

# GREEN BOND REPORT 2021-22



# Table of Contents

## 1) Introduction

## 2) Power Enterprise Green Bond Impact Report

- a) Green Bond Proceeds
- b) Project Environmental Impacts Aligned with United Nations Sustainable Development Goals
- c) Case Study: Bay Corridor Project

**Appendix A:** State, City and SFPUC Regulations, Policies, Programs

**Appendix B:** SFPUC Green Bond Program

**Appendix C:** SFPUC Climate and Social Inclusion Impacts Aligned to the United Nations Sustainable Development Goals

**Appendix D:** Green Bond Verification Report



Kirkwood Powerhouse and Penstock

## Introduction

The San Francisco Public Utilities Commission (SFPUC) is a department of the City and County of San Francisco. 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 operates within the City of San Francisco and operates in seven counties. Located in the State of California, the SFPUC is governed by State and local laws and regulations, as well as policies and programs within the SFPUC, created to achieve additional climate and social inclusion goals. Our agency was the first utility in the nation to pass Environmental Justice and Community Benefits policies that ensure we proactively provide 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 green bond in 2015 through Fiscal Year 2022, the SFPUC has sold more than \$3.1 billion in certified green bonds from its Water and Wastewater enterprises and more than \$100 million in self-certified green bonds from its Power enterprise. Impacts from the projects financed by bonds range from increased water storage, application of green infrastructure to manage stormwater, to upgrades to renewable energy generation facilities.

In addition to providing project impact information, this report seeks to highlight associated project co-benefits and describe the context in which climate and social inclusion informs the SFPUC's capital planning decisions. This report reflects activities through June 30, 2022.



Moccasin Dam

The publication of this report does not constitute and should not be interpreted to imply any representation (i) that the information in the report is material to investors or potential investors in revenue bonds or notes issued by the SFPUC (Bonds), (ii) regarding any other financial, operating or other information about the SFPUC or the Bonds or (iii) that no other circumstances or events have occurred or that no other information exists concerning the SFPUC, the Bonds, or other information, or any bearing on an investor's decision to buy, sell or hold Bonds.

This notice does not constitute an offer to sell or the solicitation of an offer to buy any Bonds. Any such offer or solicitation will only be made pursuant to an official statement that prospective investors should review in its entirety before making any investment decision.

By publishing this report, the SFPUC does not undertake to make any filings not otherwise required by its undertakings in connection with Securities and Exchange Commission Rule 15c2-12. The SFPUC disclaims any obligation to update this report.

#### **GREEN BOND DESIGNATION AND CERTIFICATION**

The SFPUC designates its Revenue Bonds as "Green Bonds" where proceeds are used to finance or refinance environmentally beneficial projects. Such designations are based upon criteria applied by the SFPUC. Investors' criteria for determining whether Bonds are financing or refinancing environmentally beneficial projects and/or are appropriately designated as "Green Bonds" may differ from the criteria applied by the SFPUC.

## Power Enterprise Green Bond Impact Report

On May 20, the SFPUC issued Power Revenue Bonds, Series 2015 A (Green Bonds) which generated \$30,200,000 in project fund proceeds. This was SFPUC first Green Bonds issuance. On December 21, 2021, the SFPUC issued its second Power Revenue Bonds, Series 2021 A, which generated \$82,709,608 in project fund proceeds. The purpose of designating the bonds as Green Bonds was to communicate to investors the environmentally beneficial projects as outlined in the Power Revenue Bonds Official statement. Proceeds funded the following project areas:

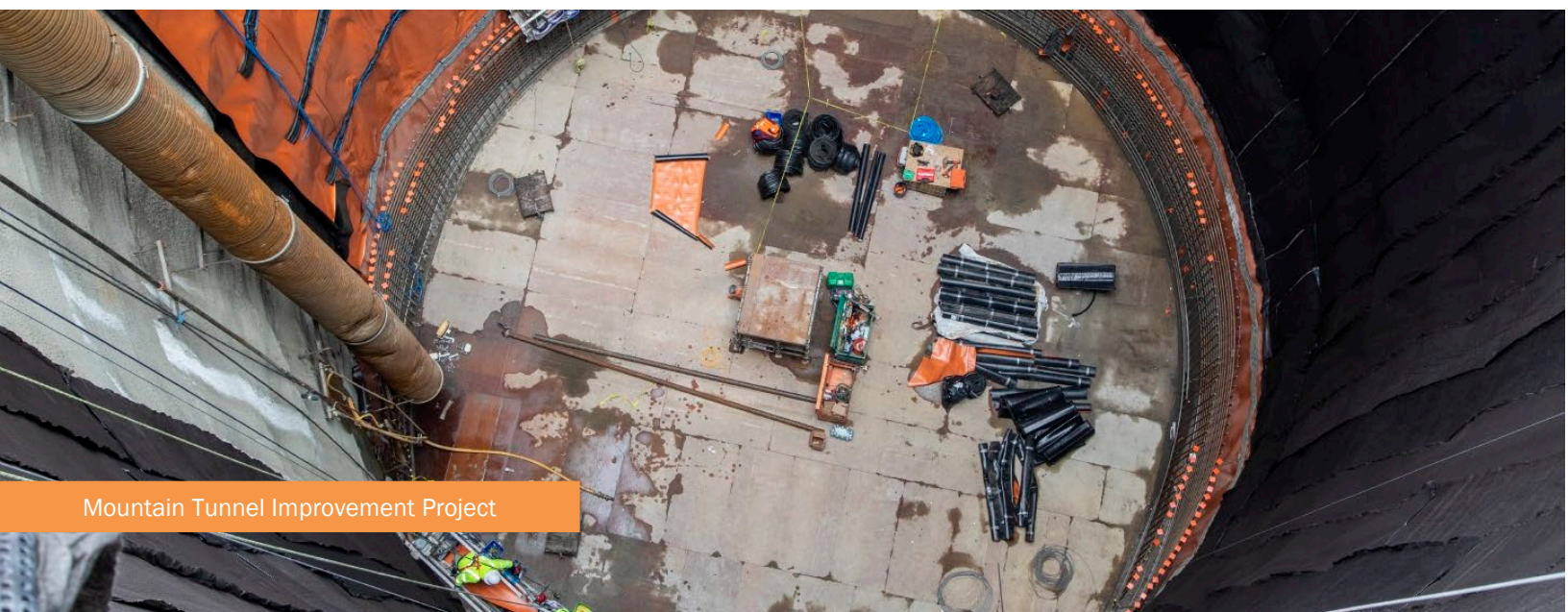
- Hetch Hetchy Project hydroelectric generation facilities
- Other renewable energy projects, such solar and wind
- Energy conservation projects, such as energy-efficient streetlights.

The reconstruction or replacement projects funded by the Power Revenue Green Bonds are all generation and other projects that support hydroelectric facilities of the Hetch Hetchy Project, which produces greenhouse gas free electricity. The largest project funded by these green bonds is the Bay Corridor Project, which is a construction of an SFPUC substation taking transmission level voltage from PG&E at the Potrero substation and transforming that voltage to distribution level voltage and the construction of a distribution system to provide power to Power Enterprise customers. The SFPUC engaged Sustainalytics to review a partial reallocation of green bond proceeds to include additional eligible projects (see Appendix D: Green Bond Verification Report).

### ***Green Bond Spending Details***

The proceeds from the green bond issuances are separately tracked and allocated to designated eligible projects. In the indentures pursuant to which Bonds have been issued, the SFPUC has reserved the right to reallocate the use of the proceeds of Bonds among various projects. A reduction in the allocation Green 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 Green Bond proceeds allocated to a particular project does not necessarily reflect the total cost of such project. Spending by bond and eligible project is detailed below.

- Power Revenue Bonds Series 2015 A (Green Bonds)
- Power Revenue Bonds Series 2021 A (Green Bonds)



## Green Bond Proceeds

### Power Bond Series 2015A As of June 30, 2022

| Project Description   | Estimated Use      | Prior Year Spending | FY 21-22 Spending  |
|---|--------------------|---------------------|--------------------|
| Other Powerhouse Projects<br>- Holm Unit 2                                  | \$32,414           | \$12,928,747        | \$-                |
| Oil Containment Upgrades<br>for Holm & Kirkwood<br>Hydroelectric Facilities | 2,667,250          | 812,147             | -                  |
| Kirkwood Penstock<br>Rehabilitation   | 2,465,798          | 1,789,614           | 789,360            |
| Hydroelectric Powerhouse<br>Controls Upgrade                                | 11,332,750         | 32,414              | 964,827            |
| Moccasin Penstock<br>Rehabilitation   | 812,147            | 2,231,035           | 126,740            |
| Mountain Tunnel<br>Hydroelectric Conveyance                                 | 13,394,890         | 10,846,762          | 347,595            |
| <b>Total</b>  | <b>30,200,000*</b> | <b>\$28,640,719</b> | <b>\$2,228,522</b> |







\*Budget in excess of project fund deposit to come from other funding sources

\*\* Total Expenditures in excess of Green Bond proceeds come from other funding sources

**Power Bond Series 2021A  
As of June 30, 2022**

| <b>Project Description</b>               | <b>Estimated Use</b> | <b>Prior Year Spending</b> | <b>FY 21-22 Spending</b> |
|--|----------------------|----------------------------|--------------------------|
| Other Powerhouse Projects                | \$4,113,147          | \$-                        | \$4,112,006              |
| Moccasin Powerhouse & GSU Rehabilitation | 5,658,704            | -                          | 5,461,024                |
| Warnerville Substation Rehabilitation    | 15,404,702           | -                          | 15,404,702               |
| Oshaughnessy Dam Outlet Works            | 706,234              | -                          | 706,236                  |
| Moccasin Facilities New Construction     | 7,419,679            | -                          | 7,419,679                |
| Cherry Dam Outlet Works Rehabilitation   | 1,436,222            | -                          | 1,436,222                |
| Bay Corridor Project                     | 43,406,285           | -                          | 43,406,285               |
| UH O'Shaughnessy Dam Access & Drainage   | 531,902              | -                          | 527,205                  |
| O'Shaughnessy Dam Outlet Works Phase 1   | 542,982              | -                          | 541,121                  |
| 2018 Mocc Storm - Power Project          | 1,122,017            | -                          | 1,121,806                |
| SFO Substation                           | 578,597              | -                          | 578,597                  |
| R&R Powerhouses                          | 699,324              | -                          | 697,285                  |
| R&R Priest Reservoir Landslide           | 269,155              | -                          | 268,179                  |
| <b>Total</b>                             | <b>\$81,888,950</b>  | <b>\$-</b>                 | <b>\$81,680,346</b>      |





## Project Environmental Impacts Aligned with United Nations Sustainable Development Goals<sup>1</sup>

| Project Name                              | Project Number | United Nations Sustainable Development Goals   | Environmental Impact Description  | California Environmental Quality Act (CEQA) |
|---|----------------|--|---|---|
| Hydroelectric Powerhouse Controls Upgrade | 10014086       |       | <p>This project will improve the reliability and efficiency of a 110 megawatt hydroelectric plant which provides about 430 gigawatt hours of energy per year. This project will overhaul a two-unit hydroelectric plant, upgrading the electrical motors, and the supporting components and auxiliary systems of the hydroelectric plant with new technology. The expected annual generation following the project is 460 gigawatt hours of energy per year, an increase of about 30 gigawatt hours or 7 percent. Water that flows through this hydroelectric plant serves 2.7 million water customers in the Bay Area.</p> | <a href="#">Categorical Exemption</a>       |
| Kirkwood Penstock Rehabilitation          | 10014085       |    | <p>Kirkwood Penstock is a water conveyance system that provides a dual purpose; water conveyance for a 123 megawatt hydroelectric plant, and a water supply conveyance for 2.7 million customers in the Bay Area. This project will improve the reliability of the water conveyance system by monitoring natural ground movement and provide for replacement parts to reduce return-to-service times in the event of failure.</p>   | <a href="#">Categorical Exemption</a>       |

Determinations made by the SFPUC that the impacts of a project are aligned with particular United Nations Sustainable Development Goals (SDG's) have been based upon criteria deemed by the SFPUC to be appropriate. Investors' criteria for determining whether the impacts of a project are aligned with particular SDG's may differ from the criteria applied by the SFPUC and investors' application of particular criteria may differ from the application applied by the SFPUC.

<sup>1</sup> Developed in consultation with SFPUC senior management and [ICMA Green, Social and Sustainability Bonds: A High-Level Mapping to the Sustainable Development Goals](#). SDG impacts have not been verified by a third-party.



| Project Name  | Project Number       | United Nations Sustainable Development Goals  | Environmental Impact Description  | California Environmental Quality Act (CEQA)           |
|---|----------------------|---|---|---|
| Moccasin Penstock Rehabilitation                                      | 10014088             |    | <p>Moccasin Penstock is a water conveyance system that provides a dual purpose; water conveyance for a 110 megawatt hydroelectric plant, and a watersupply conveyance for 2.7 million customers in theBay Area. This project will improve the reliability of a nearly 100 year old pipe, replacing sections of pipe that are likely to fail.</p>  | <p><a href="#">Categorical Exemption</a></p>          |
| Mountain Tunnel Hydroelectric Conveyance                              | 10014113<br>10014114 |    | <p>Mountain Tunnel is a water conveyance system that provides a dual purpose; water conveyance for a 110 megawatt hydroelectric plant, and a watersupply conveyance for 2.7 million customers in theBay Area. This project will improve the reliability of the tunnel. The hydroelectric plant fed by MountainTunnel produces about 430 gigawatt hours of energy per year.</p>  | <p><a href="#">Mitigated Negative Declaration</a></p> |
| Oil Containment Upgrades for Holm & Kirkwood Hydroelectric Facilities | 10014078             |    | <p>This project will upgrade the water treatment system at two hydroelectric plants to ensure storm water and process water releases are in compliance with the California State Water Quality Standards.</p>   | <p><a href="#">Categorical Exemption</a></p>          |
| Other Powerhouse Projects - Holm Unit 2                               | 10014075             |  | <p>This project will improve the reliability and efficiency of a 93 megawatt hydroelectric unit which provides about 360 gigawatt hours of energy per year. This project replaces supporting components and auxiliary systems of the hydroelectric plant with new, more efficient technology. The expected annual generation following the project is 370 gigawatt hours of energy per year, an increase of about 10 gigawatt hours or 3 percent.</p> | <p><a href="#">Categorical Exemption</a></p>          |

# Case Study: Bay Corridor Transmission and Distribution

## Overview

*Building a high voltage transmission and distribution system in the Southeast portion of the City. Intended to serve existing and future customers with large power needs.*

The San Francisco Public Utilities Commission Power Enterprise is building a high voltage transmission and distribution system in the Southeast portion of the City. It is intended to serve existing and future customers with large power needs. There are three portions currently in design and construction. The contracts are Design-Build (DB) in which SFPUC staff create the fundamental design and the contractor completes the design and builds the project. Construction began Fall 2020.

- Terry Francois Boulevard and Illinois Street Water and Power System Improvements – Warriors Way to Mission Rock Street – extends the underground electrical duct banks and vaults south along Illinois Street from 23rd Street to the northern limits of the existing Islais Creek, as well as north along Terry A. Francois Boulevard to Mission Rock Street. In addition, the SFPUC is building an extension of the Auxiliary Water Service System (AWSS) a high-pressure pipeline for firefighting along Terry Francois Boulevard between Warriors Way and Mission Rock Street.
- Illinois & Marin Streets to Davidson Avenue – Power System Improvements – extends the underground electrical duct banks and vaults south of the existing Islais Creek, along parts of 3rd Street, Arthur Avenue, Cargo Way, Davidson Avenue, Evans Avenue, Quint Street and Rankin Street.
- Davidson Avenue – Power Distribution System – builds a new electrical substation at 1535 Davidson Avenue.



Bay Corridor Transmission and Distribution

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

### ***State of California***

The State of California has enacted legislation, regulations and executive orders that put the State on course to achieve significant greenhouse gas reductions while also addressing the impacts of climate change. The [California Climate Policy Dashboard](#) is a project from the Center for Law, Energy & the Environment at the University of California at Berkeley. It seeks to provide a concise, easy-to-use overview of some of the major California climate laws and programs and introduce readers to some of the state regulators responsible for implementing them. 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 of 2018, 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 [2021 San Francisco Climate Action 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 San Francisco's Climate Action Framework:

# SAN FRANCISCO'S CLIMATE ACTION FRAMEWORK

Net-Zero Emissions Citywide By 2040  
Racial, Social & Economic Equity

## SECTORS



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 the San Francisco's climate goals with the Paris Agreement by limiting global warming to 1.5 °C above pre-industrial levels.

In addition to the activities described above, the Mayor and Board of Supervisors have led the initiatives described below that require SFPUC capital planning to include climate and social inclusion:

- [Local Hire Ordinance](#) was adopted in December of 2010 by the San Francisco Board of Supervisors. The ordinance requires that local residents perform a minimum 30 of trade hours and 50% for apprenticeship hours and is one of the strongest pieces of legislation in the country to promote the employment of local residents on locally sponsored projects.
- [Guidance for Incorporating Sea Level Rise into Capital Planning](#) also now takes place as part of the City's Capital Planning Review process. City projects now undergo a sea-level vulnerability assessment and must respond to anticipated consequences through redesign or relocation. SFPUC staff 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 provides retail drinking water and wastewater services to the City of San Francisco, wholesale water to three Bay Area counties (Alameda, San Mateo, and Santa Clara), and green hydroelectric and solar power to municipal departments and retail electric customers. Headquartered in San Francisco, the SFPUC has approximately 2,300 employees working in seven counties and has a combined annual operating and capital budget of over \$2 billion. The SFPUC is comprised 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 the City of San Francisco and 27 water agencies in three Bay Area counties - San Mateo, Santa Clara and Alameda.
- **The Wastewater Enterprise** serves San Francisco residents and operates three treatment plants that treat sewage and stormwater as well as maintaining nearly 1,000 miles of combined sewer and stormwater pipelines.
- **The Power Enterprise** provides green hydroelectric power to municipal customers in San Francisco. The Power Enterprise also operates CleanPowerSF, a program that enables the City to purchase cleaner power on behalf of local residents and support local jobs, stable energy prices and clean energy infrastructure.

### ***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.<sup>2</sup>

### ***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.

<sup>2</sup> For information about SFPUC's Investor Relations and Financial Reports, see: <https://sfpuc.org/about-us/reports/debt-management-and-disclosure-reports>

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

### Environmental

- [CleanPowerSF](#): CleanPowerSF is San Francisco's Community Choice Aggregation program. Operated by the SFPUC Power Enterprise, CleanPowerSF is a not-for-profit retail electric service program that began serving customers in 2016 with a mission to provide San Francisco electricity customers with the choice of having their electricity supplied from clean, renewable sources at a competitive price. CleanPowerSF is now serving over 383,000 San Francisco customers with 93% renewable energy and through the Hetch Hetchy Power and CleanPowerSF programs, the SFPUC provides more than 70% of the electricity consumed in San Francisco with renewable energy.
- [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 diverts 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 SFPUC.

### 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 is the first utility in the nation to adopt a [Community Benefits Policy](#).
- [Environmental Justice Policy](#): The SFPUC affirms and commits to the goals of environmental justice 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. If awarded a contract, pre-identified "Community Benefit Commitments" become a binding contract term that must be delivered at no cost to the City. 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. Seat 1 of the commission is reserved for a member with experience in environmental justice policy and an understanding of environmental justice issues.
- [Citizens' Advisory Committee](#): The Citizens' Advisory Committee (CAC) provides recommendations to the General Manager of the SFPUC, the Commission itself and the San Francisco Board of Supervisors regarding the agency's long-term strategic, financial and capital improvement plans. Comprised of 17 appointees, the CAC includes a member appointed by the mayor who represents a regional or statewide environmental organization and a member appointed by the President of the Board of Supervisors who represents an environmental justice organization.
- [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**

With increased interest in the United Nations Sustainable Development Goals (SDGs) among investors and other stakeholders, impacts from SFPUC projects financed by Green Bonds are also aligned with several (SDGs). To determine project impact, the SFPUC relied on the International Capital Market Association (ICMA) "Green, Social and Sustainability Bonds: A High-Level Mapping to the Sustainable Development Goals" (June 2020).



## Appendix B: SFPUC Green Bonds Program

Since 2015, the SFPUC has issued more than \$3 billion in green bonds to finance Water, Wastewater, and Power capital projects that advance climate change mitigation or adaptation, making the SFPUC one of the largest municipal issuers of green bonds in the United States. In 2017, the SFPUC was recognized by the Climate Bonds Initiative at its annual conference for being the first issuer worldwide to sell bonds under its water criteria. In 2018, the SFPUC became among the first signatories of the Green Bond Pledge. In 2019, the combined green bond programs of the City 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.

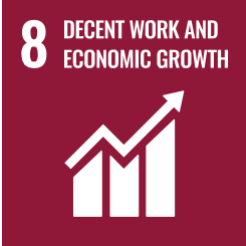









The SFPUC adheres to the International Capital Market Association's Green Bond Principles that consist of four core components:

- **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 ensure sustainable capital planning and project selection. Further, the SFPUC engages third-party verifiers to validate selected projects 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 proceeds generated from green bonds.
- **Reporting:** The SFPUC publishes annually a project spending and management of proceeds report for each green bond issued throughout project construction. Beginning with the FY 2018-19 reports, in addition to project spending, the reports will also include project impacts as well as additional information in connection with the climate and sustainability activities of the SFPUC.

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

| United Nations Sustainable Development Goal   | SFPUC Program Impact  |
|---|---|
|  <p><b>4</b> QUALITY EDUCATION</p>             | <p><u>Education</u>: 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.</p>   |
|  <p><b>5</b> GENDER EQUALITY</p>              | <p><u>Small Business Opportunities</u>: The SFPUC is dedicated to increasing women 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, 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.</p> |
|  <p><b>6</b> CLEAN WATER AND SANITATION</p>  | <p><u>The Water System Improvement Program</u>: 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 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 counties from the Sierra foothills to San Francisco.</p>  |
|  <p><b>14</b> LIFE BELOW WATER</p>           | <p><u>The Sewer System Improvement Program</u>: The Sewer System Improvement Program (SSIP) is a 20-year citywide investment to upgrade our aging sewer infrastructure to ensure a reliable, sustainable, and seismically safe sewer system now and for generations to come.</p>  |
|  <p><b>7</b> AFFORDABLE AND CLEAN ENERGY</p> | <p><u>Power</u>: For 100 years, the San Francisco Public Utilities Commission (SFPUC) has been generating greenhouse gas-free hydropower as Our City's full-service, publicly owned electric utility. This clean Hetch Hetchy Power energizes our schools, MUNI, streetlights, City Hall, SFO Airport, the Zoo, and other civic institutions and private facilities. In 2016, Our 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 385,000 San Francisco residents and businesses.</p>   |

| <b>United Nations Sustainable Development Goals</b>   | <b>SFPUC Program Impact</b>   |
|---|---|
|  <p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p>           | <p><u><a href="#">Workforce Development</a></u>: 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 communities we all call home. SFPUC's workforce 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.</p> <p><u><a href="#">Social Impact Partnership Program</a></u>: 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 our 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 commitment to 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.</p> |
|  <p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> | <p><u><a href="#">The Water System Improvement Program</a></u>: 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 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 counties from the Sierra foothills to San Francisco.</p> <p><u><a href="#">The Sewer System Improvement Program</a></u>: The Sewer System Improvement Program (SSIP) is a 20-year citywide investment to upgrade our aging sewer infrastructure to ensure a reliable, sustainable and seismically safe sewer system now and for generations to come.</p>  |
|  <p><b>10</b> REDUCED INEQUALITIES</p>                   | <p><u><a href="#">Environmental Justice and Land Use</a></u>: 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 facilities in 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.</p>  |

| <b>United Nations Sustainable Development Goals</b>  | <b>SFPUC Program Impact</b>   |
|--|---|
|  <p><b>10</b> REDUCED INEQUALITIES</p>  | <p><u>Grants</u>: 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 executes the Agency's 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.</p>   |
|  <p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p>  <p><b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  <p><b>13</b> CLIMATE ACTION</p>  <p><b>15</b> LIFE ON LAND</p> | <p><u>Power</u>: For 100 years, the San Francisco Public Utilities Commission (SFPUC) has been generating greenhouse gas-free hydropower as Our City's full-service, publicly owned electric utility. This clean Hetch Hetchy Power energizes our schools, MUNI, street lights, City Hall, SFO Airport, the Zoo, and other civic institutions and private facilities. In 2016, Our 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 385,000 San Francisco residents and businesses.</p> <p><u>The Water System Improvement Program</u>: 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 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 counties from the Sierra foothills to San Francisco.</p> <p><u>The Sewer System Improvement Program</u>: The Sewer System Improvement Program (SSIP) is a 20-year citywide investment to upgrade our aging sewer infrastructure to ensure a reliable, sustainable and seismically safe sewer system now and for generations to come.</p> |

# REVIEW OF SFPUC'S GREEN BOND REALLOCATION OF FUNDS

May 10<sup>th</sup>, 2016

San Francisco Public Utilities Commission (SFPUC) has engaged Sustainalytics to review the reallocation of its Series A Power Revenue Bonds (Green Bonds) funds from the rewind of hydropower generators at the Moccasin Powerhouse to the Mountain Tunnel Rehabilitation Project and Penstock<sup>1</sup> Rehabilitation Projects.

## Background

In 2015, SFPUC issued its Series A Power Revenue Bonds (Green Bonds) with proceeds amounting to 32,025,000 USD. The purpose of designating the bonds as Green Bonds was to enable investors to invest in “environmentally beneficial projects”, also referred to as “Green Projects”, as outlined in the Power Revenue Bonds Official Statement (“Official Statement 2015”).<sup>2</sup> Such projects include:

- i) Hetch Hetchy Project hydroelectric generation facilities;
- ii) Other renewable energy projects, such as biomass and biowaste, solar and wind, and;
- iii) Energy conservation projects such as energy efficient streetlights.

The reconstruction or replacement projects expected to be funded by the 2015 Series A Bonds all involve generation components of the hydroelectric facilities of the Hetch Hetchy Project which produces greenhouse gas-free electricity. The majority of these funds were earmarked for a project to rewind generators at the Moccasin Powerhouse, part of the Hetch Hetchy Project. The Hetch Hetchy Project is composed of three hydroelectric powerhouses: the Moccasin Powerhouse, which includes a small, in-line hydroelectric unit, the Kirkwood Powerhouse and the Holm Powerhouse. The Moccasin Powerhouse relies on gravity-driven water flowing downhill from the Hetch Hetchy reservoir via Mountain Tunnel and the Moccasin Penstocks. The Kirkwood Powerhouse relies on the Kirkwood Penstock immediately preceding the powerhouse that conveys water to its hydropower generation facilities (see map Appendix A).

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<sup>1</sup> Penstocks are conveyance pipes which transport water to powerhouses in SFPUC's Hetch Hetchy Project.

<sup>2</sup> Power Revenue Bonds Official Statement 2015.

### **Reallocation of Use of Proceeds Funds**

In 2016, SFPUC determined that Mountain Tunnel was in need of urgent, critical repair and should thus be prioritized over the reconstruction or replacement of powerhouse generators in order to ensure the continued supply of water and electricity to SFPUC's customers. The SFPUC further determined that the penstocks are likewise in need of immediate repair and therefore is planning to reallocate Green Bond proceeds from generator repair to the Mountain Tunnel Rehabilitation Project and the Penstock Rehabilitation Projects.

### **Environmental Impact of Mountain Tunnel and Penstocks Rehabilitation Projects**

Through consultation with Sustainalytics and through the provision of supporting documents, SFPUC confirmed that Mountain Tunnel and Penstocks Rehabilitation projects have undergone a Categorical Exemption Analysis, which demonstrated that the project would not result in adverse environmental effects. The Planning Department of the City of San Francisco determined that this project is categorically exempt under the California Environmental Quality Act (CEQA) Section 15301, Class 1 (Existing Facilities). Class 1 includes minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use. Projects would be conducted in compliance with applicable federal, State, and local regulations and under contractual provisions prohibiting work in violation of applicable regulations and plans.

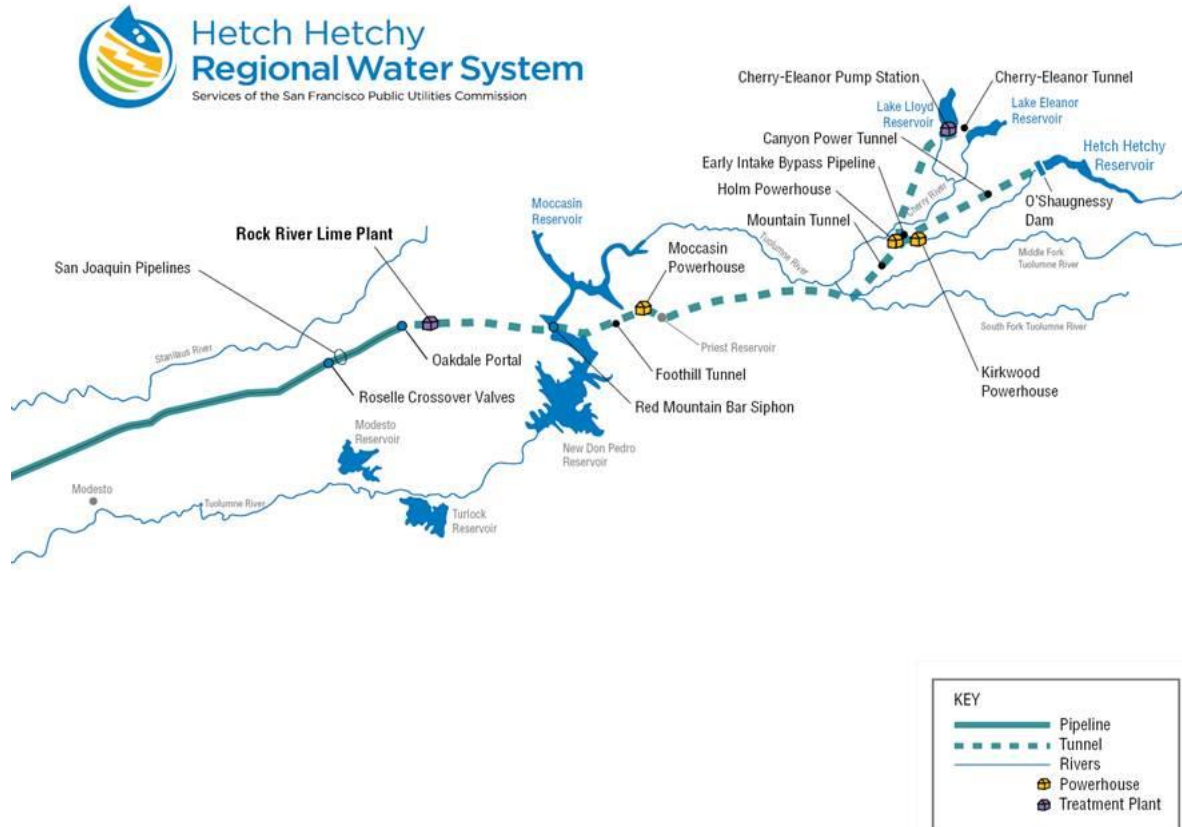
The outcome of this assessment is as follows:

- Mountain Tunnel and Penstocks Rehabilitation projects are considered to be a vital component to the overall function of the Hetch Hetchy Power System;
- Sustainalytics reviewed the relevant project documents and had conversations with relevant SFPUC team members to confirm the low environmental impact of the Mountain Tunnel project;
- The reallocation of Green Bond proceeds to the Mountain Tunnel and Penstock Rehabilitation Projects, from generator repair, helps to achieve the same objective of enabling the Hetch Hetchy Power system to continue to produce renewable energy, free of GHG emissions;
- It is reasonable to conclude that the Mountain Tunnel and Penstock Rehabilitation Projects are in line with the description of "Green Projects" in the Official Statement and that proceeds can therefore be allocated to its rehabilitation.

**Conclusion:** Based on our assessment of SFPUC's description of "Green Projects" in its Official Statement 2015, and on a review of the environmental impacts of both the Mountain Tunnel and the Penstock Rehabilitation Projects, Sustainalytics has concluded that the reallocation of Green Bond proceeds from their originally planned use to the Mountain Tunnel Rehabilitation Project and the Penstock Rehabilitation Projects are in line with the intended impact of the Series A Power Revenue Bonds and will enable investors to fund environmentally beneficial projects.

It should be noted that the Green Bond Principles 2015 state that "the cornerstone of a Green Bond is the utilization of the proceeds of the bond which should be appropriately described in the legal documentation for the security". Full alignment with the Green Bond Principles 2015 would mean allocating proceeds to projects in the categories explicitly described in the Official Statement 2015. Nonetheless, the reallocation is, as stated above, in line with the intended impact of the use of proceeds.

## Appendix 1: Map of Hetch Hetchy Regional Water System





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