



# WSSC WATER

## 2021 Green Bond Annual Report





### **Environmental Stewardship Program**

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Cover: T. Howard Duckett Dam, Laurel, MD



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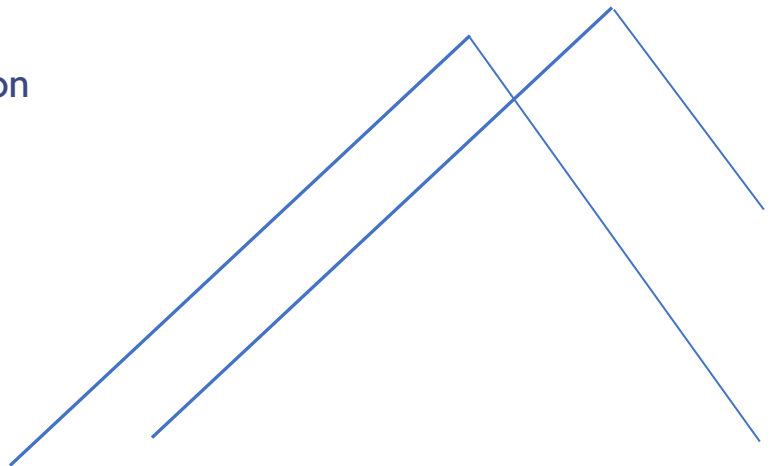
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Along with my fellow Commissioners, I am honored to support WSSC Water's dedicated employees working on the front lines to fulfill our mission to deliver safe, clean and affordable water to our 1.9 million customers. Funding to support our mission is provided, in part, by the issuance of green bonds.

WSSC Water's Green Bond Framework provides the public with transparency into the criteria, processes, and management of proceeds that fund capital projects allowing WSSC Water to continue to provide safe and reliable water well into the future.

**Keith E. Bell**  
Chair  
WSSC Water Commission



WSSC Water employees work 24/7 to deliver life's most precious resource to our customers. For more than 103 years, we have steadfastly fulfilled our clean-water mission without a single drinking water quality violation.

The green bond program is an important demonstration of our continued commitment to investing in green projects that protect public health and the environment, all in an ethical, sustainable and financially responsible manner.

**Carla A. Reid**  
General Manager/CEO  
WSSC Water



# Environmental Stewardship Program Protects Our Resources

## Introduction

WSSC Water's mission is to provide safe and reliable water, life's most precious resource, and return clean water to our environment, all in an ethical, sustainable, and financially responsible manner.

Guided by that mission, WSSC Water is committed to protecting the natural environment of Prince George's and Montgomery counties as we carry out our mandate to provide sanitary sewer and drinking water services. This commitment is reflected in our core value, environmental stewardship, which guides and incorporates behavior and decision making into WSSC

Water's investments into green buildings, pollution prevention and control, renewable energy, water quality, and climate change adaptation.

Serving 1.9 million residents, WSSC Water is currently among the largest water and wastewater utilities in the nation, with a network of 5,768 miles of water pipeline and more than 5,500 miles of sewer pipeline. Our service area spans nearly 1,000 square miles in Prince George's and Montgomery counties, and our drinking water has always met or exceeded federal standards.



# Green Bond Framework

Environmental stewardship guides and incorporates behavior and decision making into WSSC Water's investments in green buildings, pollution prevention and control, renewable energy, water quality, and climate change adaptation.

In line with this commitment, WSSC Water issues green bonds in accordance with its Green Bond Framework, a guide to the management of "green-bonded" projects. The framework addresses the four components of the Green Bond Principles, as provided by the International Capital Market Association: Use of Proceeds; Evaluation and Selection Process; Management of Proceeds; and Reporting.

To be eligible for green bond proceeds, projects must meet criteria in one or more of the following areas:

1. Green buildings
2. Pollution prevention and control;
3. Renewable energy;
4. Water quality or
5. Climate change adaptation.



# Green Bond Project Activities

WSSC Water identifies candidate projects aimed at making its infrastructure greener. The projects must involve one or more of the following activities:

## Green buildings

- Installation of high-efficiency heating, ventilating and air conditioning units;
- Installation of high-efficiency LED lighting fixtures;
- Use of cool roof materials; and
- Installation of high-efficiency water and wastewater processing equipment, pumps, motors and valves.

## Pollution prevention and control

- Lead clean-up and removal;
- Protection of environmentally sensitive areas from sewer overflow;
- Construction of new sewer, and recycled water supply systems;
- Sewer system rehabilitation to prevent overflow in waterways;
- Sewer line blockage assessments; and
- Enhanced nutrient removal (nitrogen and phosphorus) and discharge processes to protect waterways.

## Renewable energy

- Installation of new equipment and systems to produce bio-gas and electricity.

## Water quality

- Sewer and water line reconstruction for cleaner drinking water;
- Leak detection technologies;
- Advanced mixing systems;
- Installation of technologies to reduce chemical use; and
- Construction of intake channel to reduce drinking water contamination and treatment.



## Climate change adaptation

- Address safety standards including the Probable Maximum Flood criteria and maximum credible earthquake loadings;
- Install enhanced power reliability equipment at water resource recovery facilities and wastewater pumping stations to prevent sanitary sewer overflows; and
- Reduce biosolids production to enhance the health of the Chesapeake Bay and reduce greenhouse gas emissions and other air pollutants.

Projects focused on the activities above are eligible to be funded in whole or in part by allocating the green bond proceeds.

# Green Bond Reporting

## ICMA Green Bond Principles 2021 Categories

WSSC Water impact reporting is organized according to the ICMA Green Bond Principles 2021.

- Renewable energy (including production, transmission, appliances and products);
- Energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products);
- Pollution prevention and control (including reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy/emission-efficient waste to energy);
- Environmentally sustainable management of living natural resources and land use (including environmentally sustainable agriculture; environmentally sustainable animal husbandry; climate-smart farm inputs such as biological crop protection or drip-irrigation; environmentally sustainable fishery and aquaculture; environmentally-sustainable forestry, including afforestation or reforestation, and preservation or restoration of natural landscapes);
- Terrestrial and aquatic biodiversity conservation (including the protection of coastal, marine and watershed environments);
- Clean transportation (such as electric, hybrid, public, rail, non-motorized, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions);
- Sustainable water and wastewater management (including sustainable infrastructure for clean or drinking water, wastewater treatment, sustainable urban drainage systems and river training and other forms of flooding mitigation);
- Climate change adaptation (including efforts to make infrastructure more resilient to impacts of climate change, as well as information support systems, such as climate observation and early warning systems);
- Circular economy adapted products, production technologies and processes (such as the design and introduction of reusable, recyclable and refurbished materials, components and products, circular tools and services); or certified eco-efficient products.
- Green buildings that meet regional, national or internationally recognized standards or certifications for environmental performance.



## Monitoring and Project Reporting

WSSC Water manages all projects it supports –including green bond projects. WSSC Water-selected contractors construct the projects per the project agreement. The management process comprises regular reports by the implementing contractor on project activities, including monthly review of project progress. Throughout the implementation phase, the project's progress, outcomes and impacts are monitored by WSSC Water's project manager, division manager, and Finance staff to obtain data to evaluate and measure the effectiveness of the objectives it was set to achieve. Project information is available on the WSSC Water website and includes documents with detailed information about the projects (e.g., Project Description Forms or PDFs). In addition, summaries and key impact indicators of the green bond projects are provided on WSSC Water's Green Bond Program webpage with links to relevant documents with more detailed project information.

## Ensuring Compliance

Projects eligible under the Green Bond Program comply with WSSC Water's environmental statement, procurement policies and other procedures addressing project integrity. Compliance is assessed at the individual project level and through independent reviews of about a quarter of all projects. Project level reviews by accounting, budget, and procurement ensure that adequate controls and management capacity are in place. In addition, WSSC Water's internal auditors or Inspector General may conduct, when necessary, a post-review of a closed project(s).

WSSC Water's Finance Department follows procedures specific to its Green Bond Program. These include selecting and reporting on eligible projects, maintaining the separate green bond bank account and reviewing portfolio implementation progress to provide updated information for impact reporting purposes.

See [www.wsscwater.com/greenbond](http://www.wsscwater.com/greenbond) for more information on WSSC Water's Green Bond Program and Green Bond Framework.

See [www.wsscwater.com/fin](http://www.wsscwater.com/fin) for finance information on WSSC Water.

See [www.wsscwater.com/es2](http://www.wsscwater.com/es2) for more information on WSSC Water's Environmental Stewardship Program.





# Green Bond Project Implementation

## Selecting Projects for Financing

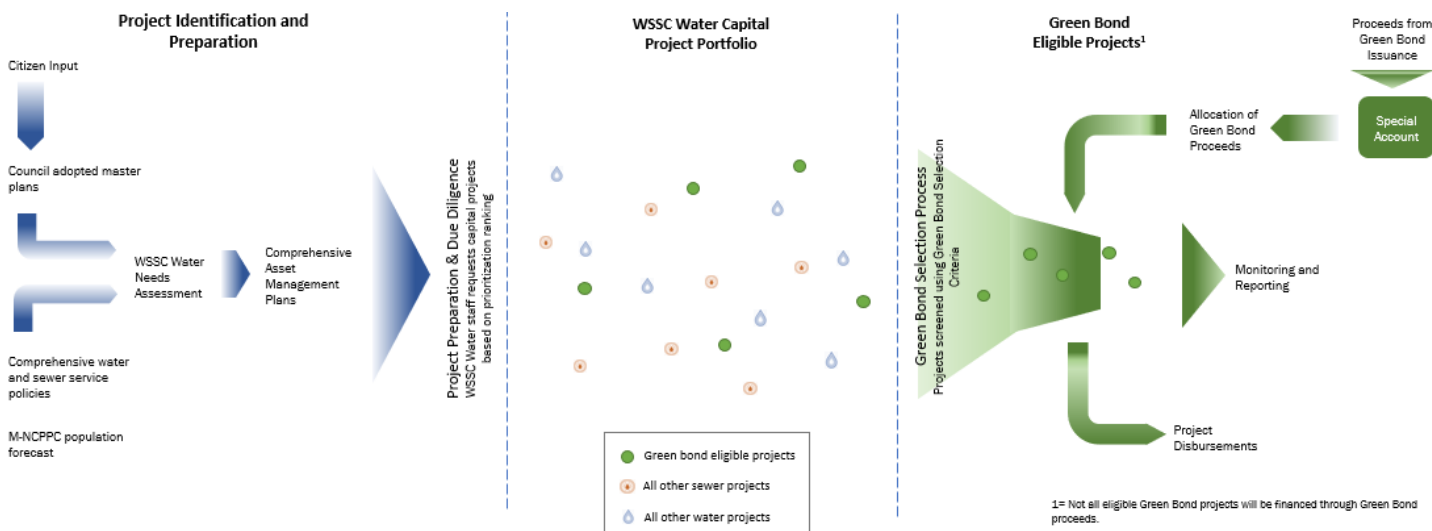
All projects, including green bond projects, undergo a rigorous review and approval process to ensure the projects meet WSSC Water and stakeholder priorities. The process includes early screening to identify potential environmental impacts and design alternatives to mitigate such impacts. WSSC Water’s capital programs are approved by its commissioners – a board representing its member counties.

The lifecycle of a project financed by WSSC Water follows six stages as shown in the graph, right. WSSC Water designated green bond projects follow the same stages and undergo three more steps as shown in the outer circle of the graph. From the outset projects are identified that meet the green bond eligibility criteria.



## Earmarking and Allocating Green Bond Proceeds

The green bond selection process includes earmarking and allocating WSSC Water’s green bond proceeds to a special account. They are invested following WSSC Water’s investment policy until used to support eligible green bond projects. Disbursement requests for eligible projects take place per established policies and procedures. Disbursements are often made over several years, depending on when each project milestone is reached. As disbursements for green bond projects are made, corresponding amounts from the special account are transferred to the general investment pool quarterly.



1= Not all eligible Green Bond projects will be financed through Green Bond proceeds.

# WSSC Water Results

WSSC Water's commitment to sustainability is reflected in our energy management program, greenhouse gas reduction program, and environmental outreach efforts. Examples include:



## Renewable Energy

The mission of the WSSC Water Energy Management Program is to support environmental stewardship and efficient procurement practices that are strategic priorities. Due to the high cost and environmental impacts of energy demand and consumption, energy management is critical to WSSC Water performing at the highest service levels in these areas. Wind, solar and hydropower are just a few of the technologies WSSC Water employs for energy efficiency during the water filtration and treatment processes.

- WSSC Water has adopted a greenhouse gas (GHG) emission reduction goal. This goal will reduce emissions 10 percent every five years through 2050 for a total reduction of 80 percent (below the baseline year of 2005). Over the past 10 years, WSSC Water's diverse energy management program has provided overall annual cost savings of \$3.5 – 4 million.
- Solar energy is providing green power at two of WSSC Water's water resource recovery facilities and one site in rural Maryland. Another two solar sites in Prince George's County are being developed.
- Electricity generated by the Sandy Ridge wind farm in southwestern Pennsylvania accounts for approximately 70,000 megawatt (MW) hours of power per year (one third of our total annual consumption). This wind power reduces greenhouse gases released into the Washington area by 35,000 tons per year, the equivalent of taking 100,000 cars off the Capital Beltway.

- At its upcoming Piscataway Bio-Energy Plant, WSSC Water will generate 12 MMBTU per hour of renewable natural gas from wastewater. This gas will be sold to a regional bus fleet as renewable fuel.
- The Piscataway Bio-Energy Plant will generate approximately 3 MW of electricity from clean, natural gas to power the entire plant on a continuous basis.



## Climate Change Adaptation

WSSC Water is already dealing with the impacts of extreme weather brought on by the changing climate.

To ensure we are fully prepared for this new normal, we proactively initiated a comprehensive, five-year climate change study.

- To date, WSSC Water has developed asset hardening recommendations at eight critical WSSC Water sites that will cost approximately \$2.6 million and are projected to save \$27 million in future flood damage.



## Pollution Control and Prevention

The Maryland Department of Environment uses the revenue from the Bay Restoration Fund to fund improvements to wastewater treatment plants owned by utilities throughout the state, including WSSC Water.

- The upgrades primarily reduce nitrogen and phosphorus pollution into the Chesapeake Bay.

## Environmental Outreach

**Education:** WSSC Water conducts free environmental education programming for more than 2,500 school-aged children a year. Through partnerships with local school districts and environmental non-profit organizations WSSC Water staff have assisted with the professional development of over 200 educators. Educators learn about issues facing local waterways, the importance of source water protection, and how to bring these topics into their classrooms. In partnership with a local school district, WSSC Water provided resources and training to 150 high school biology teachers on the impacts of winter salting on source water.

**Source Water Protection:** 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.

**Community Programming:** WSSC Water's staff assist with planning of environmental programming across our service area. Depending on the year, staff assist with planning of the Montgomery County Greenfest, H<sub>2</sub>O Summit, and Patuxent River Conference. Staff also regularly host informational tables and sessions at regional environmental festivals and summits.

**American Chestnut Foundation:** 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.



Students from Burleigh Manor Middle School built these structures as part of their watershed protection unit and placed them in shallow areas along Triadelphia reservoir. The structures provide safety for small fish.

# Green Bond Impact Summary

**Issuance** In the past year, WSSC Water issued its second green bond for a total of \$51.1 million in funding to support pollution control and prevention, as well as sustainable water management.

**Allocation and Disbursements** In FY 2021, three projects selected for WSSC Water’s green bond project portfolio have a total allocation of \$105.1 million. Of this, \$83.1 million in green bond proceeds have been disbursed to support these projects.

**By Project:** As of June 30, 2021, Sustainable Water Management made up the largest portion of our green bond eligible projects portfolio. They comprised approximately 76 percent of all green bond allocations.

Amounts in \$ Millions	Allocated <sup>1</sup>			Disbursed <sup>2</sup>
	Pollution Prev/ Control	Sustainable Water Mgmt	Total	
Potomac WFP Consent Decree Program	\$25.5	\$0.0	\$25.5	\$21.0
Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	0.0	7.7	7.7	7.6
Large Diameter Water Pipe & Large Valve Rehabilitation Program	0.0	71.9	71.9	54.5
<b>Total</b>	<b>\$25.5</b>	<b>\$79.6</b>	<b>\$105.1</b>	<b>\$83.1</b>
<b>Percentage</b>	<b>24%</b>	<b>76%</b>	<b>100%</b>	

Notes:

Amounts may not add up due to rounding

<sup>1</sup> Allocated amount for eligible projects for which the loans are disbursing. Allocated amounts represent funding starting from the first issuance in July 1, 2019.

<sup>2</sup> Green Bond proceeds allocated to support financing of disbursements to eligible projects. Disbursed amounts represents those funds disbursed and expensed starting from July 1, 2019.

# Green Bond Project Impact

WSSC Water commits to provide reporting on key performance indicators (KPIs) until the full allocation of the proceeds.

1

## Pollution Prevention and Control Projects

**At least 50 Percent**

Removal of Potomac River intake solids

EQUIVALENT TO

3,000 full garbage trucks of trash a year.

## FY 2021 Achievement

Potomac Water Filtration Plant (WFP) Consent Decree Program: Under construction and on schedule with completion expected January 2027. Long-term improvements are currently in design. Short-term improvements are complete. Solids removal has improved from 66 percent to 80 percent.

2

## Sustainable Water Management

**Reduce**

Amount of water used for filter backwash process

EQUIVALENT TO

10,000 gallons of water per year.

**4 Miles**

Minimum miles of large diameter water mains replaced per year

EQUIVALENT TO

Replace the equivalent length of 70 football fields per year.

## FY 2021 Achievement

Potomac WFP Pre-Filter Chlorination & Air Scour Improvements: Project is on schedule with completion expected in October 2021. The new air scour system pilot was conducted in Fall 2021 to optimize the new process, reducing the amount of water required.

Large Diameter Water Pipe & Large Value Rehabilitation Program: Although the Covid-19 pandemic impacted work on the largest diameter pipes, WSSC Water completed 4.9 miles of large diameter pipework in FY 2021.



# Green Bond Eligible Projects

Target Results and Committed and Allocated Amounts



Pollution Control and Prevention






Sustainable Water Management



Potomac River, 2020






No.	Link for More Information	Project Name (Number) and Description			Target Results <sup>2</sup>	
			Eligibility Criteria <sup>1</sup>	Project Life (Years)	Pollution Prevention /Control	Sustainable Water Management
1		The Potomac WFP Consent Decree Program (W-73.33) to meet the new discharge limitations identified in the Consent Decree.	P	50	Increase in the percent of river solids removed	
2		Potomac WFP Pre-Filter Chlorination & Air Scour Improvements (W-73.22) construction of a pre-filter chlorination system and filter air scour system	SW	50		Reduce amount of water used for filter backwash process
3		Large Diameter Water Pipe & Large Valve Rehabilitation Program (W-161.01) rehabilitate or replace large diameter water transmission mains and large system valves that have reached the end of their useful life.	SW	35-100		Miles of large diameter water mains replaced annually

na – Indicator is not applicable for this project. ~ – Indicator is not measured/reported for this project.

<sup>1</sup> Column indicates whether the project aims to address: renewable energy ("R"), energy efficiency ("E"), pollution prevention/control ("P"), sustainable management of living natural resources ("S"), terrestrial and aquatic biodiversity conservation ("T"), clean transportation ("C"), sustainable water management ("SW"), climate change adaptation ("CC"), eco-efficient products, production technologies and processes ("EP"), and green buildings ("G")

<sup>2</sup> Target results are expected impacts based on estimates developed at the time of project approval and materializing at the end of the project implementation period (6 years in most cases). Results reported are based on the entire project. Actual impacts may be different from these estimates and do not represent the actual results in a specific year.



No.	Link for More Information	Project Name (Number) and Description	Green Bond Financing		
			Allocated \$'s million <sup>1</sup>	WSSC Share (%) <sup>2</sup>	Disbursed \$'s million <sup>3</sup>
1		The Potomac WFP Consent Decree Program (W-73.33) to meet the new discharge limitations identified in the Consent Decree.	25.5	100%	21.0
2		Potomac WFP Pre-Filter Chlorination & Air Scour Improvements (W-73.22) construction of a pre-filter chlorination system and filter air scour system	7.7	100%	7.6
3		Large Diameter Water Pipe & Large Valve Rehabilitation Program (W-161.01) rehabilitate or replace large diameter water transmission mains and large system valves that have reached the end of their useful life.	71.9	100%	54.5
			105.1		83.1
					0.0
					83.1

Total amounts may not add up due to rounding.

<sup>1</sup> The allocated amount is the Green Bond eligible portion of project proceeds and reported in US\$ millions.

<sup>2</sup> The percentage shows the share of the total financing that is provided by WSSC Water. When a project is co-financed, this share could be used to apportion total results to WSSC Water.

<sup>3</sup> The disbursed amount is the amount of Green Bond proceeds expended by project and reported in US\$ millions.



## ATTESTATION OF 2021 ANNUAL GREEN BOND REPORT



CliftonLarsonAllen LLP  
CLAconnect.com

### INDEPENDENT ACCOUNTANTS' REPORT

Commissioners of the  
Washington Suburban Sanitary Commission  
Laurel, Maryland

We have examined management's assertion in the WSSC Water 2021 Green Bond Annual report that the net proceeds of the December 12, 2019, \$53,880,000 Consolidated Public Improvement Bond of 2019 (Second Series) (Green Bonds) and the net proceeds of the September 9, 2020, \$47,545,000 Consolidated Public Improvement Bond of 2020 (Second Series)(Green Bonds) for the year ended June 30, 2021 were allocated and disbursed to support projects in accordance with use of proceeds requirement in the *Green Bond Framework*, as provided by the International Capital Market Association. Washington Suburban Sanitary Commission's (WSSC Water) management is responsible for its assertion. Our responsibility is to express an opinion on management's assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects. An examination involves performing procedures to obtain evidence about management's assertion. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of management's assertion, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Our examination was not conducted for the purpose of evaluating the environmental benefits of the eligible projects, the eligible project's design and outcomes conform with third-party published principles, standards, or frameworks, such as *Green Bond Framework*, and any information included in *WSSC Water's 2021 Green Bond Annual Report*. Accordingly, we do not express an opinion or any other form of assurance other than on management's assertion regarding allocation and disbursement of proceeds.

In our opinion, management's assertion in the *WSSC Water 2021 Green Bond Annual Report* that the net proceeds of the December 12, 2019, \$53,880,000 Consolidated Public Improvement Bond of 2019 (Second Series) (Green Bonds) and the net proceeds of the September 9, 2020, \$47,545,000 Consolidated Public Improvement Bond of 2020 (Second Series)(Green Bonds) were allocated and disbursed to support projects in accordance with use of proceeds requirement in the *Green Bond Framework*, as provided by the International Capital Market Association is fairly stated, in all material respects.

A handwritten signature in cursive script that reads "CliftonLarsonAllen LLP".

CliftonLarsonAllen LLP

Baltimore, Maryland  
February 18, 2022



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