



**Maryland  
Green Registry  
MEMBER**

*The Maryland Green Registry promotes and recognizes sustainable practices at organizations of all types and sizes. Members agree to share at least five environmental practices and one measurable result while striving to continually improve their environmental performance.*

# WSSC Water



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Water utility

Member since October 2022

## Management and Leadership



### **Annual Environmental Goals**

*WSSC Water adopted a greenhouse gas (GHG) emission reduction goal that will reduce emissions by 10 percent every five years through 2050 for a total reduction of 80 percent (below the baseline year of 2005). Over the past 17 years, WSSC Water's diverse energy management program has provided overall annual savings of nearly \$26 million.*



### **Environmental Restoration and Community Environmental Projects**

*WSSC Water annually conducts free environmental education programming for more than 2,500 school-aged children. Through partnerships with local school districts and environmental non-profit organizations, WSSC Water staff have assisted with the professional development of over 200 educators. These educators learn about issues facing local waterways, the importance of source water protection, and how to bring these topics into their classrooms.*

*The Patuxent Watershed Protectors program is a community service opportunity for local groups to adopt one of WSSC Water's recreation areas to assist in keeping our two Patuxent River drinking water reservoirs trash free. These reservoirs serve as the drinking water source for one-third of WSSC Water's customers but are also popular outdoor recreation areas.*

*WSSC Water staff assist with planning environmental programming across our service area. Depending on the year, staff assist with planning the Montgomery County Greenfest, H<sub>2</sub>O Summit, and Patuxent River Conference.*

*Staff regularly host informational tables and sessions at regional environmental festivals and summits.*

*The Maryland Chapter of the American Chestnut Foundation has four orchards on WSSC Water property around the Patuxent River. The hundreds of trees in these orchards advance the efforts of The American Chestnut Foundation to restore the American chestnut tree to its former range throughout the Appalachian region.*

*WSSC Water staff host annual clean-up events at our headquarters along Sweitzer Lane in Laurel and our laboratory along Tech Road in Silver Spring.*

## Waste

### **Solid Waste Reduction an**

*WSSC Water has implemented several ways to reduce the amount of paper used through our operations.*

- *Electronic Permit Submissions*
  - *In 2016, WSSC Water implemented an online ePermit system where all permits can be uploaded instead of permit seekers driving to our headquarters to submit them. This not only assists in reducing emissions but also significant paper savings. About 60,000 permits are submitted annually; on average, permit applications are between three and 10 pages. This equates to savings of between 180,000 and 600,000 sheets of paper annually.*
- *Adoption of DocuSign in 2020*
  - *Across all areas of WSSC Water, DocuSign has replaced the need for paper signatures. For the calendar year 2021, this equated to more than 230,000 sheets of paper saved.*
  - *Beginning in 2022, our Human Resources Department moved all new-hire paperwork to DocuSign, resulting in additional annual savings of over 5,700 sheets of paper, shipping costs and CO<sub>2</sub> emissions related to sending mail.*
- *Electronic Customer billing and payment options*
  - *WSSC Water offers electronic bills and payment processing. As of August 2022, there were 162,118 customers enrolled in our ebill program (34% of our customer base), reducing the printing and mailing of more than 712,000 bills a year. Note: most customers are billed quarterly, but commercial accounts receive monthly bills. This results in a savings of more than 1.5 million sheets of paper (bills average 1.2 sheets of paper and include a one-page newsletter or bill insert as well as a return payment envelope).*

- *All network printers at WSSC Water’s facilities have a default setting to print double sided and printing best practices are shared on our intranet to help employees think before they print.*

*Water bottle filling stations are available at facilities, and no bottled water is sold in our cafeteria or vending machines to reduce plastic waste. Pitchers of water and recyclable paper cups are also provided at in-person events.*

**Recycling**

*WSSC Water follows the recycling guidelines of Montgomery and Prince George’s counties. We have 17 eight-cubic-yard cardboard containers, 51 96-gallon comingled containers at 12 locations (headquarters, plants, field service stations), and an eight-cubic-yard dumpster for comingled recycling at our laboratory.*

*In 2021, WSSC Water adopted “paper only” recycling bins for all desks to assist employees with properly recycling paper materials and created educational signage to help employees know what can and can’t be recycled. At the same time, we made the recycling and trash bins the same at all locations to ensure there is no confusion about what bin is for trash vs. recycling. We also put information about recycling on our employee intranet so employees can easily learn more about recycling best practices.*



*Scrap metal recycling is part of WSSC Water’s materials management division. In Fiscal Year 2022 (July 21- June 22), WSSC Water sold 995,293 lbs. of materials, including copper, cast iron, brass and steel. Selling these materials keeps them out of landfills and provided \$119,488 in income during the last fiscal year.*

*WSSC Water has a printer cartridge recycling program with drop-off bins at all locations with a printer. Between June 2021 and June 2022, we recycled 613 toner cartridges.*

**Hazardous Waste/Toxic Use Reduction**

*WSSC Water’s Laboratory Division has implemented several processes to reduce hazardous waste used at the lab. For background, we use many target compounds as calibration standards. In addition, solvents, acids and bases are used to extract, digest and preserve contaminants from the water, wastewater and sludges to test constituents and provide qualitative and quantitative data to our clients. In this process, we generate hazardous wastes, segregate them by type and reactivity, and store them in our facility for 90 days before a certified hazardous*

waste hauler lab packs and removes the waste from our facility to properly dispose of it. We track our hazardous waste weekly using excel documents.

*Two examples taken to reduce hazardous waste at the lab include:*

- *purchased a new ion chromatography mass spectrometer, which can analyze disinfectant bi-product (Haloacetic Acids) by direct injection of the water sample. This method will replace the current process, which requires Methyl tert-butyl ether solvent extraction, a hazardous waste.*
- *upgraded our synthetic organic compound, pesticide and PCB analytical extraction method from liquid extraction, which uses a lot of methylene chloride, to a solid phase extraction system, significantly reducing the production of methylene chloride hazardous waste.*

*We have moved from underground to above-ground storage tanks to better manage our oil and gas storage and decrease maintenance and compliance costs. In 2019, we converted 14 storage tanks to above-ground storage; in late summer 2022, we converted three more to above-ground storage. Three more will be completed in the summer of 2023.*

## Energy



### **Energy Efficiency**

- *Replacing two wastewater pumps for dry weather flow created an annual savings of 3,700,00 kWh or \$330,000.*
- *Retrofitting our Water Resource Recovery Facilities with energy-saving measures saves 8,600,000 kWh or \$800,000 annually.*
- *Upgraded six pumps at our Potomac Water Filtration Plant with energy-efficient equipment, which is expected to save an estimated 5,700,000 kWh or \$450,000 per year.*
- *Replacing five aeration blowers at the Piscataway Water Resource Recovery Facility with energy-efficient, high-speed turbo blowers saves an estimated 535,000 kWh or \$51,000 per year.*
- *Replaced existing fluorescent lighting at our field offices and headquarters with energy-efficient LED lighting, saving 5,700,000 kWh or \$545,000 per year.*

**Renewable Energy**

*Wind Power: a new, long-term wind contract was awarded in 2020. As a result, we receive 33 percent of our energy directly from wind power and own the associated Renewable Energy Credits (RECs). No capital costs were incurred as part of the wind procurement.*

*Hydropower: Three 700-horsepower pump turbines operate at WSSC Water's Rocky Gorge Water Pumping Station. Hydropower has saved an average of \$200,000 a year in energy costs. Brighton Dam is home to two 250-horsepower hydro turbine generators owned by Dichotomy Energy, with a production capacity of 1.8 million kWh of electricity annually.*

*Solar Energy: WSSC Water has 6 MW of solar photovoltaic power at two water resource recovery facilities and one off-site facility. We incurred no out-of-pocket expenses for this project. WSSC Water purchased solar power over 20 years at a fixed unit price. Standard Solar was awarded a contract for an additional 5-10 MW solar site wholesale; Standard Solar is currently developing suitable sites in Western Maryland and the Eastern Shore. WSSC Water will own the RECs from the power generated.*

**Transportation**

**Employee Commute/Customer Travel**

*From March 2020 – March 2022, we estimate that remote work for many of our employees saved over 19.6 million miles of driving and kept more than 80,000 metric tons of CO<sub>2</sub> from being released.*

*We implemented a new telework policy in 2022, which allows eligible employees to work from home between two to five days a week, depending on their job duties and position, thus reducing commuting miles and CO<sub>2</sub> emissions.*

**Efficient Business Travel**

*Over the last two years, we've seen a reduction in the number of miles driven in our fleet vehicles, even when we had more employees taking vehicles home and restrictions on the number of staff who could be in vehicles during the height of the COVID-19 pandemic. We owe this to adopting Microsoft Teams for meetings and moving from in-person to remote meetings and conferences.*



*We also have a vehicle idling policy and established vehicle idling reduction goals in the standard procedure for each vehicle class and use. In addition, we’ve established corrective measures for those who violate vehicle idling policies. In the program’s first year, we saw CO<sub>2</sub> emissions from idling go from 580 metric tons in Fiscal Year 2018 to 536 metric tons in Fiscal Year 2019. Unfortunately, the pandemic upended these efforts, with more employees using vehicles as remote field offices. Still, we’re hopeful that with a return to a more regular work environment, we’ll see savings in idling once again.*

**Efficient Fleet Vehicles**

*In FY22, we purchased four electric vehicles (Chevy Bolts) to replace SUVs. In FY23, we are replacing six work vans with electric vans. Moving forward, we plan to replace vehicles, when possible, with EVs. We also assign the most efficient vehicles appropriate for the type of work performed and not based on what is available in the fleet (i.e., assign SUVs only to those whose jobs require an SUV).*

*While our electric vehicle program is new, we already see great savings. Here is data on our vehicles for the first month they were in use.*

Date	Fuel Savings	GHG savings (kg)	Miles Traveled
July-22	84.862	480.096	2453

*Three electric vehicle charging stations were installed at WSSC Water’s headquarters to charge the current fleet of vehicles. Three more are at our Temple Hills field operations station in preparation for electric work vans.*

**Water**

**Water Conservation**

*WSSC Water has a water loss reduction plan per the Maryland Water Conservation Act. Each year we must calculate unaccounted-for water losses in*



our system and have a plan to reduce lost water. Below are the ways we work to reduce lost water in our system

- *Theft of Service Program – WSSC Water’s police seek to reduce water theft through illegal fire hydrant or expired meter use.*
- *Leak detection and repair*
  - *ASTERRA satellite-based leak detection*
    - *Along with our regular leak detection crews, we recently implemented a new leak detection program using satellite-based technology. One thousand miles of water mains are scanned annually to identify potential leaks. In the program’s first year, FY21, we found 854 points of interest and 170 leaks from those points of interest.*
  - *Monitoring PCCP pipes*
    - *WSSC Water also performs comprehensive leak detection and repairs on all Pre-stressed Concrete Cylinder Pipe (PCCP) water transmission mains 36” and larger as part of our PCCP Management Program. In FY21, we inspected 19.9 miles of PCCP and found seven leaks. We also performed comprehensive inspections and condition assessments on 15.3 miles of PCCP using visual/sounding and electromagnetic techniques/technology. The ongoing real-time monitoring of 110 miles of PCCP using Acoustic Fiber Optic (AFO) cable technology has enabled WSSC Water to prevent 10 water main breaks.*

## Environmental Certification Programs, Awards, and Other Activities

- ☑ *Water Environment Federation (WEF) 2022 Project Excellence Award for the Seneca Water Resource Recovery Facility’s demonstration of efficient biological nutrient removal.*

*Greater Washington Region Clean Cities Coalition (GWRCCC) Trailblazer Award 2021- Renewable Natural Gas (WSSC Water Piscataway Bioenergy Project)*

*EPA Climate Leadership, Individual Leadership Award to WSSC Water’s Energy Manager Rob Taylor*

*Maryland Clean Energy Center, 2014 Excellence in Public Service Award to WSSC Water*



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