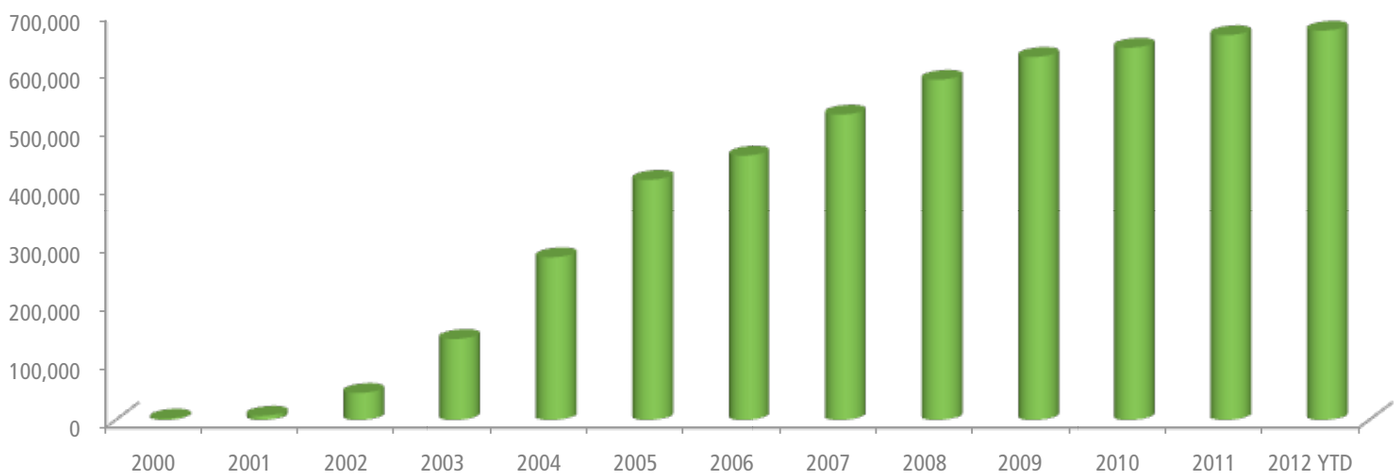
RF Meter Reading
An employee remotely records RF meter signals from a vehicle fitted with a laptop.

The RF program reduces personnel and fuel costs, while allowing Aqua America to cost-effectively provide monthly bills based on actual usage. Monthly billing makes water usage easier to track, and therefore, increases customers' opportunities to find leaks.

RF also allows for readings to be taken the same day each month, eliminating delays resulting from multiple trips, weather or conflicting customer schedules.

The automated process reduces the chance of human error due to "missed reads" or inaccuracy, and pinpoints problems faster. The process is safer and more convenient for customers and staff. Readings are taken remotely, so customers do not need to be home. Meter readers no longer need to enter premises, eliminating the chance of accidents or animal attacks. The more than 670,00 RF meters installed represent 81 percent of Aqua's total active customer accounts.

Installed Radio Frequency Meter Reading Devices (thousands)



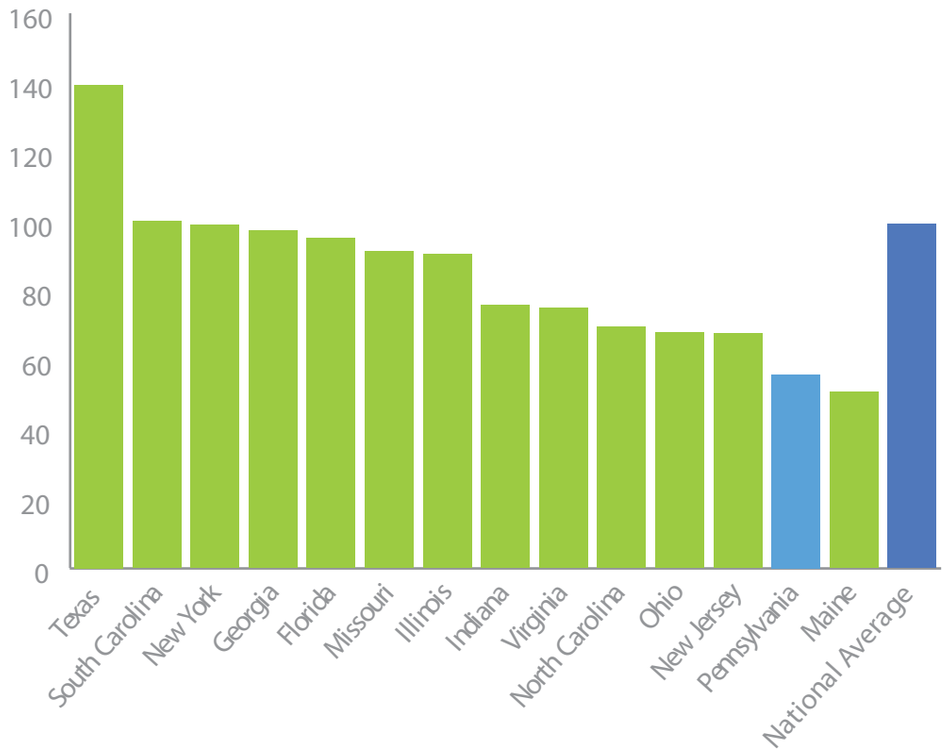
Water Use Metrics and Trends

To understand sustainable water practices, it is helpful to establish guidelines for making comparisons. Since 1995, the U.S. Geological Survey has reported detailed aggregate water use in the United States every five years. The most recent USGS report available, from 2005, confirms the trend that total water use, specifically residential usage, has been flat or declining for more than a decade. According to the USGS, the average U.S. family of 3.5 people uses roughly 350 gallons of water a day. The average water consumption for a family in Pennsylvania is significantly less at around 195 gallons. In comparison, residential customers served by Aqua Pennsylvania Southeast use about 160 gallons per day, down from 187 gallons in 2005.

Despite population growth, total consumption continues to decline as people use less water per household. Reasons for the decline could include legislation requiring more efficient water appliances and fixtures, as well as a more ecological and sustainable mind-set concerning natural resources nationwide. Changing weather patterns also have an effect on water use, as the Northeast experienced the wettest year on record in 2011, while the southwest experienced record-breaking heat and drought. The chart below shows the national average for residential daily water use per person in states in which Aqua America operates. Pennsylvania ranks as one of the lowest consumers of water. Aqua Pennsylvania consumers on average use even less — about 50 gallons a day per person— nearly half as much as the national average of 100 gallons/day.

While Aqua America makes infrastructure improvements and uses the latest technology to improve water use efficiency, its customers are taking their own initiatives to reduce water consumption in their homes and businesses.

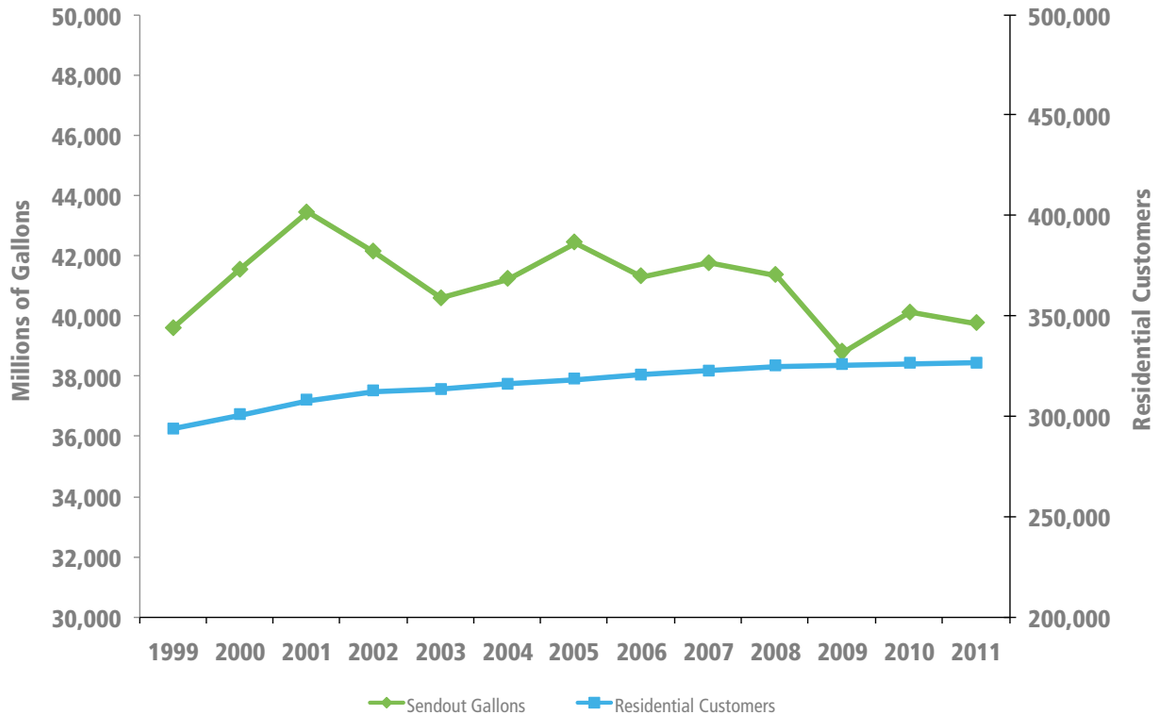
National Per Capita Water Consumption Per Day



Water Sendout

Despite a downward trend in total water use, Aqua America's business continues to grow. Water production (sendout) for Aqua Pennsylvania has been relatively flat for the past 10 years, at about 48 billion gallons annually, while its customer base and revenue have grown. Despite disruptions from droughts, floods, economic and weather cycles, Aqua Pennsylvania consistently provides the same level of service to its expanding customer base, without negatively affecting local source waters or the environment.

Aqua Pennsylvania Southeast Sendout Water vs. Customers



Helping Hand

Aqua's Helping Hand program works with several agencies to assist low-income Pennsylvania customers who are struggling to pay their water bill by allowing them to make more manageable monthly payments without losing water service. To help customers control their water usage, and therefore their bill, Helping Hand provides customers with a free water conservation and repair kit and, in some cases, arranges for an on-site inspection to identify and repair small leaks and install water-saving fixtures in sinks, showers and toilets.

The repair kit includes leak detection tablets, a low-flow showerhead, kitchen swivel aera-

tors, bathroom aerators, Teflon tape, toilet water saver, a flow meter bag (that allows customers to measure their water usage) and a pamphlet with water-saving tips. Customers who enroll in the program and make good faith payments monthly toward their arrears qualify for a monthly credit to their account for each timely payment they make. Customers who participate in the program learn water conservation tips, save on their monthly bills and eventually eliminate their water utility bill debts.

WaterSense

Aqua America is a proud partner of the EPA-sponsored WaterSense program. WaterSense brings together local water utilities, governments, product manufacturers, retailers and stakeholders who share a common interest in decreasing water use and practicing conservation behavior patterns.

WaterSense endorses products that meet the program's high standards and offers free product information to consumers. WaterSense performs its own independent testing and certification, often endorsing products 20 percent more water-efficient than average products in that category.

Aqua America's partnership with WaterSense is another example of the company's continual effort to improve the services it provides by helping customers improve water use efficiency.

Partnership for Safe Water

Aqua Pennsylvania joined the Partnership for Safe Drinking Water — a voluntary cooperative effort between the U.S. Environmental Protection Agency, the American Water Works Association (AWWA) and other drinking water organizations. Participating utilities benchmark their water quality from select plants to ensure they continue to meet and outperform the high standards of the partnership.

Aqua Pennsylvania's infrastructure investments have enhanced treatment plant performance above regulatory standards at many facilities, including several acquired older facilities. With the addition of its Emlenton Plant in 2011, Aqua Pennsylvania now has all 11 of its surface water treatment plants enrolled in the program, joining the list of more than 400 total plants serving 85 million people nationwide.

The company goes beyond the minimum requirements in other ways to bring its customers water that consistently meets or exceeds all water quality standards. Aqua Pennsylvania's in-house, state-certified laboratory tests for many more water quality parameters than what are required by regulations.

Aqua's Crum Creek Water Treatment Plant

Treatment Plants and Wastewater Reuse

Treatment Plants

Aqua America's team of professional engineers and production and treatment technicians have collectively made Aqua America an industry leader in renovating older, less efficient water facilities with state-of-the-art technology.

Neshaminy Ultraviolet Oxidation Technology

The installation of a state-of-the-art UV-oxidation system at Aqua Pennsylvania's Neshaminy Water Treatment Plant in Southeastern Pennsylvania has improved the plant's water quality, decreased its operating costs and positioned itself to reduce its carbon footprint by an estimated 21.5 million kilograms over the next 20 years.

Routine naturally occurring algae blooms in the Neshaminy Creek create taste and odor problems that were previously treated with the application of powdered activated carbon (PAC). At times, some customers still reported an earthy or musty taste and odor in the treated water and the PAC contributed significantly to the production of residual waste.

Aqua Pennsylvania's commitment to water quality and sustainability led to the exploration of alternative methods to address the issue as well as reducing its residual waste. Aqua chose to install a UV-oxidation system, which in combination with hydrogen peroxide fed upstream of the UV reactor, breaks down contaminants (photolysis) and the hydrogen peroxide into a hydroxyl radicals. This powerful oxidant reduces taste and odor-causing contaminants that come from algae. At the time of its installation, the plant was one of only 12 of its kind in North America.

Neshaminy: UV Oxidation Technology

Historical data showed that a PAC dosage of 30 mg/L could achieve a maximum 55 percent reduction in geosmin, while UV-oxidation guarantees a minimum 90 percent reduction. In addition to more effectively treating taste and odor compounds, UV-oxidation also decreases the plant's carbon dioxide output. The Neshaminy plant is anticipated to reduce its carbon footprint from 29 million kilograms over 20 years to 7.5 million kilograms, and cut its residual waste in half compared to treatment with PAC.

According to a 20-year lifetime cycle assessment, the installation and operation of UV-oxidation at the Neshaminy plant would release 74 percent fewer carbon dioxide equivalents versus PAC. This equates to 23,670 less tons of carbon dioxide being released into the atmosphere, equivalent to the fossil fuel emissions released by driving nearly 5,000 cars for one year.

Bristol Treatment Plant

In 2006, Aqua Pennsylvania received an EPA award for sustainable public health protection for rehabilitating the 130-year-old Bristol water treatment plant (at right). Aqua Pennsylvania acquired the system in 1996 and invested $10 million to rebuild and upgrade the facility within the existing footprint of the old structure. The plant serves a population of approximately 30,000. The EPA commended Aqua Pennsylvania for its ability and willingness to tackle the challenge of neglected water systems.


Bristol Before

Crum Creek Treatment Plant

In 2009, Aqua Pennsylvania rededicated the completely renovated 117-year-old Crum Creek water treatment plant. Rebuilding the plant was a 5-year project that cost more than $33 million. The plant can produce 24 million gallons of water per day and serves residents in 23 municipalities across Delaware County. In addition to treatment process upgrades to improve water quality, the project installed

more efficient pumping equipment. Aqua Pennsylvania expects to save almost one million kilowatt hours of electricity annually from these improvements.

Wastewater Reuse

A small (just over 10 percent based on revenue) but important part of Aqua America's business is wastewater treatment and disposal. Wastewater recycling and reuse represents an opportunity to promote sustainable practices and technology.


Bristol After

Traditional methods of wastewater disposal have relied on stream discharge or, for private and small community septic systems, subsurface disposal with minimal treatment. But properly treated wastewater can be applied as spray or drip irrigation to fields, woodlands and recreational landscaping.

Nutrients that are not removed during the treatment process can be beneficial to plants instead of being a detriment to water bodies. The additional energy and chemicals that would be required to remove the last increments of nutrients during the treatment process can be avoided. For customers with high demand for irrigation water, wastewater reuse can lower costs by replacing more expensive water resources and reducing stress on limited high-quality resources, while completely eliminating the discharge of nutrients into streams, lakes or estuaries. Aqua America currently has more than 250 wastewater plants, about 15 percent of which provide high-quality treated effluent for reuse.

Fruitville Plant

Although Florida receives plentiful rainfall, most of the state does not have an abundance of accessible fresh water. Irrigation demands are high, and the state has been a leader in promoting wastewater reuse for irrigation. Aqua Utilities Florida's Fruitville wastewater plant uses Advanced Wastewater Treatment (AWT) technology.

These higher levels of treatment rank above the EPA-mandated requirements, providing high-quality effluent for local Sarasota residents. The water is distributed to large ponds, then used as irrigation for office parks, landscaped common areas, golf courses, and fields for crops. Some of Aqua Utilities Florida's wastewater plants dispose of treated effluent through percolation ponds that replenish the groundwater table. None of the company's wastewater treatment facilities discharge treated wastewater to surface waters.

Hawthorn Woods

Aqua Illinois's Hawthorn Woods wastewater treatment facility produces high-quality treated wastewater effluent for reuse for golf course irrigation.

Disinfection Practices

In 2007, Aqua Pennsylvania installed its first on-site sodium hypochlorite generator (OSG) at an Upper Merion well. This OSG replaced the traditional disinfection system that used chlorine gas. In the OSG process, a brine solution passes through an electrode where an electrical charge is applied producing a nonhazardous liquid chlorine that disinfects the water.

Chlorine gas is toxic and must be transported, stored and handled very carefully. OSG systems eliminate this risk, using water and food-grade salt to produce nonhazardous solutions.

In 2008, Aqua Pennsylvania embarked on a program to replace gaseous chlorine at its wells and boosters with hypochlorite. To date, Aqua Pennsylvania has converted 14 wells and booster stations to OSG systems. In 2011, Aqua Pennsylvania plans to install an OSG at its largest well facility.


Fruitville

Residuals Management

Residuals Management

Residual waste is created during the water treatment process. Aqua America owns and operates 14 such water treatment facilities in Pennsylvania, Ohio and Illinois. Residuals must be adequately treated and properly disposed. Aqua employs a number of sustainable, environmentally friendly means for disposal.

Types of Residuals

There are two main types of residuals generated by Aqua America's largest water treatment facilities: coagulant residuals and lime residuals, with the latter coming from plants that soften water in the treatment process.

Coagulant Residuals

Coagulant residuals are the most common residual and form when a metal salt is added to the water as a "coagulant" that causes impurities to stick together and settle out of the water being treated. The resulting residuals are a viscous liquid. Ten of Aqua America's 14 largest water treatment facilities produce coagulant residuals.

Lime Residuals

Lime residuals are produced at the remaining four large water treatment facilities as a result of softening the water. These "lime softening" plants primarily add lime to remove calcium and magnesium hardness, as well as other impurities. The resulting residuals are made up almost exclusively of lime, have a consistency similar to coagulant residuals but weigh more, and are white.

Treatment

Residual treatment involves removing a sufficient amount of water to change the waste from a liquid to a solid, making it easier and less costly to transport and dispose. Aqua America's subsidiaries' treatment processes commonly use lagoons for drying residual waste and mechanical dewatering to thicken the residual.

Belt Filter Presses

Once tens of millions of gallons of water have been cleaned and readied for the distribution system, there is the question of what to do with the residual waste. Optimal residual treatment involves maximizing removal of water from the residuals, making it easier and less costly to transport and dispose. Until 2010, waste from most of Aqua Pennsylvania's treatment plants was dried in lagoons before being hauled to a waste disposal facility. The introduction of belt filter presses at two of Aqua Pennsylvania's largest water treatment facilities has decreased the volume of material requiring disposal by reducing the amount of water in the waste material.

Lagoon
A lagoon allows water to drain away and the sun to naturally dry residuals over time.

Quarry Reclamation
The old, abandoned Foxcroft Quarry is being backfilled with residual waste, providing soil for new plant life.

The belt filter presses literally press the waste material between two belts that roll over a drum before proceeding through a series of rollers squeezing water from the residual waste. Three of the new machines are in operation at Aqua Pennsylvania's Pickering facility and two are at work at the company's Crum Creek Plant. The belt filter press operation reduces the volume of solids produced, resulting in fewer truck trips to the disposal sites, which equates to fuel savings. At Pickering, prior to the belt filter presses, the company was hauling just 12 percent solids. The belt filter presses produce approximately 26 percent solids (24 percent at Crum), cutting the volume hauled to disposal in half, extending the life of the disposal sites.

Sustainable Disposal

Depending upon the location and type of waste, Aqua Pennsylvania disposes (or reuses) its residuals in a number of ways. Aqua owns several quarries that are permitted to accept residuals and are close to its water treatment facilities, keeping transportation costs low. Because water treatment residuals are an inert waste material, reclaiming abandoned quarries is a good reuse practice.

A second form of residual reuse is through land applications. Lime residuals from two of Aqua's water treatment facilities are applied to farmland as a substitute for agricultural grade lime. In one case, coagulant residuals are mixed with wastewater bio-solids (sewage sludge) from a wastewater treatment plant and applied as a fertilizer to farmland. At one Aqua Ohio plant, coagulant residuals are blended with other materials and used in the manufacture of compost.

Watershed Protection

Watershed Protection

Aqua America depends on reliable and high-quality natural water sources to provide its services. The preservation efforts of the native vegetation and wildlife surrounding streams, rivers and reservoirs help maintain water quality. Aqua Pennsylvania's watershed protection initiatives have preserved large tracts of land, providing a home for wildlife and opportunities for recreation.

Bucks County, Pennsylvania

In May 2002, the Bucks County Department of Parks and Recreation, with a grant from the Pennsylvania Department of Conservation and Natural Resources (DCNR), purchased 44 acres of land from Aqua Pennsylvania (then Philadelphia Suburban Water Company). The land is located in parts of Bensalem, Middletown and Lower Southampton townships.

East Bradford Township, Pennsylvania

In February 2004, Aqua Pennsylvania donated 36 acres of land to East Bradford Township along the East Branch of the Brandywine Creek near the Ingram's Mill Water Treatment Plant, preserving the land as open space.

Brush Valley Preservation Project, Pennsylvania

In January 2003, Aqua Pennsylvania announced an agreement to transfer 9,000 acres of woodlands to the protective care of DCNR. This conservation achievement offered a rare opportunity for large, uninterrupted and unspoiled woodland with a self-contained watershed to be preserved for both the benefit of the public water supply and public recreational land use.

The project was financed and transferred through multiple interstate partnerships. The Richard King Mellon Foundation and a land trust grant to The Conservation Fund from DCNR's Community Conservation Partnership Program each provided half of the project funding. DCNR acquired 7,000 acres through this agreement, and Aqua Pennsylvania donated the remaining 2,000 acres. The property represented a natural oasis for the entire region, being protected for more than 100 years by water company ownership. It remains one of the largest, most intact watersheds in the Commonwealth.

The property, east of Shamokin, stretches more than 10 miles along a valley between Big and Little mountains in Coal and Mount Carmel townships in Northumberland County and Conyngham Township in Columbia County. This land contains several reservoirs including the entire Roaring Creek Watershed. DCNR has since incorporated the land as part of the Wyoming State Forest, managed by the Bloomsburg district office. The property was dedicated in October 2003 by Governor Edward Rendell for public recreational use.

Mt. Carmel Dam Removal, Pennsylvania

Aqua Pennsylvania acquired Mount Carmel #1 & #2 dams as part of the Consumers Water Company merger in 1999. These dams were constructed in 1883 to supply water to the nearby Borough of Mount Carmel. Although the reservoirs behind the dams were quite small, the Pennsylvania Department of Environmental Protection classified the dams as "high hazard" because if either dam failed, residents and property in the borough would be at risk. Aqua had never used these reservoirs for water supply and in 2008, decided to remove the dams.

Once approvals were obtained, removal was a simple process of emptying the water behind the dams, demolishing the dams, regrading the site, and constructing a stream channel to carry the flows through the site just as the original stream flowed before the dams were constructed. The project was completed at the end of 2010.

Moscow Dam Removal, Pennsylvania

The Moscow Dam (near Scranton, Pennsylvania) was obtained by Aqua as part of its acquisition of Northeastern Utilities, Inc., in 2000. The dam was in poor condition, and Aqua removed it in 2008. Prior to its removal, Aqua had not used this facility for water supply.


Moscow Dam Before

Valley Forge Stream Crossing

Aqua Pennsylvania's engineering team

collaborated with Gannett Fleming, Inc., to develop an innovative and environmentally friendly solution to restore a stream at Valley Forge National Park and protect a major transmission main exposed by erosion over a 55-year period.

Aqua's team constructed six 25-foot overflowing pools and raised and flattened the 400-foot stream bed upstream to reduce the overall slope and promote a slower, less erosive water velocity in the stream. Coir logs, fascines and live stakes (all natural materials) were installed along the stream banks, and native trees and shrubs were planted for further stabilization and maintaining natural beauty.


Moscow Dam After

This design preserved the character of Valley Forge National Park and stabilized the eroded creek channel to prevent a future recurrence of the erosion problem. The project earned Aqua Pennsylvania and Gannett Fleming the 2011 Diamond Award from the American Council of Engineering Companies of Pennsylvania. It also earned Aqua the Award of Excellence in the conservation and environmental category from the Association of Conservation Engineers at their 17th annual Carl Anderson Conservation Project Engineering Awards program.

Pine Lake Wetland Preservation, Ohio

In 2009, Aqua Ohio completed a transaction with the Mill Creek Metropolitan Park District in Beaver Township of Mahoning County Ohio. South Range School District wanted to construct a new school that would require developing in a wetland area near Pine Lake.

Aqua Ohio worked with South Range and provided an environmental covenant, granting them 5.4 acres of land to mitigate the environmental effects of the construction. The result was a wetland banking program that expanded the wetland, increasing the biodiversity of the area.

Heron Sanctuary, Illinois

Aqua Illinois owns and operates the 1,000-acre Lake Vermilion in Danville, Illinois, as a water supply to local residents. The lake is a home to natural wildlife and is a popular recreational attraction for locals and visitors. In 1992, the water level was raised by 4.5 feet resulting in the creation of a nearby wetland, now called Heron County Park. The park is home to muskrats, egrets, bald eagles, river otters (released in 1996) and the park's most popular residents, blue herons. It is home to a big heron rookery — one of only five known in the entire country. In 2004, Aqua Illinois donated more than 83 acres in four separate parcels of land to the Vermillion County Conservation District, creating the organization's fourth community park. Visitors to the Heron County Park can enjoy a stroll across the 950-foot floating walkway that traverses the park, watching animals in their natural habitats.

TreeVitalize

Aqua Pennsylvania has supported the TreeVitalize Watershed program since 2005. Working closely with the Pennsylvania Horticultural Society and the five county conservation districts, Aqua Pennsylvania has been involved with the planting of thousands of trees along the banks of Pennsylvania's local source water rivers and streams. The goal of the TreeVitalize program is to reforest the riparian buffers, reducing the potential for sediment erosion decreasing water quality.

The TreeVitalize program is locally driven, relying on volunteers of the local communities in the watershed. Aqua Pennsylvania aims to educate the public about the program, and the importance of a sustainable balance between nature and human activity. Community involvement promotes local ownership and pride in the projects, and reinforces a sense of community. Additional trees also create a net carbon sink, sequestering greenhouse gas in the air, while improving the aesthetic appeal of the community.

Stream Cleanups

Each spring, Aqua sponsors several stream cleanups on the many waterways that feed the source waters of surface water treatment plants. The annual cleanups depend on volunteers to walk the banks of streams and rivers to pick up tons of trash. In addition to financial sponsorship, Aqua employees volunteer year-after-year to participate in the events. In 2011, the collective stream cleanups removed 32 tons of debris from area streams.

Heron Sanctuary

Awards and Recognition

The Water Resources Association of the Delaware River Basin bestowed its 2010 Business & Industry Award to Aqua Pennsylvania, highlighting several of the utility's accomplishments including the on-line publication of its first Sustainability Report; the installation of a 1.1 megawatt solar farm at its Ingram's Mill water treatment plant, which produces about 30 percent of the electricity needed to power the plant and feeds excess power into the grid on peak hours in the summer; its leadership position in replacing aging distribution system infrastructure, thereby reducing the impact of main breaks and water loss; the development of an award-winning Asset Information Management System to track its infrastructure and prioritize water main replacement; and the consistent reduction of its fuel usage and emissions over the last three consecutive years — most recently marked by a 10 percent reduction in average fuel usage.

Aqua Pennsylvania's Roaring Creek Water Treatment Plant received the Phase III Directors Award of Recognition from the Partnership for Safe Water, a national volunteer initiative developed by the Environmental Protection Agency (EPA) and other water organizations representing water suppliers striving to provide their communities with drinking water quality that surpasses the required state and federal standards. For several years, Aqua Pennsylvania collected operating data before endeavoring to complete the Phase III self-assessment stage.

Phase III included a thorough review of operations and management to identify opportunities for improvements. The final report identified corrective actions, which were implemented to assure the highest quality water is produced. Aqua's Roaring Creek Plant is just one of 53 surface water treatment plants in Pennsylvania to be presented the award for successfully completing the Self-Assessment and Peer Review phase of the Partnership program, a phase which consists of identifying factors that limit treatment plant performance.

The Ingram's solar farm also won the **Green Power: Turn it On!** award from Citizens for Pennsylvania's Future (PennFuture), which recognizes individuals and organizations annually for their work in promoting the clean energy economy in Pennsylvania.

Aqua Vice President Preston Luitweiler, Philadelphia Water Commissioner Howard Neukrug and Aqua CEO Nick DeBenedictis at the Water Resources Association of the Delaware River Basin annual awards dinner.

Aqua Pennsylvania and Gannett Fleming, Inc., received the American Council of Engineering Companies of Pennsylvania 2011 Diamond Award, which honors outstanding achievements in engineering, for Aqua's innovative, environmentally friendly renovation of a water main in the Valley Forge National Historical Park that had been exposed by erosion over 55 years.

The Valley Forge Park Water Main and Stream Restoration Project also received the Award

of Excellence in the conservation and environmental category from the Association of Conservation Engineers at their 17th annual Carl Anderson Conservation Project Engineering Awards program.

Aqua Pennsylvania's environmental stewardship has been recognized by numerous environmental support groups, including:

- Aqua Pennsylvania received an award from the **Chester Ridley Crum Watersheds Association (CRC)** in 2011 for its 125 years of delivering clean water to residents in our area, and the many investments it has undertaken to provide sustainable management of water resources, state-of-the-art drinking water treatment technology, and conservation of natural resources. The company participated in CRC and Perkiomen watershed cleanups, which removed 22 tons and 10 tons of debris respectively from the waterways and stream banks.

- Aqua Pennsylvania also received the **2011 Business & Industry Award of the Water Resources Association of the Delaware River Basin (WRA)** that highlighted several of the utility's accomplishments including the online publication of its first Sustainability Report; the installation of a solar farm at the Ingram's Mill water treatment plant; its leadership position in replacing aging distribution system infrastructure, thereby reducing the impact of main breaks and water loss.

- **Water for People**, an international group, honored Aqua Pennsylvania for donating time and funds to develop more efficient water systems in developing countries like Honduras and Guatemala.

- **Automation Service** presented the "Above and Beyond" award to Aqua Pennsylvania for Aqua Pennsylvania's recycling of old, broken or surplus controls and parts.

- **The Perkiomen Watershed Conservancy (PWC)** awarded Aqua Pennsylvania the Corporate Award for significant contributions to the preservation and improvement of the Perkiomen Creek Watershed. The following year, **PWC** recognized two Aqua Pennsylvania employees for their contributions to the preservation and improvement of the Perkiomen Creek Watershed.

- Aqua Pennsylvania received the Northeast Regional Award of Merit from the **Association of State Dam Safety Officials** for outstanding contributions in the field of dam safety. Aqua Pennsylvania operates 22 dams across the state and has installed instrumentation at all of its large dams to help monitor performance and detect potentially hazardous conditions.

- The **Water Resources Association of the Delaware River Basin (WRA)** awarded Aqua New Jersey the Business and Industry Award for its installation of an advanced ultraviolet (UV) water treatment plant in Lopatcong Township. Water is disinfected with chlorine, and then saturated with UV lights, providing two distinct disinfection mechanisms for eliminating micro-organisms from already very clean water. Aqua New Jersey is the first utility in New Jersey to use UV in this particular type of application for approximately 10,600 customers.

- T**he Greater Valley Forge Transportation Management Association** (GVF) awarded Aqua Pennsylvania its 2010 Environmental Leadership Award for its ongoing commitment to the environment. The GVF represents business, municipal, county and state officials who work to alleviate transportation and pollution issues affecting the Greater Valley Forge area.

- **The Pennsylvania Environmental Council** awarded Aqua Pennsylvania the Governor's Award for Environmental Excellence from the Pennsylvania Department of Environmental Protection for its 1.1 megawatt solar farm at the Ingram's Mill Treatment Plant. This award highlights organizations statewide that best demonstrate environmental innovation and protection across the Commonwealth.

Bethayres Stream after dam removal

Energy Resources

Climate Change

Aqua America has considered how environmental changes, including climate change, might affect its utilities. The water and wastewater businesses are heavily influenced by weather conditions and seasonal fluctuations.

Drought conditions and government-imposed water use restrictions have affected Aqua America's systems in the past, and will continue to do so in the future. These have been, and will continue to be, addressed with reservoir storage, conjunctive use of water resources, and emergency conservation and water use restrictions.

GHG Footprint

Despite limited available data, Aqua has updated its 2011 Green House Gas (GHG) emissions for Aqua Pennsylvania Southeast. As our data collection becomes more streamlined, we are able to more accurately estimate our impact on the environment. Like any other water utility, electricity is our largest expense and therefore, emission source.

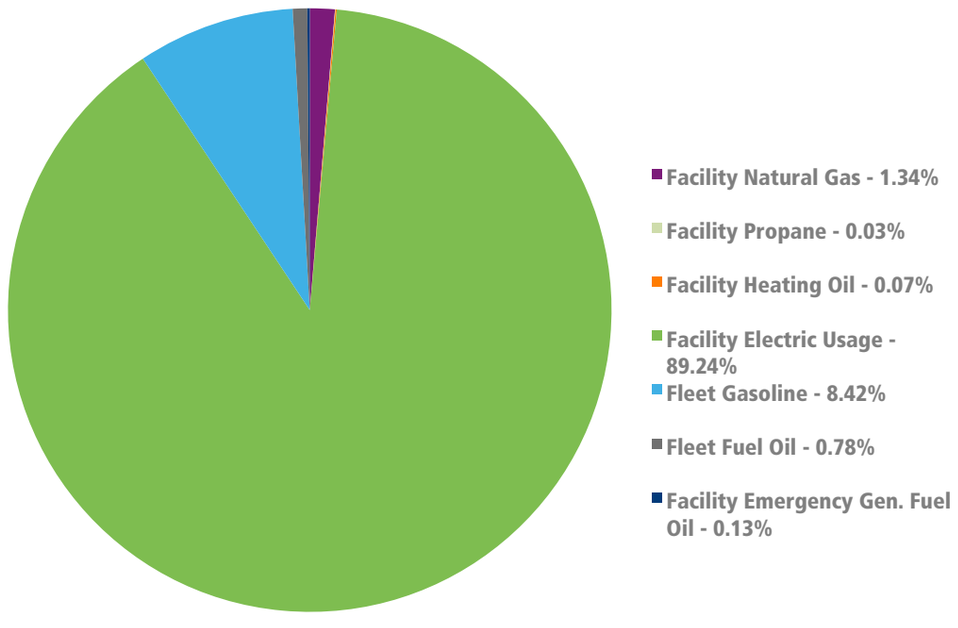
In the past, we used EPA default emission standards to estimate our total emissions. This year, we have checked with our electricity provider for an energy breakdown of electrical generation sources. Based on the percentage breakdown and emission rates of fossil fuel vs. non-fossil fuel materials, we are able to better estimate our emissions.

The graph reports that business operations created the CO2 equivalent of 72,300 metric tons. Of that amount, 89 percent is electricity used for pumping and treating water and wastewater.

Electricity is already accounted for by electricity providers. Aqua Pennsylvania Southeast is therefore only directly responsible for the remainder of that value. Still, the company is committed to lowering electricity demand as well as associated environmental implications through a number of innovative methods. For instance, Aqua is reducing the level of energy required to move water through its transmission mains and distribution system by replacing aging and undersized mains with new pipes that have greater capacity and smoother interior walls, thereby reducing friction (less resistance) and the pumping power required. Additionally, its four solar installations produce approximately 3 megawatts of greenhouse-gas-free power.

In 2011, Aqua Pennsylvania Southeast used about 115 million kWh of electricity to treat and deliver just under 40 billion gallons of water. From last year, this amounts to an annual savings of almost 2.1 million kWh of electricity, with an average rate of about 2.89 kWh per 1,000 gallons of water delivered. This marks the third continuous year of reduced electrical demand, and higher production efficiency. Aqua is proud to have a combined savings of more than 6 million kWh since 2008.The company continues to invest in projects to improve motor and pump efficiency and to use alternative, sustainable sources of electric power.

Aqua Southeast Pennsylvania 2011 GHG Sources



Networked Light Control

In an effort to control energy costs, Aqua America teamed up with a lighting control technology company to reduce wasted power from lighting. Installed at the corporate office, the program uses an integrated electricity management lighting control program designed to save energy while optimizing the workplace environment. The photo sensor system can automatically execute demand-responsive load shedding by monitoring natural light levels, and reducing wattage during peak energy demand periods.

The monitoring system and more efficient lighting are estimated to save Aqua Pennsylvania roughly 916,000 kWh annually, without sacrificing safety, productivity or employee comfort.

Laboratory Equipment

All laboratory instruments are connected to an Uninterruptible Power Supply (UPS), increasing reliability and minimizing demand loads and the need to rerun samples. Most lab instruments come equipped with auto-samplers, allowing them to run unattended. Automatic sampling speeds up testing, while decreasing human error. An analytical method called "micro extraction," allows for 98 percent less testing chemicals and solvents to get sufficient data and minimizes hazardous waste byproducts while simultaneously decreasing test run times.

Alternative Energy

Wind Power

Aqua America has been exploring alternative sources of power for some time. In 2005, Aqua Pennsylvania purchased 100 percent wind-generated electricity to power its headquarters in Bryn Mawr and two Chester County buildings for a year. The Citizens for Pennsylvania's Future (PennFuture) granted Aqua America the "Green Power" award for its use of energy-saving technologies and dedication to protecting the environment.

Aqua Pennsylvania has continued this green tradition by annually purchasing more than 4 million kWh of wind energy from PECO, the regional electricity distributor, or the equivalent power of a 1.5 MW turbine.

Solar Power

Two Aqua America subsidiaries have employed solar-powered equipment where applicable. Aqua Pennsylvania uses solar-powered directional traffic boards instead of diesel operating systems. In addition, the company now has solar-powered mixers at five of finished water storage tanks and Upper Merion Reservoir with three more planned by the end of 2012. Water inside these large storage tanks can become stratified during periods of low demand. The solar-powered mixers continually mix the water thereby sustaining water quality without having to provide additional chemicals or electrical costs.

Pickering Solar Farm, Pennsylvania

Aqua Pennsylvania is one of the largest producers of solar power in Commonwealth of Pennsylvania and is the largest water utility producer of solar energy in the state. Pennsylvania's Governor Tom Corbett joined Aqua Pennsylvania Chairman Nicholas DeBenedictis and other state, local and environmental officials to cut the ribbon for the utility's newest and largest solar farm in April 2012.

The 1.8 megawatt (MW) DC photovoltaic $6.5 million, 6.5-acre solar farm provides power to the Pickering plant, the company's largest water treatment facility, serving nearly 500,000 residents of 27 municipalities in Chester, Delaware and Montgomery counties. It is the 8th largest solar installation in Pennsylvania.

Pickering Solar Farm

The solar farm consists of more than 7,500 high-efficiency panels that convert sunlight into useful power, thereby, reducing the region's power generation requirements. The construction contract was partially funded with a $1.5 million grant disbursement from the Pennsylvania Commonwealth Financing Authority (CFA). The solar farm will reduce Aqua's grid-tied usage by 2.3 million kWh annually resulting in a direct economic benefit of $207,000 per year in energy savings. In addition, the project will alleviate congestion on the PECO grid resulting in additional savings to all consumers by reducing line losses and congestion charges.

The annual environmental benefits of the new facility are that it:

- Avoids the equivalent of 51,450 gallons of gasoline, thereby reducing CO2 emissions by 4.3 million pounds each year which is the equivalent emissions from 380 passenger cars; or
- offsets the equivalent need for 1,400 barrels of oil each year.

Ingram's Mill Solar Farm, Pennsylvania

Aqua's first solar facility was constructed in 2009 at its Ingram's Mill water treatment plant in East Bradford Township, Chester County. The 1 MW farm was built on 4.5 acres of land and has reduced grid-tied usage by 1.3 million kilowatt-hours during the past 12 months resulting in a direct economic benefit of $130,000 annually in energy savings.

In recognition of Aqua Pennsylvania's commitment to the environment as evidenced by the Ingram's Mill solar farm, Aqua received the 2010 Pennsylvania Governor's Award for Environmental Excellence, the Greater Valley Forge 2010 Environmental Leadership Award and the Green Power: Turn it On! award from Citizens for Pennsylvania's Future (PennFuture), which recognizes individuals and organizations annually for their work in promoting the clean energy economy in Pennsylvania.

Lopatocong and Gloucester Townships Solar Farms, New Jersey

In 2011, Aqua America's New Jersey subsidiary constructed two solar farms at treatment facilities in Lopatcong Township, Warren County and in Gloucester Township, Camden County. The 0.4 MW facility in Lopatcong powers the company's ultraviolet light water treatment plant and is expected to save the company more than $72,000 in electricity costs.

The smaller 0.07MW solar farm in Gloucester Township powers a well station where it is expected to achieve approximately $13,000 annually in electricity savings. Collectively, the New Jersey solar facilities offset the need for 940 barrels of oil annually, or avoid the equivalent of 926,000 car miles each year, or reduces CO2 emissions by 885,000 pounds annually.

All four of the solar projects in Pennsylvania and New Jersey alleviate congestion on the PJM grid resulting in additional savings to all consumers by reducing line losses and congestion charges during daytime hours.

Direct GHG Sources

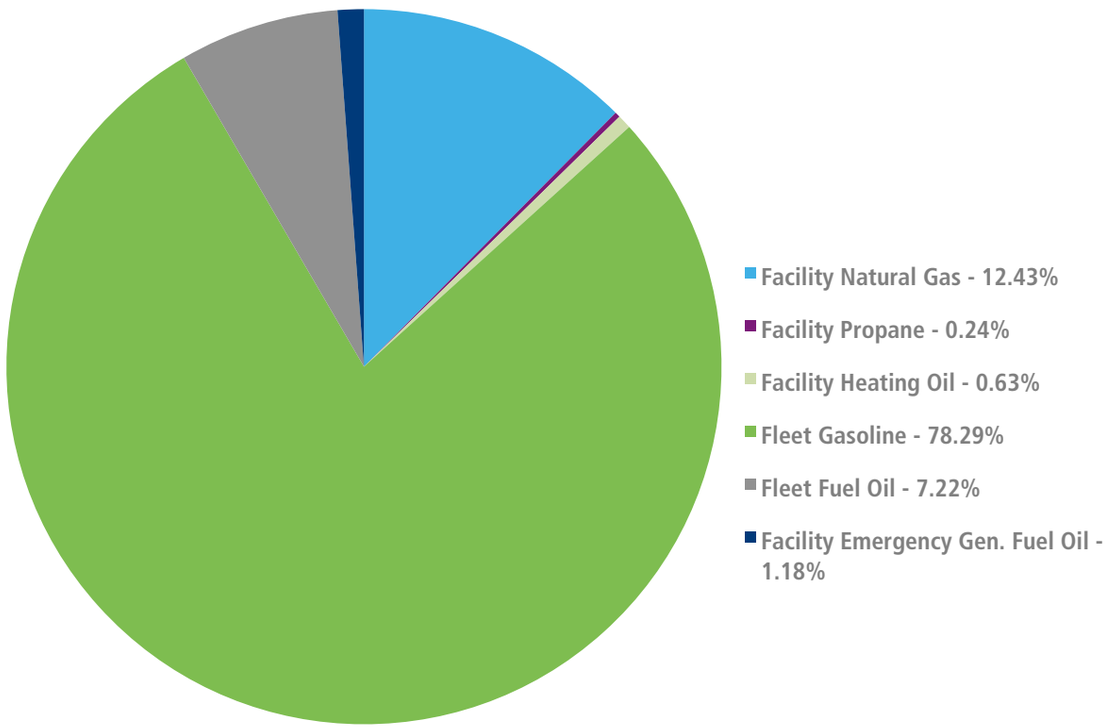
Purchased electricity accounted for 89 percent of Aqua Pennsylvania Southeast's GHG 2011 footprint. These emissions should be attributed to the electric supplier, not to Aqua, to avoid double counting. Of the remaining 11 percent over which Aqua is directly responsible, 78 percent comes from fuel to power its fleet, while the remainder can be attributed to general heating of facilities and emergency power generation. From 2009 to 2010, Aqua Pennsylvania Southeast has reduced electricity consumption by almost 3.9 million kilowatt hours and reduced its fuel consumption by roughly 28,000 gallons, lowering its estimated GHG emissions by about 3,250 metric tons.

Fuel Consumption and Efficiency

Aqua America operates a total of 1,150 service vehicles, 450 of which serve Aqua Pennsylvania. The fleet management team has taken significant steps to reduce fuel usage and emissions from Aqua's vehicles. They regularly monitor vehicles and investigate new technologies. Specific adaptations, where applicable, might be tested regionally and then implemented across the whole of Aqua America. The company is employing a combination of fuel efficiency, vehicle technologies and behavior modifications to reduce its impact on the environment.

In 2011, Aqua operations improved its fuel mileage to 12.31 MPG from 12.05 MPG in 2010. Aqua America is making great strides to lower its fuel demand. In the past two years, 12 states have lowered their fuel consumption while servicing customers.

Aqua Southeast Pennsylvania 2011 Direct GHG Sources



Sustainable Adaptations

Vehicle Alternative Fuels

Aqua purchased one electric vehicle and one CNG compressed natural gas vehicle in 2011 for pilot study purposes. Initial analyses indicate good results. The company is also exploring E85 Fuel Flex vehicles where practical. Fleet management replaced 75 existing vehicles with the fuel flex technology where practical and fuel sources are available. Aqua Pennsylvania Southeast transitioned all diesel¬ powered vehicles and equipment to B5 biodiesel, which requires no engine modifications or capital investment. Aqua Pennsylvania has also transitioned its entire gasoline-powered forklift fleet to propane and electric. Seven hybrids purchased in 2010 continue to represent an estimated 10 percent yearly savings in fuel economy.

Right-size Vehicles

Aqua's fleet department diligently works with area managers to ensure the use of the most fuel efficient replacement vehicles. In 2011, 18 vehicles were downsized.

Green bodies by Reading Manufacturing

Four large aluminum utility bodies were placed in service in 2011 with good results. The lighter material allows a larger payload resulting in fewer trips and better fuel economy while traveling empty.

Lubricants

Aqua Pennsylvania has made a transition to using only synthetic oils in all fleet engines, leading to less wear on engines and increased fuel economy. A corporate-wide decision was made to extend oil-change maintenance intervals on most cars and light trucks from 6,000 to 12,000 miles. On class 8 trucks oil change intervals increased from 10,000 miles to 12,000 miles and 20,000 miles on Aqua's Volvo trucks.

Aqua's fleet department consistently analyzes the lubricants, maintenance intervals and maintenance procedures it uses to ensure cost-effective and environmentally responsible practices.

Recycling

Fleet management is also making efforts to recycle wherever possible. At the Souderton and Springfield garages there are two clean-burning oil furnaces that use 100 percent recycled motor oil that Aqua mechanics retrieve from fleet vehicles. Each year, Aqua Pennsylvania's service garages generate between 3,000 and 4,000 gallons of used motor oil from oil changes, which must be properly disposed. Rather than pay for certified recyclers to haul the oil away, a special heating system recycles the waste oil and uses it to heats the garage. The special oil furnace is capable of burning used motor, transmission, and hydraulic oils, as well as No. 4 heating oil. The heaters are 20 to 50 percent less expensive to operate than with natural gas.

The shop, formerly heated with six natural gas heaters, now has the option of choosing how to heat its facility given current energy market prices. These EPA-approved furnaces meet strict environmental guidelines for "Energy Efficient Commercial Building Property" heating devices. They have reduced annual energy and power costs of the building between 17 percent and 2O percent. At the Springfield location, the new system has saved approximately $6,000in heating costs. The Souderton garage has experienced savings since 2006. As the only source of heat, its free energy has already paid for itself in savings and benefits to the environment.

Aqua America's sustainable practices extend beyond its own operations. Each year Aqua purchases approximately 1,000 retreaded tires, with no negative impact to its fleet operations. Tire recycling is a very sustainable activity because a large portion of the tire is reused in the retreading process. Recycled tires use one-third of the energy required to produce new tires, saving nearly half a billion gallons of oil each year.

Decreasing Energy Demand through Training

Aqua America is also focusing efforts on teaching employees how to decrease energy demand. The company continues to educate employees on more efficient driving behaviors, as well as enforcing a "no unnecessary idling" policy. Fleet management is also exploring GPS technology capabilities. Aqua has more than 400 vehicles equipped with GPS, enabling employees to perform business more efficiently while reducing miles and lost work time. The tracking system allows operation managers to view real-time vehicle position and identify the closest vehicle to address customer and maintenance emergencies. The GPS technology prepares fuel saving reports that allow for more efficient use of vehicles. Fleet management analyzes these findings and consistently monitors the most economical vehicles to match an employee's workload and responsibility.

Paperless Billing

In early 2011, Aqua launched paperless billing that provides customers access to current and previous bills around-the-clock and a more secure way to receive and pay their bills without traditional paper invoices, envelopes and stamps.

Aqua has made efforts to ensure that the paper bills it prints are produced using environmentally friendly products. The company's bills are printed on mixed source Forest Stewardship Council-certified paper. Aqua America's stationery and business cards are printed with environmentally friendly vegetable-based inks.

Sustainable Employee Working Practices

A company is only as good as the people who work for it. Aqua America understands this, and is dedicated to creating a sustainable working atmosphere. Aqua America offers a number of programs to attract and retain employees, understanding that a satisfied employee provides long-term value, dedication, trust and superior performance, distinguishing the company from other employers.

And because Aqua America subsidiaries are producing such a vital resource distributed to hundreds of thousands of homes and businesses daily, the company wants to hire and retain quality employees.

Benefits and Pay

Aqua America offers competitive salaries and benefit packages. One-third of its workforce is unionized, so wage rates, benefit packages and other terms of employment are negotiated with the unions representing their employees. Non-union employee salaries are developed based on a grade structure that considers job requirements and local market values. Each year, the company reviews the grade structure and adjusts low, mid and high points to determine salary ranges. This is decided within pre-determined geographic zones because salaries vary by location.

Bonuses

Aqua America maintains an Employee Recognition Program called the Chairman's Award. This rewards non-union employees for superior performance that contains costs, improves efficiency and productivity of the workforce, or better serves its customers. Awards may also be given for special heroic actions, or for a project that positively impacts the performance or image of the company.

Professional Development

Aqua America offers a wide array of training and development programs to enhance the skills of its workforce through ongoing educational seminars. Training is made available to all levels of employees. The company provides workshops on skill-related topics, self-improvement, diversity and respect in the workplace.

Some classes, including respect in the workplace, which highlights diversity and harassment issues, are required. Other optional courses feature a series of "how to" lessons such as managing people, communicating better and managing multiple locations, projects, deadlines and priorities. Classes supplement business writing skills. Employees are also able to take approved business-related seminars outside of the office, the cost of which is paid by the company.

For those seeking higher education, there is a tuition reimbursement plan of up to 100 percent for approved classes at a maximum amount of $5,250 per calendar year. The company also regularly partners with local colleges, establishing strong co-op and internship opportunities for students interested in a career in the water industry.

Skill Management

Specific jobs within Aqua America require extensive training and certification. To date, Aqua America currently employees more than 265 licensed water operators and 106 licensed wastewater operators.

Employees receive annual performance reviews based on previously established professional development goals. Job postings are offered internally before being made public.

Promotions in all job categories are based on the knowledge, skills and abilities of the candidates.

Rotating Assistant Superintendent Program

The Rotating Assistant Superintendent Program was initiated in 2008 as part of a succession plan for anticipated retirements at key management positions. The objective is to expose existing assistant superintendents to different management styles, source water and treatment systems.

Rotations last about one year across all southeast Pennsylvania surface water treatment plants. The program has been a success in its key objective, but also offers near-term benefits by helping standardize operational plans across all water treatment plants and making a greater number of managers available to cover vacations and other short-term coverage.

Cadet Program

One new skill management program Aqua Pennsylvania is currently testing is the Cadet Program. This unique program exists for junior staff members and introduces them to different management styles and operations.

The Cadet Program is a rotational program for production engineers, requiring a technical degree and four years of professional experience. The production engineer will have the chance to work as an integral management member carrying out day-to-day operations with top level management.

This will enable participants to gain on-the-job experience, and learn the skills to become mid-level management. Currently, Aqua Pennsylvania has three production engineers who participate in the program. Participants are exposed to all aspects of water production and treatment, and from which they may choose their areas of speciality.

Call Center

Aqua America operates a state-of-the-art consolidated customer service operation that includes a central call center and billing operation serving its utility business operations. Call centers are located in Bryn Mawr, Pennsylvania; Cary, North Carolina and Kankakee, Illinois, but operate as a single virtual entity.

Customers from all states can call the same toll-free number (877.WTR.AQUA), and calls from any service territory can be taken by any customer service representative regardless of their location. This approach significantly reduces the possibility of the entire customer contact system being offline at the same time.

The call centers were created to better serve Aqua America's customers on all fronts. Customers have the ability to check their account balance or pay their bill through a voice-recognition and touch-tone based system. The call centers represent an important human link between Aqua and its customers, allowing a large company to service individual customer needs.

Typical customer inquiries involve establishing or terminating service, bill explanations, high water usage questions, customer delinquency, bill payment and emergencies. Staffed by approximately 77 full-time and part-time customer service representatives, the centers are open during normal business hours and handle approximately one million calls per year.

After business hours, an automated system routes emergency calls to local field operators. Customer service representatives receive intensive and frequent training to be able to handle all call types. With standardized training and systems, Aqua is able to deliver consistent service to all of its customers.

Community and Civic Involvement

Aqua America is a community leader in the areas where it provides water and wastewater services. Employees contribute their time to clean up local creeks and watersheds, assist the Red Cross with smoke-detector campaigns, mentor students through the Big Brothers/ Big Sisters program and raise funds for local charities.

Many employees also serve on the boards of local chambers of commerce and other civic organizations.Through its charitable giving, Aqua America supports a variety of worthy non-profit organizations involved with environmental stewardships, health and safety, youth leadership and community improvement. Given the nature of its business as a water provider, Aqua America has close working relationships with many local fire companies.

The company is also committed to civic engagement, supporting local economic development efforts in its service areas and working with business, government, education and non-profit leaders to ensure strong communities with healthy economies.

In addition to its strategic community relations programs, Aqua America responds when crises occur. In the days following the tsunami in Japan, Aqua employees began making financial contributions to help the victims of the Japan earthquake and Pacific tsunami through the American Red Cross.

Those donations were matched by the company. Similar action was taken in the wake of other natural disasters including the tsunami in Indonesia, Hurricane Katrina and the earthquake in Haiti.

Corporate Giving: Waterway Play

During the fall of 2008, in partnership with Philadelphia's Please Touch Museum for children, Aqua America sponsored Waterway Play, an interactive and educational water exhibit. The 36,000-square-foot exhibit takes children down a winding river while teaching about science, nature and weather.

Kids can build and race boats, crank fans to generate wind, activate a lighthouse beacon and fog horn, raise a drawbridge, test boats in water currents, turn an Archimedes screw, and play at the landing and tidal pool.

The exhibit features the Aqua America Water Education Program Cart, which provides children and their parents with information about water safety and conservation, along with interactive presentations.

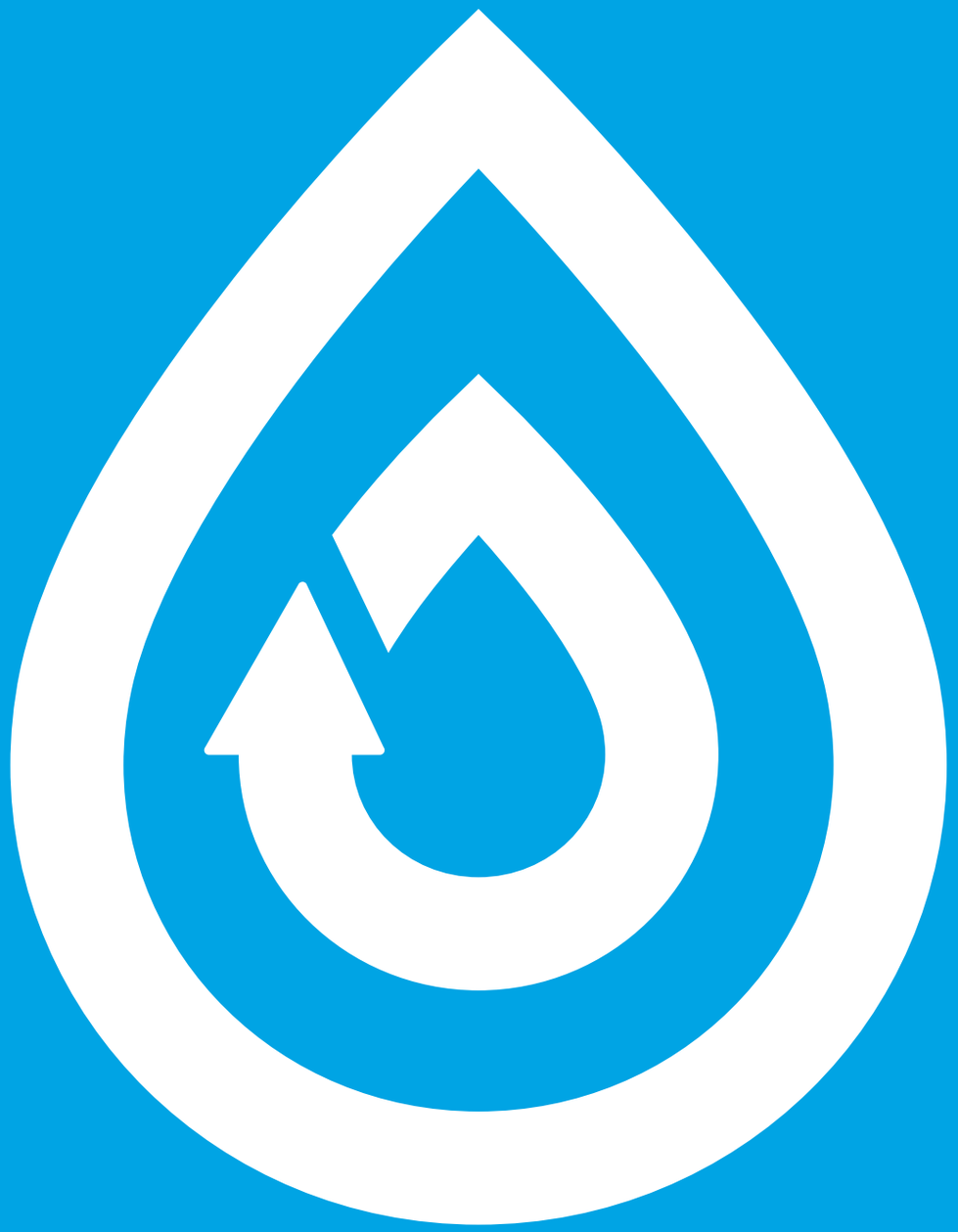
Through the Please Touch Museum exhibit and other efforts, Aqua is committed to teaching children about the importance of conserving water and respecting local watersheds.

pour it on

In early 2011, Aqua launched a company-wide volunteering effort called "pour it on." The program was developed to promote and encourage volunteerism and provide employees with the tools they need to be more involved in their communities.

Through the program, employees will be able to connect with non-profit organizations, events and other employees interested in volunteering.

pour it on logo



Aqua America has made significant headway in its green efforts. The greatest testament to its ability to sustain its business is its 125-year history of providing water and wastewater service to its customers. It is clear that had Aqua America not been successful in its profession, the company would not have survived — and thrived — for this long.

Aqua America and its subsidiaries are making significant prudent investments in infrastructure required to provide services for decades to come while taking additional steps to further reduce its environmental impact in the form of GHG, thereby reducing its carbon footprint. It is documented in the awards section of this report that these efforts have been recognized by numerous organizations.

Aqua continues to be an environmental steward, caring for its watersheds and contributing to open space programs, particularly in cases where doing so benefits the company, its customers and the community. Further, the company and its employees contribute to the communities in which they operate through charitable giving and real labor in the form of stream cleanups.

Aqua America's green efforts range from reductions in electric usage to increases in fuel efficiency. On the social front, the company's equal opportunity and affirmative action policies mean that the workforce will continue to mirror the communities it serves.

Aqua America plans to use the accomplishments it has made to date as a platform from which to further its sustainability efforts. Sustainability is an evolving process that requires a level of consciousness that is inherent to the water utility industry. This industry was created out of a need to maintain, sustain and treat the most precious natural resource for public health.

As Aqua America continues to grow and explore new business opportunities, the company will employ the same commitment to the environment that led to its creation 125 years ago.

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