2023-24

San Francisco Public Utilities Commission
Wastewater Enterprise | FY 2023-24

Green Bond Report 2023-24

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

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Note: Green Bond Verification Reports are available at https://sfpuc.org/about-us/reports/debt-management-and-disclosure-reports

Southeast Treatment Plant

Introduction

The San Francisco Public Utilities Commission (SFPUC) is a department of the City and County of San Francisco (City or San Francisco) responsible for the maintenance, operation and development of three utility enterprises: the Water Enterprise, the Wastewater Enterprise and Power Enterprise. Since the release of its first Climate Action Plan in 2004, San Francisco has been leading the way on local climate action, environmental justice, and developing and implementing innovative programs and outreach campaigns to engage with all San Franciscans.

These Climate Action Plans impact all San Francisco departments, including the SFPUC, and influence operating and capital investment activities. The SFPUC provides top quality drinking water and wastewater services to the City of San Francisco, wholesale water to three Bay Area counties, and clean, reliable energy to San Francisco residents, businesses, and municipal departments. Located in the State of California (State), the SFPUC is governed by Federal, State and local laws and regulations, as well as policies and programs within the SFPUC, created to achieve additional climate and social inclusion goals. Notably, the SFPUC was the first utility in the nation to pass Environmental Justice and Community Benefits Policies with the goal of proactively providing diverse communities with opportunities in workforce and economic development, the arts, urban agriculture, and education.

The SFPUC views green bonds as an important tool to help meet these goals and finance low-carbon, climate-resilient infrastructure. Since issuing its first series of green bonds in Fiscal Year 2015, the SFPUC has sold more than $4.3 billion in certified green bonds from its Water and Wastewater Enterprises and more than $100 million in self-designated green bonds from its Power Enterprise. Impacts from the projects financed by green bonds issued by the SFPUC's three enterprises include increased water storage, application of green infrastructure to manage stormwater, upgrades to renewable energy generation facilities, and the construction of green infrastructure to divert stormwater from treatment plants.

In addition to providing project spending and project impact information, this report highlights associated project co-benefits and describes the context in which climate and social inclusion informs the SFPUC's capital planning decisions. This report reflects activities through June 30, 2024.

Southeast Treatment Plant Biosolids Digester Facilities Project

This report speaks only as of June 30, 2024. The SFPUC has not undertaken, and does not undertake, to provide any updates to this report in the future. The publication of this report does not constitute or imply any representation (i) that the information in the report is material to investors, (ii) regarding any other material financial, operating or other information about the SFPUC or its outstanding bonds or other indebtedness or (iii) that no other material circumstances or material events have occurred or that no other material information exists concerning the SFPUC or its outstanding bonds or other indebtedness. This report is not a recommendation to buy, sell or hold any bonds or obligations of the SFPUC.

GREEN BOND DESIGNATION AND CERTIFICATION

Generally, the SFPUC designates certain of its bonds as "Green Bonds" when the proceeds of such bonds are used to finance or refinance environmentally beneficial projects based upon criteria applied by the SFPUC. With respect to the Wastewater Enterprise, the SFPUC considers projects included in its Sewer System Improvement Program (SSIP) to be environmentally beneficial projects. Investors' criteria for determining whether bonds finance or refinance environmentally beneficial projects and/or are appropriately designated as "Green Bonds" may differ from the criteria applied by the SFPUC.

The following bonds and notes (Bonds or Green Bonds) issued by the SFPUC's Wastewater Enterprise from Fiscal Year 2015 through Fiscal Year 2024 have been certified by the Climate Bonds Initiative (CBI) under the Climate Bonds Standard established by the CBI:

Wastewater Revenue Bonds, 2016 Series A (Green Bonds)
Wastewater Revenue Bonds, 2018 Series A (Green Bonds)
Wastewater Revenue Bonds, 2018 Series C (Green Bonds)
Wastewater Revenue Bonds, 2021 Series A (SSIP) (Green Bonds)
Wastewater Revenue Bonds, 2021 Series A (Green Notes)[1]
Wastewater Revenue Bonds, 2021 Series B (Green Notes)[1]
Wastewater Revenue Bonds, 2023 Series A (SSIP) (Green Bonds)
Wastewater Revenue Bonds, 2023 Series C (Refunding - SSIP) (Green Bonds)[2]

The explanation of the significance of such certification may be obtained from the CBI[3]. Such Bonds have been certified by CBI based upon verification by Morningstar Sustainalytics (Sustainalytics), a verifier approved by the Climate Bonds Standard Board and retained by the SFPUC. Sustainalytics has verified that bonds issued by the SFPUC to finance and refinance projects included in the SSIP meet the requirements of the Water Infrastructure Criteria of the Climate Bonds Standard Version 2.1. Verification by Sustainalytics and the certification of such Bonds by CBI based upon such verification reflect only the views of Sustainalytics and CBI. Verification reports by Sustainalytics are available at https://sfpuc.org/about-us/reports/debt-management-and-disclosure-reports. The website is provided for convenience only and the information available on such website is not incorporated by reference into this report.

[1] The Wastewater Revenue Bonds, 2021 Series A (Green Notes) and 2021 Series B (Green Notes) have been defeased to maturity.

[2] The Wastewater Revenue Bonds, 2024 Series A and Series C was subsequently issued in the following fiscal year on July 18, 2024 and will be included in the next annual report.

[3] https://www.climatebonds.net/. The information available on such website is not incorporated by reference into this report.

Wastewater Enterprise Green Bond Impact Report

The Green Bonds have been issued to finance and refinance projects in the Sewer System Improvement Program (SSIP). The SSIP was initiated as a citywide investment to upgrade the SFPUC's existing infrastructure to ensure a reliable, sustainable, and seismically safe sewer system. The SSIP is a series of major capital improvement projects that are necessary to maintain San Francisco's wastewater and stormwater system in a state of good repair, and to meet the Commission-endorsed goals, which include the following:

- Maintain a compliant, reliable, resilient, and flexible system that can respond to catastrophic events.
- Integrate grey and green infrastructure to manage stormwater and minimize flooding.
- Provide benefits to impacted communities.
- Modify the system to adapt to climate change.
- Achieve economic and environmental sustainability.
- Maintain ratepayer affordability.

The Commission's original authorization of the SSIP in 2012 contemplated a three-phase implementation approach over a 20-year period. The SFPUC has since transitioned from implementing the original three-phase approach over a 20-year period to implementing projects as part of its rolling 10-year capital plan.

Program Scope

The SSIP is separated into four major categories: Program Management, Treatment Facilities, Sewer/Collection System, and Stormwater Management/Flood Resilience. Projects are prioritized and advanced in the program based on criticality of need and risk. The SSIP project development also considers environmental benefits, sustainability, and community benefits while addressing the long-term wastewater needs. These projects include but are not limited to:

Program Management

- Includes overall program management support for SSIP capital projects and associated land reuse projects

Treatment Facilities

- Replacing existing and aging solids handling facilities at the Southeast Treatment Plant with new state-of-the art Biosolids Digester Facilities
- Improving the level of screening and grit removal in existing facilities
- Replacing and integrating a facility-wide distribution control system
- Condition assessment and rehabilitation of building structures
- Replacing mechanical and electrical equipment
- Seismic retrofitting

Sewer/Collection System

- Rehabilitating and replacing interceptors, tunnels, pump stations, force mains and Transport/Storage (T/S) boxes
- Rehabilitating Combined Sewer Discharge (CSD) structures and mitigating backflow of bay water through CSDs due to sea level rise

Stormwater Management/Flood Resilience Projects

- Green infrastructure (examples include: bioretention planters for stormwater runoff and permeable paving)
- Flood resilience (flood resilience planning, stormwater detention and conveyance concepts, flood barriers, conveyance enhancements)
- Hydraulic and drainage sewer improvements in flood prone neighborhoods
- Advanced rainfall systems (automated real time forecasts with increased accuracy)

Green Bond Spending Details

Proceeds from each issuance of Bonds are separately tracked and allocated to designated eligible projects. Spending by bond series is detailed below.

In the indenture pursuant to which Bonds have been issued, the SFPUC has reserved the right to reallocate the use of the bond proceeds among various projects. In the following tables, a reduction in the allocation of bond proceeds to a particular project does not necessarily mean that such project will not proceed or that the scope of such project has been reduced. Further, the amount of bond proceeds allocated to a particular project does not necessarily reflect the total cost of such project. The "Estimated Use of Proceeds" column represents total projected spending for the bonds by project at the time of bond issuance. The "Spending from Prior Years" column represents the proceeds spent in years prior to the reported fiscal year. The "Fiscal Year 2023-24 Spending" column represents proceeds spent in the reported fiscal year. The "Total Expended" column represents all proceeds spent in the reported fiscal year and all prior years.

Oceanside Wastewater Treatment Plant

Green Bond Proceeds

Wastewater Revenue Bonds, 2016 Series A (Green Bonds)
As of June 30, 2024

Authority Description	Estimated Use	Spending from Prior Years	Fiscal Year 2023-24 Spending
Wastewater Collection System Improvement	$62,076,000	$29,320,085	-
Wastewater Central Bayside System Improvement	19,800,000	5,751,561	-
Wastewater Sewer System Improvement Program Biosolids-digester Project	-	36,885,641	-
Wastewater Stormwater Management	49,417,066	29,988,744	-
Wastewater Flood Resilience-hydraulic	-	-	-
Wastewater Northshore to Channel Force Main	20,270,000	4,921,014	-
Wastewater Sewer System Improvement Program Program-wide Management	94,000,000	52,046,290	-
Wastewater Treatment Plant Improvement	-	87,917,089	-
Wastewater Urban Watershed Assessment	13,000,000	11,883,509	-
Total	**$258,563,066**	**$258,713,933**	**$-**

Wastewater Revenue Bonds, 2018 Series A (Green Bonds)
As of June 30, 2024

Authority Description	Estimated Use	Spending from Prior Years	Fiscal Year 2023-24 Spending
Wastewater Collection System Improvement	$61,266,279	$37,584,362	-
Wastewater Central Bayside System Improvement	16,057,426	9,029,124	-
Wastewater Sewer System Improvement Program Biosolids-digester Project	-	55,959,809	-
Wastewater Stormwater Management	16,965,926	7,283,077	-
Wastewater Flood Resilience-hydraulic	34,937,916	267,630	-
Wastewater Northshore to Channel Force Main	-	3,276,949	-
Wastewater Sewer System Improvement Program Program-wide Management	19,225,481	43,382,242	-
Wastewater Treatment Plant Improvement	92,560,028	83,182,373	-
Wastewater Urban Watershed Assessment	-	1,052,289	-
Total	$241,013,056	$241,017,855	$-

Wastewater Revenue Bonds, 2021 Series A (SSIP) (Green Bonds)
As of June 30, 2024

Authority Description	Estimated Use	Spending from Prior Years	Fiscal Year 2023-24 Spending
Wastewater Collection System Improvement	$44,159,979	$54,930,443	-
Wastewater Central Bayside System Improvement	459,664	1,762,742	-
Wastewater Sewer System Improvement Program Biosolids-digester Project	152,955,885	157,613,391	-
Wastewater Stormwater Management	16,835,896	21,173,316	-
Wastewater Flood Resilience-hydraulic	4,485,285	4,188,142	-
Wastewater Northshore to Channel Force Main	-	948,072	-
Wastewater Sewer System Improvement Program Program-wide Management	31,908,229	13,368,164	-
Wastewater Treatment Plant Improvement	73,692,895	42,034,196	-
Wastewater Urban Watershed Assessment	77,580	144,027	-
Total	$324,575,413	$296,162,493	$-

Wastewater Revenue Bonds, 2023 Series A (SSIP) (Green Bonds)
As of June 30, 2024

Authority Description	Estimated Use	Spending from Prior Years	Fiscal Year 2023-24 Spending
Wastewater Collection System Improvement	$75,711,580	$64,526,739	-
Wastewater Central Bayside System Improvement	160,031	225,102	-
Wastewater Sewer System Improvement Program Biosolids-digester Project	204,538,707	281,436,082	-
Wastewater Stormwater Management	31,746,602	34,826,681	-
Wastewater Flood Resilience-hydraulic	22,199,292	8,626,364	-
Wastewater Sewer System Improvement Program Program-wide Management	21,248,568	26,834,450	-
Wastewater Treatment Plant Improvement	196,497,580	149,065,422	-
Wastewater Urban Watershed Assessment	190,233	114,973	-
Total	**$552,292,593**	**$565,655,813**	**$-**

Wastewater Revenue Bonds, 2023 Series C (Refunding – SSIP)*
As of June 30, 2024

Authority Description	Refunded by 2023 C Bonds
Wastewater Collection System Improvement	$28,560,056
Wastewater Central Bayside System Improvement	838,453
Wastewater Sewer System Improvement Program Biosolids-digester Project	79,103,494
Wastewater Sewer System Improvement Program Stormwater Management	3,565,452
Wastewater Flood Resilience-hydraulic	-
Wastewater Northshore to Channel Force Main	973,503
Wastewater SSIP Program-wide Management	4,042,310
Wastewater Treatment Plant Improvement	48,077,067
Wastewater Urban Watershed Assessment	5,559,665
Total	**$170,720,000**

*The 2023C Wastewater Green Bonds were issued to refund all of the outstanding 2018C Wastewater Green Bonds.

Project Impacts Aligned with the United Nations Sustainable Development Goals (SDGs)[1]

The links provided in this section are provided for convenience only and the information available on such pages is not incorporated by reference into this report.

Project Name	Project Number	UN SDGs[2]	Environmental Impact Description	California Environmental Quality Act (CEQA)
Biosolids-Digester Project				
Southeast Treatment Plant Biosolids Digester Facilities Project	CWWSIPDP01		Plan, design, and construct new digestion and solids handling processes to replace existing aged systems at the Southeast Treatment Plant, which treats 80% of wastewater flows for a population of 805,000. The new facilities include state-of-the art treatment processes producing biogas and Class A biosolids that can be reused for beneficial purposes. Additional improvements include satisfying seismic requirements and minimizing odor and visual impacts on the surrounding community.	Environmental Impact Report
Urban Watershed Assessment				
Urban Watershed Assessment and Planning Initiation	CWWSIPUW00		Evaluate and recommend alternatives that balance the use of grey versus green infrastructure for improvements to watershed surface drainage and collection system management at each of San Francisco's eight drainage basins.	N/A

Determinations that project impacts align with certain United Nations Sustainable Development Goals (SDGs) are based on criteria the SFPUC has deemed to be appropriate and may differ from criteria applied by investors.

[1] For more project information, including environmental impacts, budget, and schedule, please see Sewer System Improvement Program.
[2] Developed in consultation with SFPUC senior management and ICMA Green and Social Bonds: A High-Level Mapping to the Sustainable Development Goals; SDG impacts have not been verified by a third-party.

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Urban Watershed Assessment and Planning	CWWSIPUW01		Evaluate and recommend alternatives that balance the use of grey versus green infrastructure for improvements to watershed surface drainage and collection system management at each of San Francisco's eight drainage basins. Evaluation utilizes a comprehensive "Triple Bottom Line" tool that employs societal and environmental benefits and costs with the goal of delivering more holistic investment decisions.	N/A
Flood Resilience-hydraulic				
17th and Folsom Permanent Barriers	CWWSIPFCDB15		Install durable custom aluminum or steel barriers to mitigate flooding during large storms. The long-term improvements are expected to be implemented through the Folsom Area Stormwater Improvement project.	Categorical Exemption
Hydraulic and Drainage Sewer Improvements	CWWSIPFCDB16		Implement small stormwater capture and conveyance improvements at flood-prone neighborhoods. This includes improvement of drainage features, upsizing of sewer pipes and surface grading modifications.	Statutory Exemption
17th and Folsom Wet Weather Storage	CWWSIPFCDB07		Evaluate and recommend alternatives for interim flood mitigation to a neighborhood that is in a low-lying area that is a historic waterway that is susceptible to flooding. The long-term improvements are expected to be implemented through the Folsom Area Stormwater Improvement project.	N/A

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Wawona Area Stormwater Improvement and Vicente Street Water Main Replacement Project	CWWSIPFCDB12		Plan, design and construct improvements to stormwater conveyance in the area of 15th Avenue and Wawona Street.	Categorical Exemption
Lower Alemany Area Stormwater Improvement Project	CWWSIPFCDB13		Plan, design and construct improvements to stormwater conveyance near the Alemany Farmer's Market/Interstate 280 Highway interchange and in the Lower Alemany neighborhood.	In Progress
Flood Resilience Analysis (Planning Phase Only)	CWWSIPFCDB10		Develop a framework for identifying multiple storm scenarios; quantifying risks and cost implications associated with mitigating flooding.	N/A
Flood Resilience - Early Projects (Planning Phase Only)	CWWSIPFCDB11		Plan and develop stormwater detention and conveyance concepts to three low-lying areas (Cayuga, Wawona and Folsom neighborhoods) that are historic waterways that are susceptible to flooding.	N/A

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
SSIP Program-Wide Management				
Sewer System Improvement Program Management	CWWSIPPL01, RPL01		Program management for the Sewer System Improvement Program includes the programmatic planning work for three treatment plants, more than a thousand miles of pipes, with 80 MG on dry-weather days and 575 MGD for rainy days for a population of 805,000. This effort identifies and prioritizes the capital improvement needs of the wastewater system.	N/A
Biofuel Alternative Energy	CWWBAE01		Evaluate the feasibility and cost-effectiveness for the SFPUC to generate bioenergy (e.g. biofuel or cogenerated power) as a byproduct of processing fats, oil, grease, and/or food waste collected throughout the City of San Francisco with a population of 805,000.	N/A
Stormwater Management				
Advanced Rainfall Prediction - Part 1	CWWSIPFCRP01		Provide rainfall forecast information to SFPUC wastewater staff automatically in real-time.	Mitigated Negative Declaration
Watershed Stormwater Management (Planning Only)	CWWSIPFCGI01		Develop green infrastructure capital projects through watershed planning.	N/A

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Folsom Area Stormwater Improvement Project	CWWSIPFCDB14		Plan and design improvements to stormwater conveyance in the low-lying Inner Mission neighborhood surrounding 17th, 18th and Folsom streets.	Categorical Exemption
Richmond Green Infrastructure	CWWSIPFCDB05		Design and construct green infrastructure improvements in the Richmond drainage basin. Improvements include terraced rain gardens subsurface infiltration galleries, permeable pavement, rain garden bulbouts, a flow-through rain garden, traditional (infiltrative) rain garden bulb-outs, improved catch basins, and a traditional rain garden.	Categorical Exemption
Channel Green Infrastructure	CWWSIPFCDB08		Design and construct green infrastructure in the Channel drainage basin and along a popular bike route (the Wiggle) in San Francisco. The project is designed to mitigate runoff from the collection system.	Categorical Exemption
North Shore Green Infrastructure	CWWSIPFCDB02		Design and construct green infrastructure in the North Shore drainage basin. Improvements include routing stormwater to flow-through bioretention planters, new street surfacing and furnishing will provide improved community space for local residents and visitors.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Yosemite Green Infrastructure	CWWSIPFCDB06		Design and construct green infrastructure, including daylighting a creek and diverting flows from the sewer using swales, vegetated channels, rain gardens, piped sections and a constructed wetland, detention basin and bio-swale system. This project also provides plant establishment and/or monitoring of other green infrastructure projects.	Categorical Exemption
Sunnydale Green Infrastructure	CWWSIPFCDB04		Design and construct green infrastructure in the Sunnydale area. Improvements include creating a large terraced bioretention facility that will capture, store, and infiltrate runoff from the impervious roadway and adjacent vegetated slope area which will also provide community benefits by enhancing an adjacent community vegetable garden and a pedestrian connection to a park. Additional work includes creation of large bioretention planters to create a small urban plaza and pleasant community space.	Categorical Exemption
Lake Merced Green Infrastructure	CWWSIPFCDB03		Design and construct green infrastructure in the Lake Merced area. Improvements include installation of bioretention planters to mitigate runoff.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Cesar Chavez Green Infrastructure	CWWLID01		Design and construct green infrastructure in the Mission District of San Francisco. Improvements include installing stormwater planters, permeable paving and bioretention to mitigate runoff and divert stormwater from the collection system.	Mitigated Negative Declaration
Islais Creek Green Infrastructure	CWWLID02/ FCDB09		Evaluate and recommend the incorporation of green infrastructure into designing projects to convey stormwater flows in a 5-year, 3-hour storm. This project also creates new plazas that can serve as neighborhood gathering spaces, greening of the neighborhood and curb bulb-outs to enhance pedestrian and bicyclist safety.	Mitigated Negative Declaration
Sunset Green Infrastructure	CWWSIPFCDB01		Construct a series of tiered bioretention rain gardens in the western stretch of landscaped parcels along 12 blocks. The rain gardens will mitigate stormwater runoff, divert stormwater from the collection system, and will incorporate a “Learning Lab” to supplement elementary school curriculum.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Treatment Plant Improvement				
Land Reuse of 1800 Jerrold Avenue	CWWSIPPRPL91		Purchase of properties, with jurisdictional transfer, of a 6-acre site located adjacent to the Southeast Treatment Plant. The site is used for construction of the new Southeast Treatment Plant biosolids facilities, which treat 80% of flows for a population of 805,000.	Categorical Exemption
Land Reuse of 1801 Jerrold Avenue	CWWSIPPRPL92		Negotiate a transfer, demolish old facilities, and remediate the site based on geotechnical and environmental hazardous materials investigations. The site is used for construction of the new Southeast Treatment Plant biosolids facilities, which treat 80% of flows for a population of 805,000.	Categorical Exemption
Southeast Treatment Plant New Headworks (Grit) Replacement	CWWSIPSE02		Plan, design and construct new all-weather 250 MGD facility consisting of state-of-the-art screening, grit removal, and odor control technologies in addition to other upgrades that, among other things, improve visual aesthetics of the Southeast Treatment Plant which supports treatment of 80% of waste flows for a population of 805,000.	Mitigated Negative Declaration
Southeast Treatment Plant Oxygen Generation Plant	CWWSIPSE01		Replace aging oxygen plants with two technologically advanced 45 tons per day oxygen generation plants at the Southeast Treatment Plant.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Southeast Treatment Plant Primary and Secondary Clarifier Upgrades	CWWSIPSE04		Provide upgrade to the mechanical, structural, and electrical components of the primary and secondary clarifiers and maintain operational reliability and compliance with regulatory requirements for liquid treatment at the Southeast Treatment Plant, which is responsible for treatment of 80% of flows for a population of 805,000.	Categorical Exemption
Southeast Treatment Plant 521/522 and Disinfection Upgrades (Southeast Treatment Plant Building 521 Replacement)	CWWSIPSE05		Provide upgrades to the wastewater disinfection facility. The improvements will provide new, seismically reliable, and effluent disinfection facility at the Southeast Treatment Plant, which treats 80% of waste flows for a population of 805,000.	Categorical Exemption
Southeast Treatment Plant Seismic Reliability and Condition Assessment Improvements	CWWSIPSE08		Provide immediate seismic, conditional, and operational improvements to various facilities at the Southeast Treatment Plant, treating 80% of wastewater for population of 805,000 people.	Categorical Exemption
Southeast Treatment Plant Existing Digester Gas Handling Improvements	CWWSIPSE09		Provide upgrades to critical digester gas processing equipment at the Southeast Treatment Plant, which serves 80% of waste flows for a population of 805,000. Improvements include equipment upgrades to odor control, ventilation, and gas monitoring.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Southeast Treatment Plant Power Feed and Primary Switchgear Upgrades	CWWSIPSE10		Improve power system reliability, obtain redundant power and plan for the need for emergency power for critical processes at the Southeast Treatment Plant to ensure continued operation in the event of seismic or extreme weather-related event.	Categorical Exemption
Southeast Treatment Plant Oxygen Generation Plant 01	CWWSIPSE11		Replacement of the oxygen generation facility, which is a critical component of the treatment process for the Southeast Treatment Plant.	Categorical Exemption
Northpoint Outfall Refurbishment	CWWSIPTPNP01		Rehabilitation of the discharge point of waste stream including removal of debris, repairs to existing systems and improvements to protect against corrosive marine environment and strengthen the ability to withstand operating and hydrodynamic loads at the facility responsible for processing 150 MGD of wastewater during wet weather events.	Categorical Exemption
North Shore Pump Station Wet Weather Improvements	CWWSIPTPNP02		Provide redundant pumping capacity during wet weather. This project will improve operational reliability and maintain regulatory compliance.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Westside Pump Station Reliability Improvements	CWWSIPTPOP02		Improve reliability and redundancy to pump station serving the Oceanside Treatment Plant, which provides all-weather wastewater collection to 20% of flows for population of 805,000.	Categorical Exemption
Oceanside Treatment Plant Digester Gas Utilization Upgrade	WWSIPTPOP03		Replace and improve equipment to maintain compliance with regulatory air board requirements as well as upgrades to maximize process efficiency within the energy recovery building at the Oceanside Treatment Plant, which treats 20% of flows for population of 805,000.	Categorical Exemption
Oceanside Treatment Plant Odor Control Optimization	CWWSIPTPOP06		Upgrades to inefficiencies identified in odor control including the completion of an odor control study that may identify opportunities for reducing energy consumption while maintaining effective performance and meeting offsite odor limits.	Categorical Exemption
Oceanside Treatment Plant Condition Assessment Repairs	CWWSIPTPOP05		Address reliability of existing assets and extending the service life of buildings that must remain in operation for 30 years or more to support treatment of up to 65 MGD in wet weather.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Southeast Treatment Plant Existing Digester Roof Repairs	CWWSIPSE03		Maintain existing facilities to produce Class B biosolids until new facilities are available for service, allowing Southeast Treatment Plant to continue to operate and treat 80% of flows for a population of 805,000.	Notice of Exemption
Southeast Treatment Plant Facility-wide Distributed Control System Upgrade	CWWSIPSE07		Upgrades within the Southeast Treatment Plant to improve wastewater treatment performance and reliability as well as planning and design of upgrades to other wastewater treatment facilities to ensure system-wide consistency, impacting flows for entire population of 805,000.	N/A
Collection System Improvements				
Hudson Ave Pump Station and Outfall Improvements	CWWSIPCSPS01		Elimination of the pump station near the Southeast Treatment Plant, resulting in more reliable flow conveyance and energy savings.	N/A

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
North Shore to Channel Force Main Drainage Improvement	CWWSIPNC01		Upgrades to the force main responsible for providing conveyance of combined sewage and stormwater flows from the northeastern quadrant of San Francisco to the Southeast Treatment Plant.	Mitigated Negative Declaration
Combined Sewer Discharge Backflow Prevention and Monitoring	CWWSIPCSCD04		Develop and implement a Combined Sewer Discharge and conveyance monitoring plan to gather data on saltwater intrusion in the entire collection network. This also includes installation of backflow preventers at select locations to prevent Bay water from entering the system during extreme tides and sea level rise.	Categorical Exemption
5th, North 6th and Division Street Combined Sewer Discharge Rehabilitation	CWWSIPCSCD05		Rehabilitate Combined Sewer Discharge structures for three structures, which were selected based on their age, structural conditions, and amount of discharge and sensitivity of the receiving water body. This project also includes the installation of backflow preventers to keep Bay water from entering the system due to extreme tides and sea level rise.	Categorical Exemption
Mariposa Dry-Weather Pump Station & Force Main Improvements	CWWSIPCSPS03		Increase the dry weather capacity of a dry-weather pump station and dry-weather force main to accommodate the peak design flow rate of 5.0 MGD. This project will construct a new pump station to serve an area of growth in the City. It will be seismically resilient and adaptive to sea level rise.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Marin Street Sewer Replacement	CWWSIPCSPS05		Upsize existing sewers, from 24-inch diameter to 30-inch diameter, to handle additional dry-weather flows projected from a tributary area.	Categorical Exemption
Griffith Pump Station Improvements	CWWSIPCSPS06		Refurbish and extend service life of pump station in addition to upgrading most instrumentation and control systems, which would reduce energy use and future maintenance requirements.	Categorical Exemption
Geary Bus Rapid Transit Sewer Improvements - Phase 2	CWWSIPCSSR_N03		Plan and design for sewer relocation, rehabilitation, or replacement to allow for a Bus Rapid Transit lane to operate above existing sewer lines.	Categorical Exemption
Geary Bus Rapid Transit Sewer Improvements Phase 1	CWWSIPCSSR06		Replace approximately 1.5 miles of aging sewers and other changes to support a Bus Rapid Transit lane to improve bus service, accessibility, and pedestrian safety.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Collection System Condition Assessment	CWWSIPCSSR02		This program assesses the condition of specified sewers in the system and determines whether rehabilitation or replacement is necessary.	N/A
Beach and Sansome Street Combined Sewer Discharge Rehabilitation	CWWSIPCSCD03		Clean and conduct condition assessment of the Combined Sewer Discharge structures. Install backflow prevention devices to protect against Bay water entering the system due to extreme high tides and sea level rise.	Categorical Exemption
Rutland Sewer Improvements	CWWSIPCSSR12		Increase the hydraulic capacity of part of sewer system including replacing the existing sewer with a larger reinforced pipe, constructing a wet weather diversion structure, and increasing stormwater conveyance capacity.	Minor Project Modification
Drumm and Jackson Streets Sewer System Improvement	CWWSIPCSSR09		Rehabilitate 800 linear-feet of a box sewer and 200 linear feet of another box sewer increased the reliability of these major assets and to maximize flows to the wastewater treatment plant.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Richmond Transport Modeling	CWWSIPCSSR01		Review of two models to identify recommendations for improving the system hydraulics and odor control.	N/A
Masonic Avenue Sewer Improvements	CWWSIPCSSR10		Rehabilitate and realign approximately 4,700 linear feet of sewers, and construct new sewer mains, manholes, side sewers and catch basins to support the street improvements, which includes additions of bicycle lanes, construction of a small park and incorporation of public art elements along the corridor.	Categorical Exemption
Cargo Way Sewer Box Odor Reduction	CWWSIPCSSR11		Identify odor control opportunities in collection system including locating flow sources, potential infiltration, and inflow issues. This project will install a flushing system to alleviate odor issues in the collection system.	Categorical Exemption
Taraval Sewer Improvements	CWWSIPCSSR13		Relocate or rehabilitate approximately 19,000 linear feet of existing sewer facilities to allow for ease of future maintenance and repair/replacement without impacting municipal transit operations.	Categorical Exemption

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Kansas and Marin Streets Sewer Improvements	CWWSIPCSSR03		Increase wet-weather flow conveyance for a minor drainage basin within the Islais Creek watershed.	Categorical Exemption
Van Ness Bus Rapid Transit Sewer Improvements	CWWSIPCSSR04		Replace and relocate existing sewer utilities to allow for future sewer service maintenance and repair/replacement without impacting the new Bus Rapid Transit operations.	Environmental Impact Report
Richmond Transport/Storage Tunnel Rehabilitation	CWWSIPCSCD01		Address historical surge issues such as geysering through vent holes and dislodged manhole covers in addition to odor solutions.	N/A

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Force Main Rehab at Embarcadero and Jackson Streets	CWWSIPCSPS02		Rehabilitate or replace 240 linear feet of the North Shore Force Main that is most susceptible to failure. This project provides redundancy and reliability for conveyance of wastewater flows to the Southeast Treatment Plant.	Minor Project Modification
Better Market Street Sewer Improvements - Phase 1	CWWSIPCSSR05		Evaluate, plan and design the replacement or rehabilitation of aging sewer infrastructure beneath a portion of Market Street, a major street in San Francisco. This phase advances several key City policies: Transit First, Complete Streets, the SF Pedestrian Strategy/Walk First and the SF Bicycle Plan.	Various
Central Subway Sewer Improvements	CWWSIPCSSR07		Plan, design and construct sewer improvements in conjunction with a major public rail service project (Central Subway). Improvements help avoid conflicts with rail service construction and minimize future repair and replacement impacts.	Various
Mission Bay Loop Sewer Improvement	CWWSIPCSSR08		Relocate and/or replace existing gravity sewers and force mains in conjunction with a rail project to avoid future conflicts with light rail operations.	Various

Project Name	Project Number	UN SDGs	Environmental Impact Description	California Environmental Quality Act (CEQA)
Green Infrastructure Grant Program	N/A		The SFPUC's Green Infrastructure Grant Program is designed to encourage San Francisco property owners to design, build and maintain performance-based green infrastructure, including but not limited to: permeable pavement, rainwater harvesting, rain gardens, and vegetated roofs. The goal of this program is to reduce the amount of stormwater runoff entering SFPUC's sewer system and improve system performance while also providing co-benefits such as non-potable reuse, groundwater recharge and educational opportunities, and environmental justice.	N/A

Case Study: Taraval Sewer Improvements

Overview

The Taraval Sewer Improvement project is a multi-agency collaboration among the San Francisco Municipal Transportation Agency (SFMTA), the San Francisco Public Utilities Commission (SFPUC), and the Department of Public Works (SFPW) to improve and upgrade the Taraval Street corridor. The improvements were designed to make pedestrian crossings safer; increase accessibility; improve transit reliability; rehabilitate aging rail, water and sewer infrastructure; enhance landscaping; and replace the roadway along the L Taraval line.

Construction of the Taraval Sewer Improvement Project started in 2019. To reduce the impacts on the community, the project was split into two segments: A and B. Segment A started in 2019 and was completed on time and on budget in the summer of 2021. Segment B began in January 2022 and was completed in the fall of 2024.

Project Background

SFPUC collaborated with SFMTA on this project to relocate existing sewer facilities from the center of the street underneath the SFMTA Muni track pathway to both sides of the roadway to allow for ease of future maintenance and repair/replacement.

The scope of work included replacing and relocating existing sewer facilities so they will no longer be under SFMTA's tracks and overhead wires or trolley poles to allow for ease of future maintenance and repair/replacement without impacting SFMTA's transit operations. Most of the sewers replaced were close to 100 years old.

For Segment A, the detailed scope includes replacing approximately 3,700 linear feet of 12-inch to 33-inch diameter main sewers along Taraval Street between 37th Avenue and 46th Avenue with a twin sewer system. For Segment B, the detailed scope includes replacing approximately 13,500 linear feet of 12-inch to 36-inch diameter main sewers along Taraval Street between 15th Avenue and 37th Avenue, along 15th Avenue from Taraval Street and Ulloa Street, and along Ulloa Street between Forest Side Avenue and 15th Avenue with a twin sewer system.

Project Benefits

The sewer replacement along the corridor extends the longevity of the utility pipes as well as facilitating ease of future sewer maintenance without disrupting transit operations.

Taraval Sewer Improvements

Appendix A: State, City and SFPUC Legal, Regulatory, Policies and Programs

The links provided in this Appendix are provided for convenience only and the information available on such pages is not incorporated by reference into this report.

State of California

The State of California has enacted legislation, regulations and executive orders that put the State oncourse to achieve significant greenhouse gas reductions while also addressing the impacts of climate change. Described below are selected policies and programs related to the SFPUC's capital planning:

- Assembly Bill 32 (Nunez, 2006) and Senate Bill 32 (Pavley, 2016)
    - Landmark legislation requiring California to reduce its overall greenhouse gas emissions to 1990 levels by 2020 and 40% below 1990 levels by 2030, and appointing the California Air Resources Board to develop policies to achieve this goal.
- Assembly Bill 1482 (Gordon, 2015), Senate Bill 246 (Wiechowski, 2015), Senate Bill 379 (Jackson, 2015), Assembly Bill 2800 (Quirk, 2016), Senate Bill 1035 (Jackson, 2018); Senate Bill 30 (Lara, 2018)
    - State laws calling for preparation of state climate adaptation strategy, establishing the Office of Planning and Research's Integrated Climate Adaptation and Resiliency Program, requiring local governments to include adaptation and resiliency strategies in general plans, requiring state agencies to account for climate change when planning new infrastructure, and establishing a risk transfer/insurance working group.
- Climate Change Scoping Plan
    - California's comprehensive plan outlining the state's approach to achieving its greenhouse gas emission reduction targets, including SB 32's goal of reducing emissions 40% below 1990 levels by 2030

In August 2018, then-California State Treasurer John Chiang signed the Green Bond Pledge, making California the first state to pledge to use 'green' financing to combat climate change.

City and County of San Francisco

San Francisco has long been a leader in the fight against climate change. Between 1990 and 2019, San Francisco's carbon footprint was reduced by 41% while population increased 22% and the GDP increased 199%.

The San Francisco Climate Action Plan was first released in 2004 and San Francisco has been leading the way on local climate action and environmental justice, and launching innovative community programs and outreach campaigns for residents and businesses. Since then, the Climate Action Plan has been updated to put racial equity, environmental justice, resilience, public health, economic recovery, and a just transition to a fossil fuel-free jobs at the core of its climate action solutions. The 2021 San Francisco Climate Action Plan (Plan) is the result of a multi-year process developed by the San Francisco Department of the Environment with support and collaboration from many individuals and institutions, including the SFPUC. The Plan charts a pathway to achieve net-zero greenhouse gas emissions and works toward addressing racial and social equity, public health, economic recovery, resilience and providing safe and affordable

housing to all. The Plan aligns to the goals set forth in San Francisco's Climate Action Framework, as shown below:

San Francisco's leadership further strengthened the City's commitment to climate action in 2019 when the Board of Supervisors unanimously approved the Climate Emergency Resolution 160-19, aligning San Francisco's climate goals with the Paris Agreement by limiting global warming to 1.5 °C above pre-industrial levels.

In 2023, the San Francisco Department of the Environment collaborated with SFPUC to issue a Water Supply Addendum to the Climate Action Plan to introduce a new Water Supply chapter that focuses on how San Francisco plans to address and secure water supplies that are being impacted by multiple challenges, including climate change. Specifically, the new chapter encompasses three key strategies and 15 supporting actions for water resilience against the threat of a warming climate:

- Invest and implement demand management programs.
  - Continue to implement current conservation measure noted in the SFPUC's 2020 Retail Water Conservation Plan, and on our website at www.sfpuc.org/savewater.
  - Continue to implement current conservation measures and upcoming new measures noted in the SFPUC's 2020 Retail Water Conservation Plan.
  - Prepare updated 2025 Retail Water Conservation Plan and implement current conservation assistance measures noted in the plan.
  - Continue to implement conservation assistance measures outlined in 2025 and future-year Water Conservation Plans.

- Invest and implement innovative programs to reduce water use and develop new water supplies.
  - Continue to implement the pilot atmospheric water generation project to test the viability of the technology to produce water for irrigation in a community garden setting.
  - Continue to encourage breweries to reuse process water onsite via SFPUC's Onsite Water Refuse Grant Program.
  - Continue to encourage the integration of heat recovery in onsite water reuse systems. Explore opportunities for other pilot atmospheric water generation projects.
  - Continue to implement the Innovations Program.
  - Implement demonstration facilities for purified water.

- Invest and implement supply augmentation programs.
  - Continue to implement the San Francisco Groundwater Supply Project, which allows the SFPUC to supplement drinking water sources by blending a small amount of groundwater with water from the San Francisco Regional Water System.
  - Continue to implement San Francisco's Onsite Water Reuse Program, which requires new development projects of 100,000 gross square feet or more to install and operate an onsite water reuse system.
  - Continue planning, evaluation of technical viability, energy efficiency, and future climate scenarios.
  - Implement demonstration facilities for purified water.
  - Design and construction of alternative water supply projects.
  - Continue to operate and monitor groundwater projects for maximum benefit and sustainability.

The San Francisco Environment Department is updating the City's Climate Action Plan. The updated 2025 Plan will focus on actions through 2030, with clear metrics and reporting to track progress towards goals. The 2025 Plan will include broad strategies that City departments are using to reduce emissions, and certain actions within each strategy.

The San Francisco Mayor and Board of Supervisors have also led the initiatives described below that require the SFPUC to consider climate change and social inclusion in its capital planning:

- Local Hire Ordinance was adopted in December 2010 by the San Francisco Boardof Supervisors. The ordinance requires that local residents perform a minimum 30 of trade hours and 50% for apprenticeship hours and promotes the employment of local residents on locally sponsored projects.

- Guidance for Incorporating Sea Level Rise into Capital Planning also takes place as part of the City's Capital Planning Review process. City projects undergo a sea- level vulnerability assessment and must respond to anticipated consequences through redesign or relocation. The SFPUC actively participated in the Mayor's Sea Level Rise Coordinating Committee and Working Group to develop the Sea Level Rise Guidance. The objective is to work with other City agencies towards a more holistic, integrated and coordinated response to climate change.

San Francisco Public Utilities Commission

Overview

The SFPUC is a department of the City and County of San Francisco responsible for the maintenance, operation and development of three utility enterprises:

- **The Water Enterprise** serves more than 2.7 million people and is responsible for managing the transmission, treatment, storage, and distribution of potable water to San Francisco and 27 wholesale customer entities in San Mateo, Santa Clara and Alameda Counties.
- **The Wastewater Enterprise** operates and maintains a combined sewer system and provides wastewater and stormwater collection, treatment and disposal services to customers in San Francisco and three municipal sewer service providers in northern San Mateo County.
- **The Power Enterprise** provides hydroelectric, solar and other power to municipal customers in San Francisco and other public agencies and retail customers. The Power Enterprise also operates CleanPowerSF, a Community Choice Aggregation program that gives electricity customers in San Francisco a choice of having their electricity supplied from clean renewable sources, such as solar, wind, and geothermal, at competitive rates.

Headquartered in San Francisco, the SFPUC has approximately 2,300 employees and a combined annual operating and capital budget of over $3.5 billion.

Financial Policies

The San Francisco City Charter requires the SFPUC to exercise prudent financial stewardship of SFPUC assets by establishing "rates, fees and charges at levels sufficient to improve or maintain financial condition and bond ratings at or above levels equivalent to highly rated utilities of each enterprise under its jurisdiction, meet requirements and covenants under all bond resolutions and indentures, and provide sufficient resources for the continued financial health (including appropriate reserves), operation, maintenance and repair of each enterprise, consistent with good utility practice."

To serve the financial objectives and parameters established by the Commission, the SFPUC has established a 10-Year Financial Plan as well as Debt Management Policies and Procedures for debt financing associated with the Water, Wastewater and Power Enterprises. In addition, the SFPUC maintains a Fund Balance Reserve Policy, a Debt Service Coverage Policy, and a Capital Financing Policy. Last, the Debt Policy of The City and County of San Francisco, established by the Controller's Office of Public Finance, summarizes the City's existing debt policies and formally establishes them for all future debt. [6]

[6] For information about SFPUC's Investor Relations and Financial Reports, see: https://sfpuc.org/about-us/reports/debt-management-and-disclosure-reports

Environmental, Social, and Governance Policies and Programs

With the useful life of capital assets typically extending 30 years or more, climate mitigation and adaptation criteria are included in the SFPUC's capital planning and project selection process. Described below are SFPUC-level policies and programs that contribute to capital planning decisions informed by climate adaptation and/or mitigation and social inclusion.

The activities below have been organized into three categories: environmental, social, and governance (ESG):

Environmental

- CleanPowerSF: The SFPUC began serving customers through CleanPowerSF, a Community Choice Aggregation program, in 2016. CleanPowerSF gives residential and commercial electricity consumers in San Francisco a choice of having their electricity supplied from clean renewable sources, such as solar, wind, and geothermal, at competitive rates. CleanPowerSF is currently the largest supplier of electricity in San Francisco, serving over 380,000 accounts, approximately 58% of the total load within San Francisco. CleanPowerSF and Hetch Hetchy Power together serve approximately 75% of the load in San Francisco. In 2023, CleanPowerSF met a historic milestone of delivering 100% renewable electricity to all of its 380,000 residential and business customers two years ahead of the City's 2025 target.
- GoSolarSF: GoSolarSF is operated by the SFPUC Power Enterprise and provides rebates to help CleanPowerSF and Hetch Hetchy residential and business electric customers install solar panel systems. Together, these systems produce 23.5 megawatts of renewable solar electric power. Today, GoSolarSF continues to serve low-income customers through the Disadvantaged Communities – Single-family Solar Homes (DAC-SASH) program.
- Water Enterprise Stewardship Policy: The purpose of the Water Enterprise Environmental Stewardship Policy is to establish a long-term management policy for natural resources associated with the operation of the water system within the Tuolumne River, Alameda Creek, and Peninsula watersheds.
- Green Infrastructure: Green infrastructure projects divert stormwater from the sewer system while beautifying San Francisco's neighborhoods, providing ecological function and urban habitat, and contributing to bike and pedestrian friendly design. Green infrastructure technologies include rain gardens, permeable pavement, and rainwater harvesting systems. The SFPUC has completed 272 green infrastructure projects which collectively contributed to diverting an estimated 63 million gallons of stormwater from the sewer system annually.
- OneWaterSF: The objective of OneWaterSF is to optimize the use of finite water and energy resources with community and ecosystem needs, creating a more resilient and reliable future for the SPFUC.

Social

- Community Benefits: The SFPUC's Community Benefits Program focuses on Workforce Development, Education, Art, Environmental Justice/Land Use, Neighborhood Partnerships, and Small Business Opportunities. The SFPUC was the first utility in the nation to adopt a Community Benefits Policy and an Environmental Justice Policy with the goal of proactively providing diverse communities with opportunities in workforce and economic development, the arts, urban agriculture and education.

- Environmental Justice Policy: The SFPUC aims to prevent, mitigate, and lessen disproportionate environmental impacts of its activities on communities in all SFPUC service areas and to ensure that public benefits are shared across all communities. The SFPUC defines environmental
justice as the fair treatment of people of all races, cultures, and incomes and believes that no group of people should bear a disproportionate share of negative environmental consequences resulting from the operations, programs, and/or policies of the SFPUC.

- Social Impact Partnership Program: The SFPUC is the first public utility in the country to implement a social impact program that advances corporate social responsibility as a part of its competitive bidding process. For certain SFPUC contracts, firms responding to Request for Proposals (RFP) may voluntarily pledge Social Impact Partnership commitments to local impacted communities. If selected for the given contract, the firm will be responsible for delivering the Social Impact Partnership commitments that they proposed in their response to the RFP. To date, these commitments have supported scholarships for college students, mentorship for middle-school students, internships for youth and young adults, childcare for working parents, mentorship for small businesses, urban greening, and access to healthy food.

Governance

- SFPUC Commission: The SFPUC Commission consists of five members, nominated by the Mayor and approved by the Board of Supervisors. Their responsibility is to provide operational oversight in areas such as rates and charges for services, approval of contracts, and organizational policy. One seat on the Commission is reserved for a member with experience in environmental justice policy and an understanding of environmental justice issues.

- Boards, Commissions, and Committees: The SFPUC is proud to collaborate with various groups of community members to serve ratepayer needs in a way that is efficient, fair, affordable, and in harmony with the environment. These bodies include:
    - Citizens' Advisory Committee
    - Rate Fairness Board
    - Southeast Community Facility Commission
    - Small Firm Advisory Committee
    - Residential Users Appeal Board

- 2020 Strategic Plan: In August 2016, the SFPUC Strategic Planning Steering Committee identified Environmental Stewardship as one of six goals to guide its work through the year 2020. Within Environmental Stewardship, the 2020 Strategic Plan specifies the goal to sustainably manage the resources entrusted to its care to ensure environmental and community health. This includes the following objectives:
    - Sustainably manage natural resources and physical systems to protect impacted people, water, land, and ecosystems.
    - Develop, coordinate, and communicate a comprehensive and consistent approach to mitigate and adapt to climate change.
    - Be resource efficient in all business operations.
    - Investigate the feasibility of implementing an environmental management system.

United Nations Sustainable Development Goals

Impacts from SFPUC projects financed by Green Bonds are also aligned with several United Nations Sustainable Development Goals (SDGs). To determine project impact, the SFPUC relies on the International Capital Market Association (ICMA) "Green, Social and Sustainability Bonds: A High-Level Mapping tothe Sustainable Development Goals" (June 2020).

Appendix B: SFPUC Green Bonds Program

The links provided in this Appendix are provided for convenience only and the information available on such pages is not incorporated by reference into this report.

Since issuing its first series of green bonds in Fiscal Year 2015, the SFPUC has issued more than $4.3 billion in certified green bonds to finance Water and Wastewater capital projects and $100 million in self-designated green bonds to finance Power capital projects that advance climate change mitigation or adaptation, making the SFPUC one of the largest municipal issuers of green bondsin the United States[7]. In 2017, the SFPUC was recognized by the Climate Bonds Initiative for being the first issuer worldwide to sell bonds under CBI's water criteria. In 2018, the SFPUC became among the first signatories of the State's Green Bond Pledge. In 2019, the combined green bond programs of the City and County of San Francisco and the SFPUC were recognized as a global leader in the C40 report Cities100. Finally, the SFPUC was awarded the 2021 US Municipal Green Bond of the Year by *Environmental Finance*.

The SFPUC adheres to the International Capital Market Association's Green Bond Principles that consist of four core components:

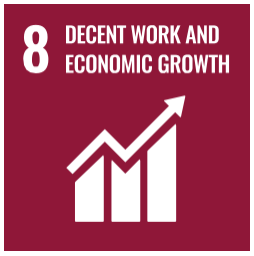
- Use of Proceeds: The SFPUC issues Green Bonds to finance projects with clear environmental benefits. Project categories include sustainable water and wastewater management, climate change adaptation and renewable energy.
- Process for Project Evaluation and Selection: San Francisco's numerous policies and programs described herein aim to ensure sustainable capital planning and project selection. Further, the SFPUC engages third-party verifiers to verify that select projects for the Water Enterprise's Water System Improvement Program (WSIP) and the Wastewater Enterprise's Sewer System Improvement Program (SSIP) meet the required criteria. As part of the certification process, the SFPUC engaged Sustainalytics to provide third-party verification that the bonds are aligned with the Climate Bonds Initiative.
- Management of Proceeds: The SFPUC records Green Bond proceeds in separate capital project funds available only to eligible projects. Non-eligible projects cannot access Green Bond proceeds.
- Reporting: The SFPUC publishes annually Green Bond Reports for the Water, Wastewater, and Power Enterprises that include project spending and management of proceeds reports for each green bond issued throughout project construction. Beginning with the Fiscal Year 2018-19 Green Bond Reports, in addition to project spending, the reports also include project impacts as well as additional information in connection with the climate and sustainability activities of the SFPUC.

[7] Source: S&P Global Ratings "Sustainability Insights | Research: U.S. Muni Sustainable Bonds: Moderate Growth In 2024" Sustainability Insights Research (spglobal.com)

Appendix C: SFPUC Climate and Social Inclusion Impacts Aligned to the United Nations Sustainable Development Goals (UN SDGs)

The links provided in this Appendix are provided for convenience only and the information available on such pages is not incorporated by reference into this report.

United Nations Sustainable Development Goal	SFPUC Program Impact
	Education: The SFPUC is committed to preparing the next generation of environmental stewards and continuing to engage with existing generations to prevent pollution and sustain our natural resources. The SFPUC believes that everyone has a role to play in maintaining the environment and is proud to empower its service area communities with the resources needed to do it.
	Small Business Opportunities: The SFPUC is dedicated to increasing the number of women working in the construction trades. The SFPUC partners with the National Association of Women in Construction and the Women's Business National Council to host the Annual Women in Construction Exposition. The SFPUC is also proud to be a member of the Tuolumne Community Collaborative, a group of more than 25 entities including education institutions, local contractors, professional services firms, and government agencies that support a pipeline of local workers in the construction industry. The Collaborative features a Pre-Apprenticeship Construction Training Program, and it recently celebrated an inaugural all-female class. Through the program, participants study construction industry best practices, experience hands-on training, learn construction safety, and receive project-specific worker certifications.
 	The Water System Improvement Program: The Water System Improvement Program (WSIP) is a $4.8 billion, multi-year capital program to upgrade the SFPUC's regional and local water systems. The program delivers capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to 2.7 million people in the greater Bay Area. The program consists of 87 projects - 35 local projects located within San Francisco and 52 regional projects, spread over seven counties from the Sierra foothills to San Francisco. The San Francisco portion is 100% complete as of June 2020. The Regional portion is approximately 99% complete. The forecasted completion date for overall program completion is June 2032. The Sewer System Improvement Program: The Sewer System Improvement Program (SSIP) is a citywide investment to upgrade San Francisco's aging sewer infrastructure to ensure a reliable, sustainable, and seismically safe sewer system now and for generations to come.

United Nations Sustainable Development Goals	SFPUC Program Impact
	Power: For 100 years, the SFPUC has been generating greenhouse gas-free hydropower as San Francisco's full-service, publicly owned electric utility. This clean Hetch Hetchy Power energizes San Francisco's schools, MUNI, streetlights, City Hall, SFO Airport, the Zoo, and other civic institutions and private facilities. In 2016, the SFPUC began serving customers through CleanPowerSF, a community choice aggregation program, giving consumers the option to have their electricity supplied from clean renewable sources like wind and solar to the electric grid. Today, CleanPowerSF powers more than 380,000 San Francisco residents and businesses.
	Workforce Development: As one of the City's largest employers, the SFPUC is fostering a skilled and diverse local workforce that manages water, power and sewer operations and is connected to the local community. SFPUC'sworkforce development programs connect local youth and adults with learning, apprenticeship, job training, employment, and business opportunities. These programs support a strong, inclusive, local economy and a skilled, diverse, local workforce for today and tomorrow. Social Impact Partnership Program: The SFPUC views its capital projects as investments — in the future of its facilities, services, and its communities. As the SFPUC upgrades its systems and operations, private sector partners join the SFPUC in being a good neighbor to the communities affected by the operation and improvement of water, wastewater, and power services. By including community benefits criteria in SFPUC's Requests for Proposals (RFP) with anticipated contracts of $5 million or more, SFPUC provides its contracting community with an opportunity to earn extra points during the bidding process for their demonstrated commitmentto community benefits and environmental justice. Social Impact Partners— professional services and construction firms in fields such as engineering, architecture, resource management and technology— provide resources and opportunities in the communities where SFPUC operates and provides services. These commitments include direct financial contributions, volunteer, and in-kind donations to local schools and nonprofits.
	The Water System Improvement Program: The Water System Improvement Program (WSIP) is a $4.8 billion dollar, multi-year capital program to upgrade the SFPUC s regional and local water systems. The program delivers capital improvements that enhance the SFPUC s ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to 2.7 million people in the greater Bay Area. The program consists of 87 projects - 35 local projects located within San Francisco and 52 regional projects, spread over seven counties from the Sierra foothills to San Francisco. The San Francisco portion is 100% complete as of June 2020. The Regional portion is approximately 99% complete. The forecasted completion date for overall program completion is June 2032. The Sewer System Improvement Program: The Sewer System Improvement Program (SSIP) is a citywide investment to upgrade San Francisco's aging sewer infrastructure to ensure a reliable, sustainable, and seismically safe sewer systemnow and for generations to come.

United Nations Sustainable Development Goals	SFPUC Program Impact
	Environmental Justice and Land Use: The SFPUC works hard every day to provide fundamental environmental benefits through water, power and sewer services. The SFPUC recognizes there are challenges to providing these services as some parts of our community face a greater burden than others due to the location of facilitiesin their neighborhoods. SFPUC works with these communities to understand their needs and lessen the effects caused by operations. The SFPUC is proud to be the first public utility in the nation to develop an Environmental Justice Policy which guides efforts to support environmentally healthy and safe communities where we live, work, learn and play. As part of its mission, the SFPUC also maintains and preserves more than 590,000 acres of land to protect our natural resources and critical infrastructure. The SFPUC often has the opportunity to use land for more than one purpose and when possible, the SFPUC partners with local leaders to support innovative uses which benefit the environment and enhance the quality of life for the SFPUC's service area residents. Grants: From Tuolumne County, to San Francisco, to the Peninsula, the SFPUC is especially committed to providing opportunities in the neighborhoods most impacted by its water, power and sewer operations. As SFPUC upgrades its facilities and completes capital projects, it ensures these efforts support public health, jobs, learning and education opportunities in these communities. SFPUC is proud of leveraging the work done every day to create spaces and programs that help to make these neighborhoods a better place to live,work and play.
	Power: For 100 years, the San Francisco Public Utilities Commission (SFPUC) has been generating greenhouse gas-free hydropower as San Francisco's full-service, publiclyowned electric utility. This clean Hetch Hetchy Power energizes San Francisco schools, MUNI, streetlights, City Hall, SFO Airport, the Zoo, and other civic institutions and private facilities. In 2016, the City launched CleanPowerSF, a community choice aggregation program, to introduce even more renewable energy from sources like wind and solar to the electric grid. Today, CleanPowerSF powers more than 380,000 San Francisco residents and businesses. The Water System Improvement Program: The Water System Improvement Program (WSIP) is a $4.8 billion, multi-year capital program to upgrade the SFPUC's regional and local water systems. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water in an environmentally sustainable manner to 2.7 million people in the greater Bay Area. The program consists of 87 projects - 35 local projects located within San Francisco and 52 regional projects, spread over seven countiesfrom the Sierra foothills to San Francisco. The San Francisco portion is 100% complete as of June 2020. The Regional portion is approximately 99% complete. The forecasted completion date for overall program completion is June 2032. The Sewer System Improvement Program: The Sewer System Improvement Program (SSIP) is a citywide investment to upgrade our aging sewer infrastructure to ensure a reliable, sustainable and seismically safe sewer system now and for generations to come.