WSSC WATER

2020 Green Bond Annual Report



Environmental Stewardship Program

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Cover: Potomac River, 2020

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Green bonds were issued specifically to fund projects with significant environmental benefits. The proceeds from the sale will fund projects that address pollution prevention and sustainable water management.

The issuance and eligible projects follow WSSC Water's Green Bond Framework, which documents the use of the bond proceeds, the criteria, process for evaluation and selection of projects, the management of the proceeds, and ongoing reporting on key performance indicators.

WSSC Water's Green Bonds are rated "E1" by S&P Global Ratings, the highest rating possible by that agency, based on the very strong governance, solid transparency, and the benefits of our projects.

Howard A. Denis
Chairman
WSSC Water Commission



For the first time, WSSC Water issued $54 million in environmentally focused Green Bonds.

As an environmental organization, WSSC Water is committed to protecting our drinking water sources, preventing pollution, enhancing water quality and adapting to climate change. The proceeds from the first series of Green Bonds will enable us to invest in projects that support our clean water mission.

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 serves to guide and incorporate 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 1.8 million residents, WSSC Water is currently among the largest water and wastewater utilities in the nation, with a network of nearly 5,768 miles of fresh water pipeline and more than 5,578 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 serves to guide and incorporate behavior and decision making into WSSC Water's investments into 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. The four components are: 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 and/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, storm drain 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 health of 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 an allocation of the green bond proceeds.

Green Bond Reporting

ICMA Green Bond Principles 2018 Categories

WSSC Water impact reporting is organized according to the ICMA Green Bond Principles 2018.

- 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 and/or drinking water, wastewater treatment, sustainable urban drainage systems and river training and other forms of flooding mitigation);
- Climate change adaptation (including information support systems, such as climate observation and early warning systems);
- Eco-efficient and/or circular economy adapted products, production technologies and processes (such as development and introduction of environmentally sustainable products, with an eco-label or environmental certification, resource-efficient packaging and distribution);
- Green buildings which meet regional, national or internationally recognized standards or certifications.

Monitoring and Project Reporting

WSSC Water manages the implementation of all projects it supports –including green bond projects. WSSC Water-selected contractors construct the projects in accordance with the project agreement. The management process comprises regular reports by the implementing contractor on project activities, including monthly review of project progress. The project's progress, outcomes and impacts are monitored by WSSC Water's project manager, division manager, and Finance staff throughout the implementation phase in order 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 and/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 including 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 http://www.wsscwater.com/greenbond for more information on WSSC Water's Green Bond Program and Green Bond Framework.

See www.wsscwater.com/fin for finance information on WSSC Water.

See www.wsscwater.com/water-quality--stewardship/environmental-stewardship.html for more information on WSSC Water's Environmental Stewardship Program.

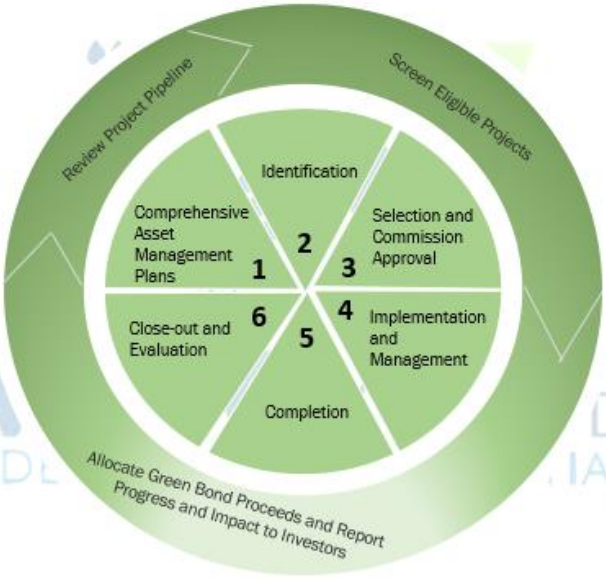


Green Bond Project Implementation

Selecting Projects for Financing

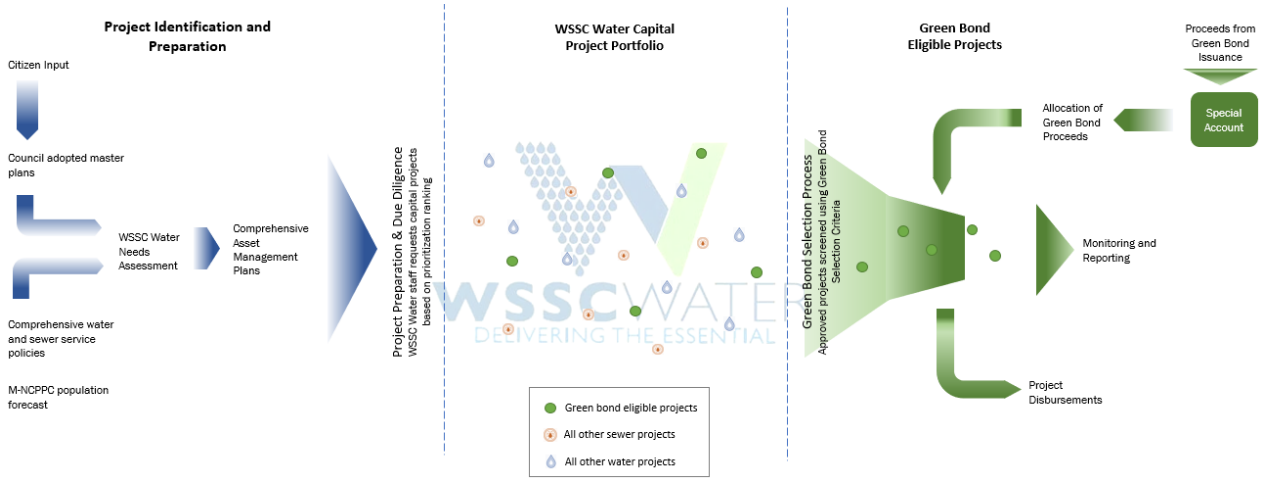
All projects, including green bond projects, undergo a rigorous review and approval process to ensure the projects meet Commission and stakeholder priorities. The process includes early screening to identify potential environmental impacts and design alternatives to mitigate any such impacts. WSSC Water's 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. WSSC Water designated green bond projects not only follow the same stages, but also undergo three more steps as shown in the outer circle of the graph, right. 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 in accordance with WSSC Water's investment policy until used for the support of eligible green bond projects. Disbursement requests for eligible projects take place in accordance with established policies and procedures. Disbursements are often made over a period of 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 lending pool on a quarterly basis.



WSSC Water Results

WSSC Water's commitment to sustainability is reflected in our energy management program, greenhouse gas reduction program, and local educational activities. 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 levels of service 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 use of wind power contributes to the reduction of greenhouse gases released into the Washington area by 35,000 tons per year. It is 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 Stewardship

Education: Partnering with Montgomery County GreenFest, where WSSC Water will teach approximately 500-600 customers how they can reduce their carbon footprint. The program's objective is to reduce energy consumption and energy-related costs (electricity, fuel oil, natural gas, or other fuel), as well as WSSC Water's overall carbon footprint.

Clean-Up Programs: WSSC Water recently launched a watershed recreation clean-up program with a group of area high school students called Northgate Juniors. These volunteers adopted the Scott's Cove Recreation Area and agreed to ten total cleanups between March and December 2020. This program is projected to be expanded to cover seven watershed recreation areas in 2021.

Virtual Summits: Virtual H2O Summit in Montgomery County was held in November 2020. The online event featured discussions on climate change and resiliency, pesticide laws, stormwater management and ways to combat litter. WSSC Water partnered with the Montgomery County Department of Environmental Protection, the University of Maryland, the Cities of Rockville and Gaithersburg, and the Montgomery Parks department.

American Chestnut: Several large native American chestnut trees grow wild in forested areas on WSSC Water property. Pollen from these trees has been used in the Maryland Chapter's breeding program.

- WSSC Water plants Restoration Chestnuts for educational purposes and for helping to restore this magnificent tree to its former place in the Patuxent Watershed.



Brighton Dam, 2020

Green Bond Impact Summary

Issuance In the past year, WSSC Water issued its first green bond for a total of $54 million in funding to support pollution control and prevention, as well as sustainable water management.

Commitments and Disbursements In FY 2020, three projects were selected for WSSC Water's green bond project portfolio with a total commitment of $54 million. Of this commitment, $43.6 million in green bond proceeds were allocated and disbursed to support these projects.

By Project:

As of June 30, 2020, Sustainable Water Management made up the largest portion in our green bond eligible projects portfolio. They comprised approximately 82 percent of all green bond commitments.

	Committed[1]			
Amounts in $ Millions	Pollution Prev/ Control	Sustainable Water Mgmt	Total	Allocated[2]
Potomac WFP Consent Decree Program	9.5	0.0	9.5	9.5
Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	0.0	7.6	7.6	7.6
Large Diameter Water Pipe & Large Valve Rehabilitation Program	0.0	36.9	36.9	36.9
Total	**9.5**	**44.5**	**54.0**	**54.0**
Percentage	18%	82%	100%	

Notes:

Amounts may not add up due to rounding

[1] Committed amount for eligible projects for which the loans are disbursing.

[2] Green Bond proceeds allocaed to support financing of disbursements to eligible projects.

Green Bond Project Impact

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 2020 Achievement

Potomac WFP Consent Decree Program: Under construction with completion expected January 2027. Consent Decree Q4 report period ending June 2020, with 66.2 percent solids captured as the latest reported two-year rolling average.

2 Sustainable Water Management

Reduce

Amount of water used for filter backwash process

EQUIVALENT TO

10,000 gallons of water per year.

4 Miles

A minimum of miles of large diameter water mains replaced per year

EQUIVALENT TO

Replace the equivalent length of 70 football fields per year.

FY 2020 Achievement

Potomac WFP Pre-Filter Chlorination & Air Scour Improvements: Under construction with completion expected June 2021. Targeted result in reduced water use will be achieved upon project implementation.

Large Diameter Water Pipe & Large Value Rehabilitation Program: 4.61 miles of large diameter water pipe were rehabilitated.

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	Eligibility Criteria[1]	Project Life (Years)	Target Results[2]: Pollution Prevention /Control	Target Results[2]: 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.

[1] 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")

[2] 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.

			Green Bond Financing		
No.	Link for More Information	Project Name (Number) and Description	Committed $'s million[3]	WSSC Share (%)[4]	Allocated $'s million[5]
1		The Potomac WFP Consent Decree Program (W-73.33) to meet the new discharge limitations identified in the Consent Decree.	9.5	100%	9.5
2		Potomac WFP Pre-Filter Chlorination & Air Scour Improvements (W-73.22) construction of a pre-filter chlorination system and filter air scour system	7.6	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.	36.9	100%	36.9
			54.0		54.0
					0.0
					54.0

Total amounts may not add up due to rounding.

[2] The committed amount is the Green Bond eligible portion of project proceeds and reported in US$ millions.

[3] 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.

[4] The allocated amount is the amount of Green Bond proceeds allocated to support the financing of disbursements to the project reported in US$ millions.





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