

Funding SAN FRANCISCO *Climate Action*

Strategies for Revenue, Implementation,
and Equity

NOVEMBER 2022
Policy Report





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ABOUT THIS REPORT

The Center for Law, Energy & the Environment (CLEE) prepared this report for the San Francisco Department of the Environment as part of an initiative to develop an equitable revenue generation and implementation strategy for San Francisco's 2021 Climate Action Plan. As part of this initiative, CLEE conducted over fifty expert interviews and two stakeholder convenings with leaders across climate and municipal finance, green infrastructure and resilience investment, environmental justice, community development, San Francisco City departments, and other groups key to equitable climate action in the city and throughout California. This report is the result of that outreach and CLEE's own research and analysis. The recommendations in this report—the first steps in a broader public engagement and refinement process—are intended to guide City leaders as they implement the Climate Action Plan.

ABOUT THE CENTER FOR LAW, ENERGY & THE ENVIRONMENT

The Center for Law, Energy & the Environment (CLEE) channels the expertise and creativity of the Berkeley Law community into pragmatic policy solutions to environmental and energy challenges. CLEE works with government, business, and the nonprofit sector to help solve urgent problems requiring innovative, often interdisciplinary approaches. Drawing on the combined expertise of faculty, staff, and students across the University of California, Berkeley, CLEE strives to translate empirical findings into smart public policy solutions to better environmental and energy governance systems.

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The San Francisco Department of the Environment engaged the Center for Law, Energy & the Environment (CLEE) at UC Berkeley School of Law to develop this report for the purpose of identifying and refining viable strategies and tools for obtaining large-scale, long-term funding for San Francisco's Climate Action Plan. This final report documents the findings of CLEE's research, outreach, and engagement processes. It was informed by the many experts and stakeholders acknowledged on the following pages and CLEE's own analysis. It does not necessarily reflect the views of all individual convening participants, expert interviewees, reviewers, or City Departments.

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EXECUTIVE SUMMARY

In 2021, San Francisco took two groundbreaking steps toward a carbon neutral future. In September 2021, the Mayor sponsored, and the Board of Supervisors adopted, a set of aggressive emissions reduction targets for the coming decades: achieve net-zero greenhouse gas emissions generated in the city by 2040 and reduce emissions associated with consumption of all goods and services in the city (regardless of where emissions originate) 80 percent by 2050.

In December 2021, the Mayor released the City's Climate Action Plan (CAP) detailing the actions needed to accomplish these ambitious targets, developed through a multi-agency and stakeholder process led by the San Francisco Department of the Environment.^a

San Francisco's Department of the Environment contracted UC Berkeley's Center for Law, Energy & the Environment (CLEE) to assess options for funding the equitable implementation of San Francisco's CAP. To develop the recommendations in this report, CLEE conducted over 50 expert interviews with community leaders, City departments, municipal finance and environmental policy experts, and other stakeholders; facilitated two expert and stakeholder workshops to discuss revenue generation options; and convened a Technical Advisory Committee that provided guidance on opportunities and barriers to each potential strategy.

Based on these engagements, and with ongoing guidance from the Department of the Environment and feedback from interviewees and participants, CLEE developed a set of principles to inform revenue generation and investment processes ([page 12](#)); and recommendations on the most promising revenue generation mechanisms to fund and implement the CAP, including top-priority recommendations ([page 15](#)). This report prioritizes near-term revenue strategies to initiate high-priority CAP actions, reflecting CLEE's analysis and

a The City's 2021 [Hazards and Climate Resilience Plan](#) details strategies for resilience to climate impacts, which are distinct from but in many cases overlap with CAP emissions reduction strategies. For more information see [Appendix D](#).

input from a range of stakeholders, coupled with sets of strategies focused on implementation and on equity.

In all cases, it will be vital that the burdens and benefits of these revenue programs be implemented with an equity lens, aligning with the CAP’s vision for equitable climate action that helps to mitigate unjust impacts and advance economic prosperity. Because the approach to and implementation of a funding or financing strategy matters as much as the strategy itself, the report also includes implementation and equity recommendations that should be adopted alongside the revenue generation strategies.

To recognize the importance of each set of recommendations, this report organizes principles and recommended actions into three categories: revenue, implementation, and equity.

REVENUE	Tools for raising revenue and accessing funds to implement CAP actions.
IMPLEMENTATION	Processes and capacity expansions to support implementation of revenue strategies and CAP actions efficiently and effectively.
EQUITY	Measures to integrate equity considerations throughout the funding, financing, and implementation processes.

The recommendations in this report will support decarbonization efforts in San Francisco, including continuing efforts that are already in development. The priority recommendations will allow City leaders to rapidly raise significant, flexible funds for early implementation. The report also includes recommendations for medium- and long-term funding strategies that will require additional partnership development, stakeholder engagement, or other work to develop and implement. San Francisco, like all cities, faces a range of investment needs that may complement or compete with CAP priorities, and success will require substantial funding support and policy action at the state and federal levels. Finally, it is important to keep in mind that while some of the proposed CAP measures will incur significant costs, which is the focus of this report, many will also drive long-term savings through reduced fuel costs, improved air quality and public health, and resilience.

CAP NAMING CONVENTIONS

This report adopts the CAP’s convention for designating sectors, strategies, and supporting actions. The six sectoral abbreviations are ES (Energy Supply), BO (Building Operations), TLU (Transportation and Land Use), H (Housing), RCP (Responsible Production and Consumption), and HE (Healthy Ecosystems). The 31 overarching strategies are designated by sector and number, i.e., BO.1 (“Eliminate fossil fuel use in new construction”). The 159 individual actions are designated by a second number, i.e., BO.1-1 (“By 2021, require newly constructed buildings to be efficient and all-electric with no on-site carbon emissions”). See [Appendix B](#) for a complete list of CAP strategies and supporting actions

A. THIS REPORT AND THE CAP PROCESS

The recommendations included in this report are one step in an iterative process of CAP development and implementation. They are preceded by the significant analysis and stakeholder outreach conducted by the Department of the Environment in preparing the CAP and will be followed by community and stakeholder outreach processes to identify immediate next steps. This engagement will occur alongside actions by City leaders, agencies, and stakeholders and will set a roadmap to 2040 and 2050.

B. ABOUT SAN FRANCISCO'S CAP

The San Francisco CAP is an ambitious and comprehensive roadmap of goals, strategies, and actions to achieve emission reductions across six sectors: Energy supply, building operations, transportation and land use, housing, responsible production and consumption, and healthy ecosystems. Key strategies include, but are not limited to, provision of 100 percent carbon-free energy, decarbonization of buildings, and increases in the public transit, active transportation, and vehicle electrification networks. See [Section II](#) for an overview of the CAP's emissions reduction actions. The San Francisco Department of the Environment led the development of the CAP in coordination with 18 other City departments including the San Francisco Planning Department, San Francisco Public Utilities Commission, Department of Public Health, Municipal Transportation Agency, County Transportation Authority, Recreation and Parks Department, Office of Resilience and Capital Planning, and San Francisco International Airport.

The CAP estimates the cost of each of its 31 strategies in cost ranges from up to \$1 million (\$) to \$500+ million (\$\$\$\$\$) but does not include specific cost estimates for each of the 159 individual actions within these strategies. However, independent analyses provide information on the significant scale of investment required to realize CAP goals. For example:

- In April 2021, the San Francisco Budget and Legislative Analyst's Office prepared an [analysis](#) estimating the cost of **full electrification of the existing residential building stock** (strategy BO.2) at approximately **\$3.5-\$5.9 billion**.
- San Francisco Municipal Transportation Agency's (SFMTA's) [2021 20-Year Capital Plan](#) estimates that approximately **\$10 billion** is needed for **planned transit system expansion** and **\$5 billion** is needed for each of **facility, fleet, and street improvements** (strategies TLU.1/2/5/6/7).
- In September 2019, the City made an [initial offer](#) of **\$2.5 billion** to **acquire PG&E's distribution grid assets** (action ES.1-3).

STAKEHOLDER FEEDBACK

This report reflects the most salient input and feedback received from reviewers, interviewees and convening participants. Due to limitations in scope and time, not all feedback was incorporated. The Department of the Environment will review comments that could not be addressed in this report as part of its ongoing engagement processes. Some topics for further inquiry and engagement include the equity implications of pricing strategies; the appropriateness and structure of tax measures in the context of the ongoing business recovery from COVID-19; and optimal structures for additional staffing and interagency coordination. A range of City leaders and stakeholders will engage in the process of connecting revenue and implementation strategies to specific decarbonization investments.

These analyses make it possible to prepare a rough estimate of CAP costs based on an assumption that the highest-cost strategies have an average high cost of \$5 billion. (This assumption is purely for scoping purposes and costs could be much higher in the most capital-intensive sectors, like public transit.) Table 1 below provides an overview of anticipated cost ranges, based on the CAP’s estimates:

BY SECTOR			
	NO.*	TOTAL COST (LOW)	TOTAL COST (HIGH)
Energy Supply (ES)	5	\$1.012 Billion	\$10.12 Billion
Building Operations (BO)	4	\$503 Million	\$5.03 Billion†
Transportation/Land Use (TLU)	7	\$513 Million	\$5.132 Billion
Housing (H)	4	\$210 Million	\$1.101 Billion
Production/Consumption (RPC)	4	\$2 Million	\$20 Million
Healthy Ecosystems (HE)	7	\$51 Million	\$511 Million
Total	31	\$2.291 Billion	\$21.914 Billion

* Number of CAP strategies within each sector

† Includes residential buildings only, for scoping purposes

BY COST GROUP				
	NO.*	STRATEGIES	TOTAL COST (LOW)	TOTAL COST (HIGH)
\$\$\$\$: \$500+ million	4	ES.1, ES.3, BO.2, TLU.1	\$2 Billion	\$20 Billion
\$\$\$: \$100-500 million	2	H.2, H.4	\$200 Million	\$1 Billion
\$\$: \$10-100 million	8	ES.2, TLU.2, H.1, HE.3, HE.4, HE.5, HE.6, HE.7	\$80 Million	\$800 Million
\$: \$1-10 million	11	ES.4, ES.5, BO.1, BO.3, BO.4, TLU.5, TLU.6, TLU.7, RPC.2, RPC.3, HE.2	\$11 Million	\$110 Million
\$: ≤ \$1 million	4	TLU.3, TLU.4, H.3, HE.1	\$0	\$4 Million
N/A	2	RPC.1, RPC.4		
Total	31		\$2.291 Billion	\$21.914 Billion

* Number of CAP strategies within each cost group

Table 1: CAP strategies by estimated cost. Source: San Francisco CAP. Cost estimates are based on estimates stated in CAP, with an assumption of \$5 billion average high cost for items listed in the CAP at \$500+ million (“\$\$\$\$”) with no upper bound (assumption is authors’ own, for scoping purposes only).

CAP implementation will require a diverse mix of revenue streams across decades to support significant capital investment as well as agency staff, outreach, and supporting programs. In many cases, these build on existing revenue strategies in use by the City—such as general obligation bonds that fund transportation investments, utility ratepayer funds that support electrical grid investments, and refuse collection fees that pay for recycling programs—to drive specific emissions-reducing actions. In other cases, CAP implementation will require development of new revenue-generation mechanisms, drawing on the resources of residents and businesses, federal and state governments, and private and philanthropic partners. In addition, the CAP includes a number of policy, regulatory, and planning actions that are key enabling actions but will impose little or no cost to the City; these actions are not a focus of this report, but remain high priorities for aggressive emissions reduction.

C. PRIORITIES AND PRINCIPLES FOR CAP INVESTMENT

Participants and interviewees identified 1) building decarbonization and 2) transportation and land use as the highest priorities for initial investment and emphasized a need to focus on lower-income and disadvantaged communities including Bayview-Hunters Point, Chinatown, Excelsior, the Tenderloin, and other areas identified through San Francisco’s Environmental Justice Communities Map (while also acknowledging that lower-income residents reside in communities throughout the city). See [Figure 4](#) to view the EJ Communities Map. Key factors in this prioritization, which aligns with the CAP’s own analysis, included:

- The potential for immediate, tangible quality-of-life and public health benefits in high-priority communities, including air quality improvements and transportation cost reductions
- The high proportion of greenhouse gas emissions from the transportation and buildings sectors in San Francisco (47 percent and 41 percent, respectively)
- The link between transportation system connectivity and community economic development
- The enabling relationship between building electrification and transportation electrification

However, top priorities for investment—within the scope and structure of the strategies and actions developed in the CAP process—ultimately must be determined by City leaders working directly with community members through multiple engagement and decision-making processes as officials refine revenue proposals.

In addition to identifying priorities for investment, interviewees and convening participants also developed a set of principles to guide revenue generation and investment. These are organized into the three framework categories.

PRINCIPLES TO GUIDE CAP INVESTMENT

REVENUE

- **Utilize all available and appropriate City revenue sources** to focus on priority building and transportation electrification investments, including but not limited to:
 - General fund
 - General obligation bonds
 - Revenue bonds
 - Property, sales, hotel, and special taxes
 - Utility fees and on-bill financing strategies
 - Development and mitigation fees
 - Financing districts
 - **Incorporate all available federal, state, and regional revenue sources** for capital and programmatic investments
 - **Leverage all available private capital** for private infrastructure investments
 - **Develop pricing strategies** that raise revenue while encouraging low-carbon activity
 - **Maximize and monetize co-benefits and ecosystem services** where possible
 - **Authorize local tax** options including congestion pricing, carbon, and income taxes
 - **Build flexibility in revenue sources** to meet multi-decade investment needs and maximize multi-benefit projects
 - **Prioritize progressive taxation structures** and ensure equity guardrails in pricing strategies
-

IMPLEMENTATION

- **Ensure City budget is written to achieve timely fulfillment** of CAP priorities
 - **Dedicate ongoing funding for Climate Action Plan implementation**, stakeholder and expert consultation, and agency coordination
 - **Establish interagency processes** to coordinate across all relevant City investment and implementation capacities and to strategically align revenue generation strategies
 - **Expand existing stakeholder processes** to gather spending prioritization input from community, labor, climate, environmental justice, and business groups, and invest in capacity-building to help frontline communities engage meaningfully in those processes
 - **Cultivate philanthropic and corporate support** for community and voter engagement efforts related to CAP revenue generation and implementation
-

EQUITY

- **Continue to take a “root causes” approach to center equity** in all CAP decision-making
 - **Prioritize lower-income, disadvantaged, and overburdened communities and communities of color** through:
 - Targeted investments with the potential for immediate, high-quality climate benefits
 - Meaningful investment decision-making authority for communities
 - Neighborhood-based approaches to emission reduction
 - Consistency with federal and state minimum investment requirements for environmental justice/disadvantaged communities as a floor
 - Strong, culturally competent messaging on climate, economic, and labor opportunities
 - **Build local employment infrastructure** through workforce development components and labor standards in all CAP investments, including targeted hiring for high-priority communities
 - **Support small businesses, social enterprises, and community-based organizations** to carry out CAP investment
 - **Avoid cost-of-living increases** that result in net out-migration from San Francisco to more carbon-intensive jurisdictions through:
 - Anti-gentrification and anti-eviction policies
 - Homelessness services
 - Affordable clean technology
 - Generational equity strategies to grow the populations of young and African American San Franciscans
 - **Evaluate outcomes of investments** (including City and community input) to ensure positive equity and climate benefits and adjust as necessary
-

The recommendations on the following pages identify specific top-priority revenue, implementation and equity actions for City leaders to take in alignment with these principles.

Given the anticipated cost and timeline of the CAP—likely tens of billions of dollars over multiple decades (see [Table 1](#) for more detail)—no single funding and implementation strategy will achieve all of the City’s goals. At the same time, City agencies and stakeholders will need to grow their own capacity to take advantage of new revenue. As a result, **City leaders should prioritize an initial group of mechanisms that can rapidly raise significant, flexible funds for early implementation.** Many measures will require repeat action—in particular, general obligation bond measures to fund major capital investments—as part of long-term City capital planning processes, while tax and other measures will require iteration and calibration. Given the scale and complexity of the decarbonization challenge, strategies to support implementation and equity will be vital components alongside new revenue sources, and all City departments and agencies will need to support the effort.

The tables on the following pages describe top-priority recommendations for revenue, implementation, and equity. The revenue generation proposals focus on measures within City control; strategies to attract outside funds such as state and federal grants, which will be vital complementary efforts to achieve CAP targets, are not the focus of this analysis but are described later in the report. See [Section III.B.5](#) for a summary of potential CAP funding opportunities from the federal Infrastructure Investment and Jobs Act and Inflation Reduction Act and the 2022-2023 California State Budget, the latter two of which were finalized during the preparation of this report, and each of which includes significant opportunities for City leaders to fund the CAP. For a complete list of potential strategies, see [Section III](#) and [Appendix A](#).

D. REVENUE ACTIONS

Revenue measures are divided between near-term (1-3 year timeframe from fall 2022) and medium-term (4-7 year timeframe from fall 2022). CAP implementation will occur over decades, and a number of additional strategies will be required for long-term funding. These initial recommendations focus on the highest-priority strategies for City leaders to take direct action at the outset of implementation; the remainder of the report identifies other revenue strategies that can support long-term action and potential federal, state, and other outside sources of funds. **The revenue measures proposed in this section should be read together with the implementation and equity strategies proposed in [Sections E](#) and [F](#) below.**

Revenue measures include an estimate of the amount of revenue generated, whether it would be one-time or recurring, and its level of volatility (i.e.,

responsiveness to changes in economic conditions); along with context and justification for the proposed measure, implementation steps, and examples for revenue generation and investment. Within the near- and medium-term categories, proposed measures are not proposed in a particular chronological order.

NEAR-TERM MEASURES (1-3 YEARS)

PROPOSE AND PASS CAP-FOCUSED GENERAL OBLIGATION (GO) BONDS, coupled with an increase in the City’s GO bond limit^b to allow property tax increases exclusively to fund new bonds for CAP investments, including:

- A **building decarbonization GO bond** to fund efficiency and electrification retrofits for existing residential buildings¹
- **Increase the size of the affordable housing GO bond** to fund the San Francisco Housing Accelerator Fund for CAP-aligned housing investment

BUILDING DECARBONIZATION GO BOND

REVENUE ESTIMATE

\$300-\$500 million | One-time | Low volatility

Based on the size of [recent housing](#) (2015: \$310 million, 2019: \$600 million) and public health (2016: \$272 million, 2020: \$60 million) GO bonds and estimated [\\$3-5 billion cost](#) of citywide residential building electrification.

CONTEXT AND JUSTIFICATION

Buildings are the second-highest source of emissions in San Francisco; efficiency improvements will result in immediate quality-of-life benefits for residents. The City is targeting complete building decarbonization by 2040; the CAP includes policy strategies to drive retrofits with a focus on lower-income residents (BO.2-2, 2-9/10/11/12), including requirements to electrify at various transfer or renovation points. A large-scale GO bond can both kick-start efficiency and electrification investment in high-priority communities and establish permanent programs that can marshal the billions of dollars of private capital required for CAP building decarbonization efforts.

b The City Charter and Office of Resilience and Capital Planning (ORCP) currently cap GO bond issuance in two ways: outstanding bond indebtedness may not exceed 3% of total assessed property values; and GO bond measures may not increase property tax rates above 2006 levels. Each of these caps—instituted by City leaders for reasons of fiscal prudence—could limit the City’s ability to add new revenue for CAP investment, with the ORCP policy in particular posing a potential ceiling. Effective CAP implementation could call for climate action-specific exemptions. In general, the GO bond proposals in this section are intended to direct near-term CAP investment and are not intended to preclude future iterations of similar bonds in the City’s long-term capital planning process. CAP investments, like other City capital investments, will require recurring GO bonds at regular intervals. **While this section presents three separate GO bond proposals, in practice, the nuances of the public approval process and benefits of simplicity could call instead for a single, comprehensive GO bond for building decarbonization, housing, and transportation investments.**

Rapidly decarbonizing existing buildings will require programs tailored to different socioeconomic groups: high-income residents can generally afford upfront costs or traditional financing, middle-income residents will need access to low-cost financing options, and lower-income residents will likely rely on direct grant and rebate programs. GO bond funds for CAP implementation should support the latter two groups, with direct grants for lower-income and affordable housing residents (expanding on state and utility programs such as the Low-Income Weatherization Program and TECH Clean California) and seed funding to attract private capital for upgrades in other buildings via a City Green Bank. A Green Bank could also win funding from the Inflation Reduction Act’s Greenhouse Gas Reduction Fund for state and local decarbonization financing programs. Funds should prioritize multifamily properties to target residents most in need of financial support and to address landlord-tenant split incentives, cover upgrades to building electrical systems needed to support new installations, and include robust tenant protections to limit displacement.

IMPLEMENTATION

- Update ORCP policy (and amend charter if necessary) to allow GO bonds over the current limits for CAP-focused measures
- Propose and pass bond via ballot measure
- Commit 50-75% of funds to direct grants (managed by one or more nonprofit program administrators) for efficiency and electrification retrofits for lower-income residences with a focus on multifamily properties, including decarbonization workforce development through CityBuild program
- Commit 25-50% of funds to create SF Green Bank to attract private capital for decarbonization investments and incorporate additional seed funding from Inflation Reduction Act’s Greenhouse Gas Reduction Fund
- Create SF Green Bank as a publicly chartered nonprofit, independent 501(c)(3), and/or collaboration among existing CDFIs

**PRECEDENT/
EXAMPLES**

[Miami Forever Bond](#) | [NYCEEC](#) | [DC Green Bank](#) | [Montgomery Co. Green Bank](#) | [Connecticut Smart-E](#) | [Michigan Saves](#) | [CA Climate Catalyst Fund](#) | [CA GoGreen](#)

HOUSING GO BOND

REVENUE ESTIMATE

\$50-\$100 million | One-time | Low volatility

Based on anticipated size of [scheduled 2024 affordable housing GO bond](#) (\$160 million), size of [recent housing GO bonds](#) (2015: \$310 million, 2019: \$600 million), and estimated Housing Accelerator Fund need to carry out 2+ direct acquisition projects resulting in hundreds of new units of affordable housing in CAP-aligned locations and structures.

CONTEXT AND JUSTIFICATION

Increasing the affordable housing supply is essential to making San Francisco more equitable and livable for all residents and for supporting transit-oriented residential density. City-led preservation and development is the most certain way to ensure investments result in permanently affordable units. The high cost of housing investment and the scale of the current housing crisis require hundreds of millions of dollars in readily available capital.

The San Francisco Housing Accelerator Fund's (HAF) Housing to End Homelessness Program acquires land and buildings for original construction, redevelopment, and preservation of affordable and permanent supportive housing units at less than 2/3 of standard development costs. SF HAF can use direct funding for land acquisition and can integrate philanthropic and concessionary capital to fund development and operation of the site.

IMPLEMENTATION

- Update ORCP policy (and amend charter if necessary) to allow GO bonds over the current limits for CAP-focused measures ([see fn. b](#))
- Increase the total dollar amount of the scheduled November 2024 affordable housing bond from \$160 million to \$210-\$260 million
- Propose and pass bond via ballot measure
- Direct the additional funds to the SF HAF exclusively for direct acquisition of sites located in areas with high transit access to support preservation or development of affordable or supportive units that meet CAP targets for building decarbonization.

PRECEDENT/ EXAMPLES

[Miami Forever Bond](#) | [2019 Proposition A](#) | [SF HAF's 833 Bryant Street Pilot Project](#)

A SAN FRANCISCO GREEN BANK FOR BUILDING DECARBONIZATION

A green bank can take many forms, but the core structure commits public funds to one or more financing mechanisms—such as direct loans, revolving funds, or credit enhancement—to reduce investment risk in order to attract private capital to clean energy technologies and upgrades. Green bank programs are a popular and effective strategy to leverage limited public funds to accelerate building decarbonization investment by private property owners, often taking the form of loss reserve fund credit enhancement for financial institutions and credit unions. Programs like California's GoGreen, Connecticut's Green Bank Smart-E, and the Michigan Saves programs have leveraged over ten dollars in private capital for every dollar of public funds, facilitating tens of millions of dollars in home energy upgrades. New York City, Washington, DC, and Montgomery County, Maryland have piloted local equivalents. With sufficient capital, a city-scale credit enhancement program could support private building decarbonization investments through pre-approved lenders and contractors, helping to advance CAP-aligned policies requiring retrofits at appropriate property transfer and renovation points. Committing a significant portion of GO bond funds to create a building decarbonization green bank program could maximize the City's ability to draw private capital, which will be essential given the high cost of citywide building decarbonization, the private nature of most of the investments, and the need to commit most public funds to direct investment in lower-income communities. Including no-debt and tariffed on-bill financing options could be key to ensure access and consumer protections for lower-income residents. Over time, the bank could attract philanthropic and concessionary capital, integrate with state and federal financing efforts, and expand its portfolio to support other CAP-aligned investments.

IMPLEMENT AN ADDITIONAL GROSS RECEIPTS TAX ON THE HIGHEST-REVENUE BUSINESSES to fund workforce development initiatives, City staff to implement the CAP, and equity oversight bodies

REVENUE ESTIMATE **\$25-\$50 million | Annual/continuing | Medium volatility**

Based on [City analysis](#) of 2018 Proposition C, which estimated \$250-300 million per year for tax increases of 0.015%-0.04% on receipts over \$50 million, and recent [reporting](#) that revenue dropped from \$394 million in 2019-20 to \$217 million in 2020-21. The new gross receipts tax increase could be limited to a smaller increment and a smaller subset of high-revenue businesses while still generating sufficient funds to support CAP implementation actions (but not capital investments).

CONTEXT AND JUSTIFICATION

Effective CAP implementation will require a dedicated, continuing source of revenue to support multiple new City staff positions (see Implementation below), provide funding for participation by community members and community-based organizations in long-term oversight and investment planning efforts, and introduce workforce development initiatives associated with building and transportation decarbonization actions. The revenue source should be distinct from those supporting major capital investment programs, which will likely reflect program-specific timelines and in many cases will rely on property taxation or one-off state and federal grants. Voters have demonstrated willingness to increase business taxes to support high-priority causes, and other leading cities have recently implemented climate action-oriented business taxes.

In 2020, San Franciscans approved Proposition F replacing the City's payroll tax with a gross receipts tax. The top bracket includes all businesses with over \$25 million in gross receipts. In 2018, voters approved Proposition C imposing a gross receipts tax increase of 0.015%-0.04% on certain businesses with over \$50 million in annual gross receipts in San Francisco, raising hundreds of millions of dollars in City revenue for homelessness initiatives.² In July 2022, a [motion was submitted](#) to the Board of Supervisors proposing a November 2023 ballot initiative to increase the gross receipts tax on business revenues over \$25 million with proceeds directed equally to fund the Department of the Environment and CAP implementation; a guaranteed income program for low-income households in environmentally impacted areas; decarbonization workforce development; and public transit operational costs including subsidized Muni access.

Gross receipts tax revenue is inherently volatile, particularly following the COVID-19 pandemic and shifts in commuting and work-from-home patterns, which can substantially affect revenue. Limiting application of the tax to the few hundred businesses that exceed \$100 million in local revenue would mitigate impacts to smaller businesses, but could also increase volatility; expanding application to businesses with at least \$25-50 million in local revenue would broaden the base of the tax and reduce volatility, but could affect more local businesses. City leaders should be careful not to base expenditures on high-end revenue projections (or include measures to backfill any missing revenue with general fund dollars). As with any tax measure, City leaders should craft it to be efficient, administrable, sustainable, and equitable in implementation.

IMPLEMENTATION

- Propose and pass tax via ballot measure
- Direct funds to the Department of the Environment for CAP implementation and equity initiatives and to City College and CityBuild for workforce development initiatives.

**PRECEDENT/
EXAMPLES**

[2018 Proposition C](#) | [2020 Proposition F](#) | [Portland Clean Energy Surcharge](#) | [Denver Initiative 2A](#)

IMPLEMENT A PARCEL TAX (based on square footage of property or impermeable surfaces) to fund parks, green infrastructure, and tree canopy investments

REVENUE ESTIMATE

\$12-25 million | Annual/continuing | Low volatility

Based on total building square footage of residential and commercial properties in the city (approximately 500,000,000, based on data from [DataSF Land Use portal](#), excluding vacant, open space, and other inapplicable property types) taxed at a rate of \$.025-\$.05 per year.

**CONTEXT AND
JUSTIFICATION**

Tree canopy and green space are well established as cost-effective strategies to combat the urban heat island effect, sequester carbon, retain rainfall, and support urban air quality. As warm weather days increase due to climate change, expanding green cover will be a key strategy to reduce harm to vulnerable populations facing significant physical health, mental health, and productivity impacts. Increasing green space and park access will also provide immediate, tangible quality of life improvements for all city residents, particularly those in communities with minimal green space. Effective CAP implementation will require a dedicated revenue stream to support CAP investments in parks and the urban forest (HE.3-HE.5) that will require tens of millions of dollars per year for decades. A parcel tax can accomplish this goal while ensuring the payment obligation is tied to property owners; a square footage basis can ensure a measure of equity in assessments compared to a flat rate per parcel, which places a higher burden on low-income property owners.

The City's Urban Forestry Council and Friends of the Urban Forest have crafted an ambitious Urban Forest Plan to expand tree canopy and green space, and in 2016 voters shifted responsibility of street tree maintenance to the City. However, planting and maintenance efforts are underfunded, and today San Francisco has one of the lowest average tree canopies among all major US cities at 13.7%, compared to 21% for Los Angeles and 24% for New York. Per capita tree cover and green space are especially low in high-priority neighborhoods such as Bayview-Hunters Point and Chinatown, highlighting the need for equitable investment in new greening efforts and the potential equity benefits of new green spaces.

IMPLEMENTATION

- Propose and pass parcel tax measure
 - Direct funds to Planning, Public Works, and Recreation and Parks Departments for Urban Forest Plan implementation
-

**PRECEDENT/
EXAMPLES**

[Los Angeles Measure A](#) | [Los Angeles Measure W](#)

MEDIUM-TERM MEASURES (4-7 YEARS)

PROPOSE AND PASS A TRANSPORTATION GO BOND to fund public transit, active transportation, and electric vehicle charging infrastructure (following an increase in the City’s GO bond limit to allow property tax increases exclusively to fund new bonds for CAP investments, as described in Near-term Measures

REVENUE ESTIMATE **\$300-\$500 million | One-time | Low volatility**

Based on the size of recent transportation-related GO bond measures (2014: \$500 million, 2022: \$400 million) and high capital cost of transportation infrastructure investments (e.g., \$4.8 billion SFMTA 10-year capital need for already-planned investments).

CONTEXT AND JUSTIFICATION

Transportation is the highest source of emissions in San Francisco; improving transit and active transportation access will increase connectivity and economic opportunity, and increasing electric vehicle (EV) use will improve air quality. A large-scale GO bond is needed to kick-start investment in high-priority, high-profile decarbonized transit projects while meeting the financial scale of major transportation capital infrastructure. The GO bond would supplement anticipated state and federal matching funds and other existing revenue streams.

SFMTA and other City leaders have developed comprehensive, multi-decade [capital plans](#) encompassing a range of investments in transportation infrastructure, outlining over \$30 billion in capital needs through 2040. Many of these investments overlap with CAP’s public transit, active transportation, and EV infrastructure investments, but only some have certain funding sources. City residents narrowly failed to approve a June 2022 bond measure that would have invested \$400 million in Muni system repair, maintenance, and street safety investments.

IMPLEMENTATION

- Update ORCP policy (and amend charter if necessary) to allow GO bonds over the current limits for CAP-focused measures ([see fn. a](#))
- Propose and pass ballot measure
- Direct funds to SFMTA for initial investment in CAP transportation projects, such as TLU.1 transit investments and TLU.7 electric vehicle infrastructure pilots, in high-priority communities

PRECEDENT/ EXAMPLES

[Miami Forever Bond](#) | [2014 Proposition A](#)

IMPLEMENT VEHICLE PRICING STRATEGIES to incentivize reductions in driving and raise revenue for low-carbon transportation, with rebates, discounts, or exemptions for lower-income residents or in priority communities as applicable

- **Institute downtown vehicle congestion pricing** with revenue dedicated to public transit, active transportation, and/or electric vehicle charging infrastructure

- **Expand the residential parking permit system to encompass all curbside parking and private parking spaces and authorize SFMTA to operate it as a revenue-positive program**, with revenue dedicated to public transit, active transportation, and/or electric vehicle charging infrastructure

CONGESTION PRICING

REVENUE ESTIMATE

\$50-100 million | Annual/continuing | Medium volatility (may decline over time)

Based on estimates gathered for the [SF Mobility, Access, and Pricing study](#) published in 2010, which estimated between \$60 and \$80 million in net operating revenue (in 2008 dollars) across different scenarios. Estimates adjusted to reflect changes in downtown travel patterns and pricing proposals since the 2010 study.

CONTEXT AND JUSTIFICATION

Transportation is the highest source of emissions in San Francisco; improving transit and active transportation access will increase connectivity and economic opportunity, and increasing EV use will improve air quality. A congestion price will discourage private vehicle use in the downtown area, improve air quality, and support use of transit options instead, while creating a recurring source of funds for investment in low-carbon transportation options throughout the city, but especially those that provide alternatives to car travel in the downtown core. Changes in commutes following the COVID-19 pandemic have altered downtown congestion and transit patterns, but pricing strategies still have potential to directly reduce emissions and raise sustainable revenue for transportation investment.

City transportation leaders began evaluating the strategy with the 2010 Downtown Congestion Pricing Study, which was part of an ongoing City process investigating several pricing and implementation options. Other global cities have implemented programs that reduce total trips and raise tens of millions of dollars per year. For example, [Stockholm](#) established a seven-month pilot congestion pricing program in 2006 and evaluated impacts from the pilot before initiating a permanent congestion price in 2007. [London](#) launched its congestion pricing system in 2003, and the program [generated](#) £1.7 billion in net revenue in its first 14 years (2003 to 2017). This revenue supports transportation connectivity and safety improvements and sustainable transportation alternatives.

Congestion pricing is a potential medium-term revenue source (4 to 7 years out) because of the coordination and time required to develop, establish, and execute such a program. The San Francisco County Transportation Authority [estimates](#) that it will take at least five years to institute a congestion pricing program. The program should include exemptions and discounts for lower-income and disabled individuals and zone residents as outlined by SFCTA's proposals. Where possible, the City should invest in improved low-carbon transportation options before or concurrently with initiating the congestion price so that drivers face fewer barriers in switching modes.

IMPLEMENTATION

- Complete the updated Downtown Congestion Pricing Study
 - Advocate for legal authorization at the state legislature
 - Pass congestion pricing ordinance including discounted rate structure to ensure equity
 - Direct funds to SFMTA for initial investment in CAP transportation projects—such as TLU.1 transit investments and TLU.7 electric vehicle infrastructure pilots—in high-priority communities, and/or discounted or free Muni service
-

PRECEDENT/ EXAMPLES

[SF Downtown Congestion Pricing](#) | [London](#) | [Singapore](#) | [Stockholm](#)

PARKING PRICING

REVENUE ESTIMATE

\$40-60 million | Annual/continuing | Low volatility

Based on revenue from the existing permit system (approx. \$12 million/year, which is fully committed to operational costs) extrapolated to coverage of the entire city (approx. 300% increase) and allowing rate flexibility outside simple revenue neutrality.

CONTEXT AND JUSTIFICATION

Transportation is the highest source of emissions in San Francisco; improving transit and active transportation access will increase connectivity and economic opportunity, while increasing EV use will improve air quality. Instituting paid permits for curbside use citywide and allowing SFMTA to operate the program to fund transportation investments would provide additional recurring revenue for transportation investment and would internalize the full cost of private vehicle use. Crucially, SFMTA could require annual paid permits to maintain private driveway curbside cuts (i.e., charging a fee for the curbside space held open for private driveway access) to ensure that cost burdens are shared equitably and not just paid by those who park on the street. Each individual width of curbside cut could be assessed its own fee, so owners of two-car garages would pay increased fees accordingly.

SFMTA currently implements a \$165 residential parking permit system (RPP) in higher-density areas covering approximately one quarter of the city. Based on an interpretation of the state constitution regarding local government fees, SFMTA operates the program purely on a cost recovery basis, meaning it does not generate revenue for other investments. If deemed legal (or approved by the voters), SFMTA could more than triple revenue; by shifting it to a revenue-generating program and setting rates above cost-recovery points.^c As an example, Vancouver, Canada has considered a full-city overnight parking permit system as part of its climate action investment

^c Under Article XIII C of the California Constitution, a “charge imposed for entrance to or use of local government property” is not considered a “tax” for the purposes of Proposition 13/26/218 voter approval requirements. Curbside space, whether used for vehicle parking or held open for driveway access, is City property and thus could be eligible for this exemption, although it has not been so treated in the past. Under Section 716 of the City Public Works Code, an “annual fee of \$3.00 per square foot of occupancy of the sidewalk” and no less than \$100 is required for curbside cuts, but it is unclear if this assessment is regularly enforced or paid.

planning. When increasing rates to raise revenue, SFMTA leaders should take care to develop pricing structures that reflect ability to pay and do not overburden lower-income drivers. Instituting paid permits for all private curbside cuts—a highly valuable reservation of the public right-of-way for exclusive private purposes—would be central.

IMPLEMENTATION

- Work with SFMTA, City Attorney, and Board of Supervisors to update RPP as a charge for use of public curb property to permit revenue-positive operation and application to driveway curbside cuts
- Alternatively, authorize revenue-positive operation via ballot initiative
- Institute annual paid permit for curbside cut maintenance and set rates above cost-recovery point
- Institute RPP in all neighborhoods and set rates above cost-recovery point
- Consider dynamic pricing (e.g., demand-based) strategies and/or income-based or neighborhood discounts to ensure equity
- Direct funds to SFMTA for initial investment in CAP transportation projects—such as TLU.1 transit investments and TLU.7 electric vehicle infrastructure pilots—in high-priority communities, and/or discounted or free Muni service

PRECEDENT/ EXAMPLES

[SFMTA Residential Parking Permit program](#) | [SF Public Works Code § 716](#) | [Vancouver Climate Emergency Parking Program](#) | [SFpark pilot program](#)

IMPLEMENT A CARBON EMISSIONS TAX FOR LARGE COMMERCIAL BUILDINGS to fund building decarbonization and workforce development investments

REVENUE ESTIMATE

\$20–\$128 million | Annual/continuing | Low volatility (steady decline over time)

Based on San Francisco city data on building type, square footage, and energy usage. Estimated energy usage for commercial buildings with an area of 10,000 square feet or higher converts to approximately 200,000 tons of carbon emissions as a lower bound and 640,000 tons as an upper bound, based on 2019 emissions from commercial buildings. A revenue range is then calculated assuming two options for a tax: \$100 per ton or \$200 per ton of carbon emissions.

CONTEXT AND JUSTIFICATION

Buildings are the second highest source of emissions in San Francisco. Reducing building sector emissions will require targeted, widespread decarbonization efforts in all types of buildings, from residential (single- and multi-family) to commercial and industrial. Electrifying building systems, appliances, and HVAC and reducing building energy usage will decrease the building sector's greenhouse gas emissions while also generating public health benefits through improved indoor air quality. Building decarbonization efforts are central to achieving several CAP actions, including BO.2-2 and 2-9 through 2-12.

However, decarbonizing the city's buildings will be an expensive endeavor, and many residents will not be able to afford the required upgrades. To ensure that all residents are able to benefit from decarbonization efforts, San Francisco could implement a tax on large commercial buildings in the medium-term (4 to 7 years out), allowing time for

post-pandemic recovery before imposing additional burden on building owners. Taxing large commercial buildings would capture revenue from some of San Francisco’s largest employers and building owners. Certain buildings could be exempt from the tax, such as hospitals, buildings owned by public pension funds, or buildings owned by non-profit entities. Revenue from this tax could be directed toward building decarbonization and workforce development investments, with emphasis on equity.

San Francisco already taxes commercial entities for their energy use through the Utility Users Tax. The tax covers natural gas, steam, and electricity along with non-energy utilities. Increasing the tax for emissions-intensive utilities could raise additional revenue for citywide building decarbonization efforts. The current tax rate is 7.5 percent for electricity and gas consumption. Increasing this amount to 10 percent or more could raise tens of millions of dollars in new revenue each year. New York City’s [Local Law 97](#) and Boston’s [Building Emissions Reduction and Disclosure Ordinance](#) provide examples of locally implemented requirements for energy efficiency and greenhouse gas emissions from large commercial buildings, with per-ton fees of over \$200 for emissions cap exceedances. CLEE’s range presents a conservative estimate based on revenue projections from increases in the Commercial Utility Users Tax combined with projected revenue from a tax per ton of carbon emissions, while accounting for the COVID-19 pandemic’s detrimental impacts on San Francisco’s commercial building sector.

IMPLEMENTATION

- Implement emissions tax per unit of natural gas or steam consumed. A tax of between roughly \$100 and \$200 per ton may be appropriate depending on the source of energy consumed
- Clarify which buildings and building owners are subject to the tax
- In collaboration with City Attorney, Board of Supervisors, City staff, determine any limitations on uses for the revenue
- Direct funds to CAP building decarbonization measures, such as such as BO.2-2 and BO.2-9/10/11/12

**PRECEDENT/
EXAMPLES**

[New York Local Law 97](#) | [Boston Building Emissions Reduction and Disclosure Ordinance](#) | [SF Commercial Utility Users Tax](#)

E. IMPLEMENTATION ACTIONS

- **Fund or reallocate City staff to accelerate CAP implementation including:**
 - One full-time senior staff member (i.e., direct report to department head) and supporting staff at the lead implementation department for each CAP sector (e.g., SFMTA, SFPUC, Recreation and Parks, etc.) dedicated to:
 - CAP-specific budget development, investment planning, and grant-seeking
 - CAP implementation coordination, working with existing CAP leadership at SF Environment
 - One full-time staff member each at SF Environment and the Office of Resilience and Capital Planning to coordinate cross-sectoral CAP grant-seeking (including opportunities under recent federal infrastructure and climate legislation) and multi-benefit project investment including projects that can achieve both CAP and Hazards and Climate Resilience Plan goals (see [Appendix D](#))
 - Multiple full-time staff members to accelerate and streamline processing of permits required for building electrification, EV charging, housing, and other permit-reliant efforts, including at the Department of Building Inspection, Department of Public Works, and Planning Department. See [Appendix E](#) for a complete list of San Francisco City agencies with key CAP implementation roles.
- **Convene a formal cross-departmental committee of City employees** focused on coordinating CAP implementation efforts, such as by aligning grant seeking opportunities across departments and by developing revenue prioritization strategies to ensure successful implementation^d
- **Fund nonprofits and community-based organizations to lead CAP implementation, technical assistance, and capacity building** in priority communities while requiring coordination with the City to ensure alignment with CAP goals
- **Establish a fund, administered by the Mayor’s Office and SF Environment, for corporate and philanthropic partners to provide direct funding for community engagement and educational efforts,** workforce development programs such as CityBuild, and other initiatives to raise the profile of the CAP and build support (subject to the limitations on solicitation of behested payments detailed in City Campaign and Governmental Conduct Code § 3.620)

^d An example of all-of-government climate action planning and implementation is the California Climate Action Team. The Climate Action Team is a multi-agency team that coordinates statewide climate efforts, tapping agency leaders to develop, evaluate, and implement climate change emission reduction strategies in accordance with the California Global Warming Solutions Act of 2006. For more information, see <https://calepa.ca.gov/climate-action/#cat>.

F. EQUITY ACTIONS

- **Create an independent community council to provide equity oversight** of CAP investment, implementation, and revenue generation mechanisms with representatives from City government and community, climate, environmental justice, labor, and small business groups
 - Focus council activities on individual CAP sectors for one- or two-year timeframes, beginning with Building Operations followed by Transportation and Land Use, with sector-specific leaders from City departments invited to participate as relevant
 - Vest the council with substantive decision-making authority by requiring council approval for a designated portion of investment decisions in major GO bonds
 - Compensate community participants for their participation time
- **Structure each of the large-scale GO bond programs to direct a portion of funds to investments through a community-scale competitive grant process** that reflects principles of equitable investment like those in the State’s Transformative Climate Communities program
 - Initiate community-led processes to identify priority investments
 - Award funds to proposal(s) most likely to promote equitable, effective investment in CAP strategies
 - Establish preferential criteria for lower-income communities, state-identified Disadvantaged Communities, highest-scoring communities on the San Francisco Environmental Justice Communities Map, and MTC-identified Equity Priority Communities
 - Fund nonprofits and community-based organizations to provide technical assistance to support community application development
 - Include the community council in grant award decision-making
- **Structure large-scale GO bond programs and tax measures to direct a portion of funds to deliver capital improvements** through the CityBuild workforce development program including building retrofits and electrification, EV charger installation and repair, and housing construction
- **Work with priority communities, as identified in the Environmental Justice Communities Map, to identify high-priority projects** that address community needs and support CAP implementation
- **Require racial equity impact assessments for major revenue generation and investment initiatives**, based on the CAP’s Racial and Social Equity Assessment Tool, with periodic review and adjustment of implementation strategies as needed to address any equity shortcomings

I. INTRODUCTION

San Francisco's Department of the Environment contracted UC Berkeley's Center for Law, Energy & the Environment (CLEE) to assess revenue options for funding the implementation of San Francisco's Climate Action Plan (CAP). CLEE first reviewed the CAP to identify opportunities for revenue generation within CAP activities and the overall magnitude of revenue required to achieve the vision outlined in the CAP. CLEE conducted desk research to identify examples of revenue-raising approaches in other cities worldwide and to pinpoint the revenue mechanisms most likely to provide the necessary capital over short- and medium-term time horizons.

CLEE then conducted over 50 expert interviews including a wide array of voices, from community leaders and City departments to municipal finance and environmental policy experts. These interviews offered crucial insight into the political feasibility, staffing needs, equity implications, and revenue generating potential of various revenue tools, such as taxes, bond measures, or grants. Interviews also allowed for the evaluation of different revenue options through the lenses of equity and labor. Throughout the process of identifying and recommending strategies, CLEE weighed equity implications and labor impacts. In general, strategies that were seen as inequitable were not prioritized for further consideration. CLEE also hosted and facilitated two expert and stakeholder workshops to discuss revenue generation options in a group setting, convened a four-member Technical Advisory Committee (TAC) to provide guidance on opportunities and barriers to each potential strategy, and solicited feedback on report drafts.

Through a combination of interviews, workshops, TAC meetings, and ongoing guidance from the Department of the Environment, CLEE developed recommendations regarding the most promising revenue generation, implementation, and equity strategies. Priority recommendations are listed at [pages 15-26](#). Factors that influenced these recommendations include the priority of different CAP measures; the estimated level of revenue generation and need; the estimated timeframe over which revenue can be expected; the level of effort required to initiate the mechanism; and the equity implications of the mechanism, to avoid placing disproportionate burdens on disadvantaged communities when raising revenue and to prioritize them when making investments.

The remainder of this report provides an overview of the Climate Action Plan ([Section II](#)), an assessment of existing and potential revenue strategies in San Francisco (along with examples from around the country) and identification of revenue generation opportunities within Climate Action Plan activities ([Section III](#)), a discussion of equity considerations and strategies for ensuring equity in revenue raising measures and implementation ([Section IV](#)), and an overview of labor considerations and strategies through a series of case studies ([Section V](#)). [Appendix A](#) presents a complete list of potential revenue strategies identified through CLEE’s research and interview process (including those that were not included in the set of high-priority recommendations); [Appendix B](#) provides an overview of Climate Action Plan strategies and actions; [Appendix C](#) offers an analysis of relevant recent local ballot measures; [Appendix D](#) presents an overview of the Hazards and Climate Resilience Plan; and [Appendix E](#) contains an overview of San Francisco plans and departments relevant to CAP implementation, plus additional research resources and a bibliography.



II. OVERVIEW OF THE CAP

This section provides an overview of San Francisco’s Climate Action Plan (CAP), with a focus on the key actions and major investments/ expenditures in each sector. The CAP includes a comprehensive list of actions that the City of San Francisco can take to reduce greenhouse gas (GHG) emissions to meet the City’s GHG reduction targets while achieving equitable outcomes.

The San Francisco Department of the Environment led the development of the CAP in coordination with 18 other City departments including the San Francisco Planning Department, San Francisco Public Utilities Commission, Department of Public Health, Municipal Transportation Agency, County Transportation Authority, Recreation and Parks Department, Office of Resilience and Capital Planning, and San Francisco International Airport.

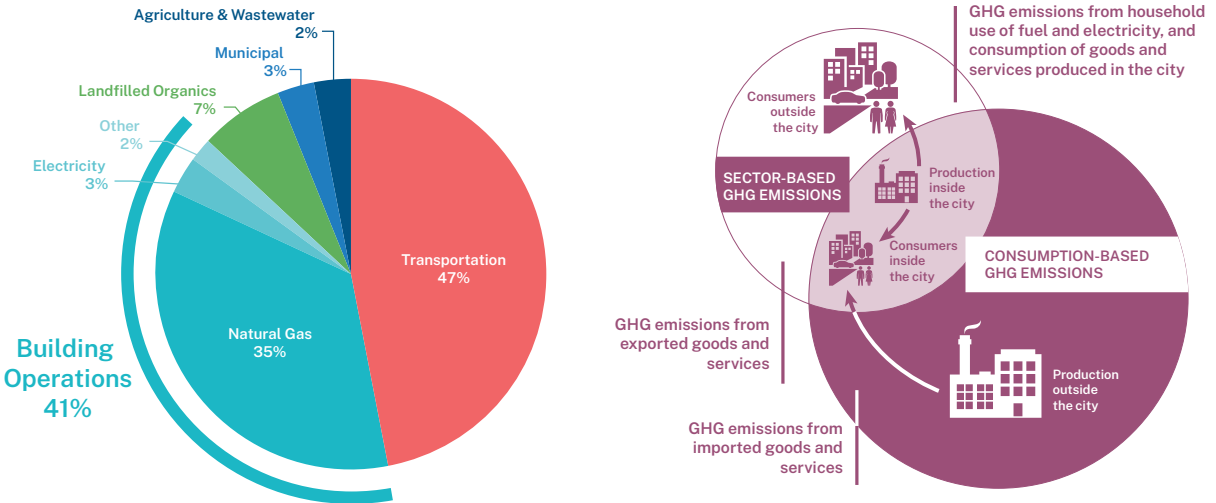
The San Francisco Board of Supervisors adopted and codified two GHG emissions targets in 2021.³ These include sector-based and consumption-based targets. Sector-based emissions inventories track traditional emissions in categories produced within municipal boundaries such as transportation, energy use in buildings, and solid waste.⁴ In contrast, consumption-based emissions use a full lifecycle accounting method that sums up the GHGs of all energy, transportation, food, goods, and services consumed by San Francisco households and governments, regardless of where they were released to the atmosphere.⁵ Consumption-based inventories include emissions generated outside city borders to produce any goods and services for consumption by residents. Assessing consumption-based emissions provides additional opportunities for reducing emissions and helps avoid inequities associated with outsourcing high-emissions activities to other communities.⁶ The table below shows the City’s GHG targets.

MILESTONE YEAR	SECTOR-BASED TARGET	CONSUMPTION-BASED TARGET
2030	61% below 1990 levels	40% below 1990 levels
2040	Net-zero (at least 90% below 1990 levels with the remainder sequestered or removed)	—
2050	—	80% below 1990 levels

Table 2: City of San Francisco GHG Emission Reduction Targets. Source: San Francisco CAP, San Francisco Environment Code.

To develop the CAP, the Department of the Environment led an extensive stakeholder engagement process with the goal that all communities be supported throughout the transition to a climate-just future.⁷ Since the primary goal of this analysis is to identify CAP funding strategies, this summary describes just a portion of the total breadth and scope of the CAP, focusing specific attention on the highest-profile investment items where significant infrastructure and/or spending will be needed. A number of outreach, policy, and programmatic actions in the CAP are equally important to the CAP’s success as the major capital investments, but they are not highlighted in this summary since their anticipated costs—while potentially significant—are orders of magnitude lower than those of the major investment initiatives and in many cases can be funded through the same strategies. However, the process of analyzing the CAP and developing a spending plan and priorities will reflect these supporting and enabling actions, and it will require incorporation of equity and environmental justice principles throughout.

The figures below show the City’s GHG emissions profile and the relationship between sector- and consumption-based emissions inventories.



Figures 1 and 2: San Francisco’s 2019 emissions inventory and the relationship between sector- and consumption-based inventories. Source: San Francisco CAP.

Building operations and transportation account for nearly 90 percent of emissions in San Francisco, with private vehicle use and natural gas combustion in buildings responsible for the vast majority of those two categories, at 72 percent and approximately 90 percent of their respective categorical emissions. As a result, while the CAP aims to address all sources of emissions, its most prominent (and potentially costly) strategies focus on buildings, transportation networks, and energy supply.

A. SIX FOCUS AREAS AND GOALS OF THE CAP

The CAP is structured in six core focus areas: Energy Supply (ES), Building Operations (BO), Transportation and Land Use (TLU), Housing (H), Responsible Production and Consumption (RPC), and Healthy Ecosystems (HE). For each sector, the CAP outlines multiple strategies to achieve various emission reduction (and associated) goals, and multiple specific actions within each strategy, totaling 31 strategies and 159 supporting actions.⁸ The City aims to complete these strategies and actions while also advancing four thematic lenses: racial and social equity, public health, community resilience, and a just economy.⁹

The six focus areas of and associated goals of the CAP are broken down as follows:¹⁰

Powering Homes, Vehicles, Businesses With 100% Renewable Energy

- Goal: 100% renewable electricity by 2025
- Goal: 100% renewable energy by 2040 (no fossil fuels)

Decarbonizing Building Operations

- Goal: All new construction is zero emissions starting in 2021
- Goal: All large commercial buildings are zero emissions by 2035
- Goal: All buildings are zero emissions by 2040

Decarbonizing Transportation & Investing in Public Transit

- Goal: By 2030, 80% of trips taken by low-carbon modes
- Goal: By 2030, at least 25% of all vehicles registered are electric, reaching 100% by 2040

Creating More Equitable Housing

- Goal: Build at least 5,000 new units per year, with no less than 30% affordable, focus on rehab of existing housing

Sending Zero Waste to Landfills

- Goal: Reduce solid waste generation 15% below 2015 levels by 2030
- Goal: Reduce disposal to landfill 50% below 2015 levels by 2030

Increasing Green Infrastructure & Drawing Down Carbon from The Atmosphere

- Goal: Sequester residual emissions through nature-based solutions

B. CAP STRATEGIES WITH LARGEST EMISSION REDUCTION POTENTIAL

While much of this analysis focuses on funding the largest investments needed to kick-start the goals and strategies of the CAP, it is important to understand which CAP actions will lead to the greatest emissions reductions. The following table highlights the 11 strategies that the CAP estimates will generate the greatest emissions reduction benefits, together with the CAP’s estimated cost for those strategies. (Note: the CAP estimates potential GHG emissions benefits and costs by strategy and not by individual actions within each strategy.) Strategies are listed in order of estimated GHG reduction potential.

STRATEGY	REPRESENTATIVE ACTIONS	GHG REDUCTION POTENTIAL BY 2030 (CAP ESTIMATE)	ESTIMATED COST BY 2030 (CAP ESTIMATE)
TLU.7: Where motor vehicle use or travel is necessary, accelerate adoption of zero-emissions vehicles (ZEVs) and other electric mobility options.	<p>7-2: Expand publicly available EV charging citywide that is financially and geographically accessible to low-income households and renters.</p> <p>7-3: By 2024, develop a plan to help the City’s non-revenue fleet and small and locally owned businesses build infrastructure that allows for zero emission delivery, drayage, and longer haul trucks.</p>	Greater than 400,000 mtCO ₂ e	\$1-10 million
TLU.3: Develop pricing and financing of mobility that reflect the carbon cost and efficiency of different modes and projects and correct for inequities of past investments and priorities.	<p>3-2: Advance local, regional, state, and federal opportunities to transition away from fossil fuels by increasing fees to drive...Identify and consider pricing mechanisms that can be implemented locally (e.g. vehicle license fee).</p> <p>3-3: Introduce new tools to manage short-term curb uses, such as flexible regulations and pricing.</p>	250,000 - 400,000 mtCO ₂ e	≤ \$1 million
TLU.1: Build a fast and reliable transit system that will be everyone’s preferred way to get around.	1-1: Fund and implement recommendations of the ConnectSF Transit Corridors Study and Muni Forward Plan, including taking steps to: a) implement key corridors for service every 5 minutes or better; b) invest in transit-only lanes, signal management, queue-jump lanes, c) retime traffic lights to minimize signal delay, and d) optimize stop spacing to maximize ridership.	100,000 - 250,000 mtCO ₂ e	\$500+ million

STRATEGY	REPRESENTATIVE ACTIONS	GHG REDUCTION POTENTIAL BY 2030	ESTIMATED COST BY 2030
	1-6: By 2025, implement 50 miles of Muni Forward transit priority improvements, including 30 miles of new transit-only lanes. to increase reliability, frequency and safety for riders.		
BO.2: Eliminate fossil fuel use in existing buildings by tailoring solutions to different building ownership, systems, and use types.	2-2: By 2023, develop a time- of-replacement policy that phases in requirements that all newly installed residential and other small building equipment be efficient and all-electric. 2-6: SFO will prioritize all-electric equipment replacements throughout campus buildings.	100,000 - 250,000 mtCO ₂ e	\$500+ million
ES.1: Supply 100% greenhouse gas-free electricity to residents and businesses.	1-1: Provide 100% renewable electricity at affordable rates. 1-3: Ensure 100% renewable electricity is the only option for San Francisco residents and businesses by 2025, by supporting state or local regulatory requirements and/or acquiring PG&E's grid assets serving San Francisco.	0 - 100,000 mtCO ₂ e	\$500+ million
BO.1: Eliminate fossil fuel use in new construction.	1-1: By 2021, require newly constructed buildings to be efficient and all-electric with no on-site carbon emissions.	0 - 100,000 mtCO ₂ e	Cost neutral, potential savings
TLU.2: Create a complete and connected active transportation network that shifts trips from autos to walking, biking, and other active modes.	2-2: Expand community programs and partnerships to make biking more accessible, via safety and maintenance classes, community parking, and subsidies for electric bikes for low-income residents. 2-4: Expand the protected bikeway network by at least 20 miles by 2025.	0 - 100,000 mtCO ₂ e	\$10-100 million
HE.3: Restore and enhance parks, natural lands and large open spaces.	3-2: By 2030, continue improving management of existing salt marshes and explore expanding restoration acreage of degraded Bayshore properties owned by the Port and Recreation and Parks at India Basin and at Candlestick State Recreation Area.	0 - 100,000 mtCO ₂ e	\$10-100 million

STRATEGY	REPRESENTATIVE ACTIONS	GHG REDUCTION POTENTIAL BY 2030	ESTIMATED COST BY 2030
HE.5: Maximize trees throughout the public realm.	5-1: By 2040, plant 30,000 street trees in the sidewalk tree wells, approximately a 25% increase, to complete the street tree network.	0 - 100,000 mtCO ₂ e	\$10-100 million
HE.6: Maximize greening and integration of local biodiversity into the built environment.	6-5: By 2030, maximize replacing concrete to create biodiverse green space on public land. 6-6: By 2030, build 10 pollinator habitat landscapes at public housing sites.	0 - 100,000 mtCO ₂ e	\$10-100 million
HE.7: Conduct carbon sequestration farming pilot projects and research.	7-1: By 2024, apply approximately 500 wet tons of biosolids per year as a soil amendment and to sequester carbon on newly identified sites such as mine reclamation projects.	0 - 100,000 mtCO ₂ e	\$10-100 million

Table 3: CAP strategies by estimated GHG emission reduction potential. Source: San Francisco CAP. Cost and emissions reduction impact estimates are derived from the CAP and are not the authors' own estimates. In general, cost estimates identify costs to the City and may not reflect all costs to private parties and residents.

Other CAP strategies (not listed in this table) are identified as “Enabling/Accelerating” as they are not expected to have a direct emission reduction impact but are key to the emission reductions identified in other actions. For example, only one of the Energy Supply strategies has an estimated GHG emission impact, while the other four are all considered “Enabling/Accelerating” of that impact. These other strategies—especially on housing affordability and housing habitability—are also vital to a successful and equitable CAP implementation process.

C. SECTOR-BY-SECTOR SUMMARIES

This section provides an overview of the CAP’s six sectors, the strategies in each sector that are anticipated to require the most significant financial investment (in general, those estimated at \$10-100 million or greater), and the actions within each such strategy that are mostly likely to involve significant expenditures (rather than solely consisting of supporting and/or policy actions). The sectors are listed in approximate order of emission reduction potential. See Appendix B for a complete list of CAP strategies and actions.

1. Building Operations

Background

In 2019, buildings were responsible for 41 percent of citywide emissions (2.02 million mtCO_{2e}), roughly split between residential and commercial buildings.¹¹ Of that total, the overwhelming majority (87 percent) was from natural gas burned to operate heating systems, boilers, water heaters, clothes dryers, and cooking appliances while 13 percent was from electricity.¹² While emissions from buildings have successfully been cut in half since 1990, completing net-zero emissions by 2040 will require a strategic shift from natural gas to 100% renewable electricity. Decarbonization efforts will require mass retrofitting of gas appliances and heaters while installing clean all-electric equipment for tens of thousands of tenants and working-class individuals. The City instituted an all-electric new construction requirement in 2021, achieving a CAP strategy (BO.1-1: “By 2021, require newly constructed buildings to be efficient and all-electric with no on-site carbon emissions”) that will take decades to achieve significant emissions reduction benefits. In early 2022, Mayor London Breed joined the White House-led National Building Performance Standards Coalition, along with three other California cities and over thirty jurisdictions nationwide committed to enacting building performance standards by April 2024.¹³

Many of the strategies and key actions in this section will rely on action and investment by individual residential and commercial building owners, rather than direct infrastructure or capital investment by the City. As a result, success will likely rely on a suite of incentives and financing programs incorporating local, state, federal, and utility funding streams to spur private building owner upgrades, together with direct City investments in priority communities and segments.

Selected Capital-Intensive Investment Strategies

BO.2: Eliminate fossil fuel use in existing buildings (2030 cost: \$500+ million)

Key investment actions:

- Develop a system to monitor the replacement rate of existing private sector natural gas equipment and report to BOS (BO.2-1)
- Develop a time-of-replacement policy to require all newly installed residential and other small building equipment be efficient and all-electric (BO.2-3)
- Ensure the City’s Capital Plan is updated to reflect the need to replace gas equipment (BO.2-5)
- Adopt a building performance policy requiring large commercial buildings to transition to electrification by 2035 (BO.2-7)

BERKELEY’S EXISTING BUILDING STRATEGY

In November 2021, the City of Berkeley released an Existing Building Electrification Strategy with a focus on equitable implementation including four “equity guardrails” promoting health and safety benefits, economic benefits, ease of installation, and housing affordability and anti-displacement. The strategy calls for policies mandating electrification at point of sale, lease, or renovation and via phased-in performance standards for existing buildings by 2030. The strategy emphasizes the need for affordable and accessible funding and financing strategies, including measures such as gas equipment fees with equity exemptions and tariffed on-bill financing.¹⁴

2. Transportation and Land Use

Background

Eliminating emissions from transportation will require a fundamental change in how people move around and how transportation and land use efforts are prioritized, funded, and implemented. Transportation is responsible for 47percent of San Francisco’s total emissions. 72percent of that amount comes from cars and trucks (only 3percent is from transit). As part of the CAP, the goal is for 80percent of all trips to be made by walking, biking, or transit by 2030, along with having a full 25percent of all vehicles electrified. By 2040, the goal is to have 100% of all vehicles electrified.

While City agencies and leaders will need to craft innovative programs and fund major capital investments to drive transportation decarbonization, they will be operating in the context of regional and statewide transportation networks and funding programs. Coordination with regional partners through the Metropolitan Transportation Commission will be particularly important, as will funding multijurisdictional transit programs that are vital to reducing reliance on automobile travel, including Bay Area Rapid Transit and Caltrain. Efforts to develop seamless Bay Area transit network planning and interoperability—such as the proposed Senate Bill 917—could help advance CAP implementation.¹⁵

The role of land use decisions in reducing emissions is central. Although for much of the past century land use decisions incentivized private vehicle ownership and sprawl, recently San Francisco has reversed that trend by removing parking requirements and revising density controls to enable the denser housing more reflective of walkable communities. Much more can be done in the urban and dense environment of San Francisco to further coordinate transportation and land use. In addition, pricing strategies for downtown core access and for parking—which City leaders are actively considering—have the potential to raise revenue for new investments while disincentivizing private vehicle use. These strategies create the potential for highly efficient emissions reduction, although careful consideration of equitable pricing will be vital. A number of existing City policies and programs support implementation of these CAP strategies, including the [Transit First policy \(Charter § 8A.115\)](#); [Vision Zero](#); an [Electric Vehicle Roadmap](#); the [Transportation Demand Management policy \(Planning Code § 169\)](#); the [ConnectSF Transit Corridors Study](#); the [Downtown Congestion Pricing Study](#); and the [Muni Forward Plan](#).

Selected Capital-Intensive Investment Strategies

TLU.1: Build a fast, reliable, and preferred transit system (2030 cost: \$500+ million)

Key investment actions:

- Fund and implement ConnectSF Transit Corridors Study and Muni Forward Plan including transit corridors and lanes and major capital

projects including Westside Subway, Caltrain Downtown Extension, Central Subway extension, and Link21 new transbay tube (TLU.1-1)

- Fund repairs with at least \$300 million annually (TLU.1-2)
- Implement 50 miles of Muni Forward improvements by 2030 including 30 miles of transit-only lanes (TLU.1-6)
- Fund regional-local connector projects and regional projects including Caltrain Downtown Rail Extension, Caltrain Service Vision, Second Transbay Crossing, California’s State Rail Plan, and ferry projects (TLU.1-8)

TLU.2: Create a connected active transportation network (2030 cost: \$10-100 million)

Key investment actions:

- Expand programs that provide active transportation corridors including connecting slow streets and bikeways (TLU.2-1)
- Expand community bike parking and bike access subsidies in lower-income communities (TLU.2-2)
- Expand protected bikeway network by 20 miles by 2025 (TLU.2-4)

TLU.7: Accelerate the adoption of zero-emissions vehicles (ZEVs) and other electric mobility options (2030 cost: \$1-10 million)

Key investment actions:

- Expand publicly available EV charging across the city that is financially and geographically accessible to low-income households and renters (TLU.7-1)

3. Energy Supply

Background

The San Francisco Public Utilities Commission (SFPUC) and Pacific Gas & Electric (PG&E) are the two energy providers for San Francisco. SFPUC provides more than 70 percent of the electricity consumed in the city through two programs: Hetch Hetchy Power and CleanPowerSF. Hetch Hetchy Power is San Francisco’s publicly owned utility that has been generating hydroelectric power for more than a century. It energizes municipal services such as Muni, public schools, and the SFO Airport, as well as thousands of residential and commercial customers. SFPUC also operates CleanPowerSF, a community-choice aggregation program (CCA) providing power to 380,000 residents. PG&E is the investor-owned utility (IOU) providing power to remaining residents and some commercial customers, and there are also some Direct Access customers who privately procure energy for large commercial and industrial customers. SFPUC operates many programs aimed at equity and helping all residents

adopt cleaner energy, such as energy bill assistance, GoSolarSF incentives, a Disadvantaged Communities Green Tariff and the in-development Community Green Tariff.

The CAP Energy Supply strategies include converting San Francisco's energy supply to 100% GHG-free electricity by 2025 (ES.1); investing in local renewable energy and resilience projects (ES.2); and developing a reliable and flexible local electrical grid (ES.3). The CAP estimates costs for these strategies at \$500+ million, \$10-100 million, and \$500+ million respectively.

ACQUIRING PG&E'S DISTRIBUTION GRID ASSETS

Acquiring the electrical distribution grid assets owned by PG&E in San Francisco (ES.1-3) is a key component of ensuring rapid decarbonization, as it would place the entire electricity supply under the City's commitment to 100% carbon-free power and could accelerate the deployment of distributed generation and energy storage projects while supporting significant increases in flexible supplies needed for building and vehicle electrification efforts.¹⁶ In 2019, the City offered PG&E \$2.5 billion to acquire the grid assets. PG&E rejected that offer and negotiations over the potential transaction, which include oversight by the California Public Utilities Commission, are ongoing.¹⁷ While the acquisition itself would not reduce consumption of fossil fuel-based power sources, it is seen as a significant (and capital-intensive) enabling step .

Selected Capital-Intensive Investment Strategies

ES.1: Supply 100% GHG-free electricity (2030 cost: \$500+ million)

Key investment actions:

- Provide 100% GHG-free power at affordable rates by 2025 (ES.1-1)
- Acquire PG&E grid assets (ES.1-3)
- Expand programs and preferential rates for lower-income residents (ES.1-4)

ES.2: Invest in local renewable energy and resilience projects (2030 cost: \$10-100 million)

Key investment actions:

- Assist affordable housing to install onsite solar and storage (ES.2-1)
- Develop onsite solar on City-owned buildings and reservoirs (ES.2-2)
- Scale up net metering, community solar, feed-in tariffs, and battery storage programs (ES.2-4)

ES.3: Develop reliable and flexible grid of the future (2030 cost: \$500+ million)

Key investment actions:

- Develop SFPUC Integrated Resource Plans for electrification (ES.3-1)
- Invest in distribution infrastructure and smart grid technology (ES.3-3)

4. Responsible Production and Consumption

Background

In addition to reducing waste and optimizing recycling, the CAP is looking at the impact of material production and the overall impact of consumption. San Francisco has long led on pursuing zero waste and reducing exposure to harmful chemicals. Now, the CAP aims to begin to address the lifecycle impacts of the products, goods, and services that flow in and out of San Francisco. The City plans to use a Consumption Based Emissions Inventory to best assess and act strategically to cut emissions, while aligning other activities with climate actions goals.¹⁸ The CAP aims to cut down on solid waste generation by 15 percent solid waste generation and 50 percent of landfill waste by 2030, compared to 2015 levels. Previously, San Francisco cut waste nearly by 50 percent between 2000 and 2012, but recent years have seen a reversal of the trend. Currently, there are mandatory recycling and composting programs for private properties. The CAP aims to expand the programs and invest in landfill diversion to reduce climate impacts.

Selected Capital-Intensive Investment Strategies

RPC.2: Reduce the carbon footprint of the food system by reducing waste, promoting climate friendly diets, and getting excess food to communities in need. (2030 cost: \$1-10 million)

Key investment actions:

- Develop and maintain Food Waste Prevention and Edible Food Recovery policy and develop a program and incentives structure for compliance and monitoring in alignment with California's State Bill 1383 food recovery regulations. (RPC.2-3)

5. Healthy Ecosystems

Background

The CAP's Healthy Ecosystems strategies and supporting actions are more limited on significant spending requirements and revenue generating opportunities. The City has undertaken a number of ambitious policies to manage healthy

ecosystems, including the San Francisco Urban Forestry Council, Urban Forest Plan, forest financing report, 2018 Biodiversity Resolution, and Significant Natural Resource Areas Management Plan. However, as acknowledged in the CAP, urban green space and access to nature are not equitably distributed throughout the city and the City's ambitious policies are only a starting point—for example, San Francisco has one of the smallest tree canopies (13.7%) of any major US city, and cover is lowest in many high-priority communities such as Bayview-Hunters Point (6.7%), Chinatown (5%), and Excelsior (10.3%).¹⁹ There are numerous opportunities to leverage these policies to create crucial carbon sequestration tools that will help San Francisco meet climate goals and create other community benefits, including a number of CAP strategies. Looking beyond the 49 square miles of the city boundaries, the Healthy Ecosystem sector will also address lands in surrounding counties, including watershed lands that protect water supplies, that San Francisco owns and manages as part of resource management.

Selected Capital-Intensive Investment Strategies

HE.3: Restore and enhance parks, natural lands and open spaces (2030 cost: \$10-100 million)

Key investment actions:

- Expand the City's natural areas preservation system through land transfers and acquisitions of undeveloped/unprotected private and public lands by 2030 (HE.3-1)
- Expand restoration acreage of degraded Bayshore properties owned by the Port and Recreation and Parks at India Basin and at Candlestick State Recreation Area by 2030 (HE.3-2)
- Create a 3-acre horizontal levee at Heron's Head Park by 2025 (HE.3-3)
- Restore and create 173 acres of natural ecological parkland on Yerba Buena and Treasure Islands by 2030 (HE.3-4)
- Restore 100+ acres of upland and wetland habitats at the San Bruno Jail and SFO West of Bayshore Properties by 2030 (HE.3-5)

HE.4: Optimize management of the city's urban forest system (2030 cost: \$10-100 million)

Key investment actions:

- Complete the Urban Forest Master Plan Phases 2 (Parks and Open Space) and Phase 3 (Private Lands and Backyards) by 2023 (HE.4-2)
- Expand urban wood waste diversion to maximize carbon sequestration and conserve landfill space by 2023 (HE.4-3)

HE.5: Maximize trees throughout the public realm (2030 cost: \$10-100 million)

Key investment actions:

- Plant 30,000 street trees in the sidewalk tree wells by 2040 (HE.5-1)
- Create a City-managed and -dedicated street tree nursery by 2023 (HE.5-3)

HE.6: Maximize greening and integration of local biodiversity (2030 cost: \$10-100 million)

Key investment actions:

- Revegetate degraded City and State major expressway, highway and rail corridors with hardy, low-maintenance trees and shrubs by 2026 (HE.6-3)
- Create a City-owned and managed local native plant nursery that supplies plants annually to City agencies by 2025 (HE.6-4)
- Replace concrete to create more biodiverse green space on public land by 2030 (HE.6-5)
- Build 10 pollinator habitat landscapes at public housing sites by 2030 (HE.6-6)
- Fully implement the Sunset Boulevard Biodiversity Master Plan by 2030 (HE.6-7)

HE.7: Conduct carbon sequestration farming pilot projects (2030 cost: \$10-100 million)

Key investment actions:

- Apply approximately 500 wet tons of biosolids per year as a soil amendment by 2024 (HE.7-1)
- Improve compliance with Environment Code Chapter 19 and SB 1383 and optimize organics processing (HE.7-2)
- Pilot appropriate carbon sequestration techniques as part of ongoing ecological restoration of degraded habitats within SFPUC lands by 2030 (HE.7-3)

6. Housing

Background

Ensuring that San Francisco is affordable and livable for its diverse population will be vital to success in reducing emissions and building long-term resilience. Providing housing to people of all incomes near services, jobs, and activities helps replace private vehicle trips with low-carbon modes such as walking, biking, and transit.²⁰ Therefore, in line with its equity goals, the CAP prioritizes increasing the amount of housing available with a focus on affordable and

inclusive housing options: the target is to build 5,000 new units per year, 30 percent of them affordable.²¹ The City's Regional Housing Needs Assessment (RHNA) allocation, a state and regionally determined and approved target for housing construction, is anticipated to include an 8-year target of 82,000 units.²² The existing guiding policy for housing is the 2022 Housing Element update, as part of the City General Plan. Overall, the goal is to increase the supply of affordable, compact, infill housing production near transit that can help residents avoid vehicle trips; preserve and upgrade existing affordable units; and build resilience and equity by supporting underserved residents.²³

The San Francisco Housing Accelerator Fund (HAF), a nonprofit created to accelerate the acquisition and preservation of affordable housing through a combination of lending and direct investment, could be key to realizing CAP housing goals. HAF provides predevelopment and acquisition loans to affordable housing developers for new construction and to nonprofit housing operators for small and large site acquisition and rehabilitation, with oversight from the City. A revolving fund including City seed funds helps attract private and philanthropic capital, allowing HAF to move quickly to deploy funds when a parcel or building comes on the market. HAF's primary programs include provision of bridge loans for nonprofit property developers to begin affordable housing acquisition and development while securing City and state grant funds; and direct acquisition and development of new affordable and supportive units. Since 2017, HAF has funded acquisition, construction, or preservation of over 1,500 affordable units housing over 2,600 San Franciscans.²⁴

The combination of financing and direct investment strategies and mix of capital sources offers a promising model for affordable housing development in line with CAP goals. HAF has the capacity to target decarbonized construction and rehabilitation projects with additional funding; additional funding could directly fund new zero-carbon acquisition and development projects and/or pay the marginal cost of renovations and technologies to decarbonize rehabilitated affordable housing units, as well as fund staff or consultant time to perform decarbonization technical assistance across the program's portfolio. In addition, funding for new HAF development and preservation of affordable housing near transit could help achieve CAP goals by addressing carbon emissions associated with displacement and the lack of affordable housing in San Francisco.²⁵

Selected Capital-Intensive Investment Strategies

H.1: Housing and stabilization programs to anchor and return BIPOC families (2030 cost: \$10-100 million)

Key investment actions:

- Expand tenant services including education, outreach, counseling, and legal and rent assistance (H.1-3)
- Initiate steps to increase housing production, particularly affordable and accessible housing (H.1-4)

H.2: Preservation and rehabilitation of existing housing and new housing development that serves vulnerable populations and disadvantaged communities (2030 cost: \$100-500 million)

Key investment actions:

- Provide funding and resources to help people who are unhoused or without stable housing become and stay safely housed (H.2-1)
- Subsidize and develop incentives for building housing targeted towards vulnerable populations in high resource areas (H.2-2)
- Initiate steps to fund the acquisition and preservation of 400 units of existing, affordable, multifamily housing annually (H.2-3)

H.4: Expand subsidized housing production and availability for low-, moderate-, and middle-income households (2030 cost: \$100-500 million)

Key investment actions:

- Increase production of affordable housing to meet RHNA target (H.4-1)
- Renew and increase public and private funding for affordable housing by 2025 as one-time bond funds and ERAF allocations are depleted (H.4-2)



III. REVENUE STRATEGIES

This section provides a brief analysis of the central revenue generation sources available to the City to fund the strategies outlined in the Climate Action Plan, including a discussion of funding and financing mechanisms available to California local governments and a review of potential revenue generation opportunities contained within CAP actions.

To fund the actions identified in the Climate Action Plan, the City will need to take a number of steps, including:

- Leveraging existing revenue sources that are not currently being applied to climate action (or perhaps are not being applied to the fullest extent possible)
- Developing new revenue streams from traditional municipal sources such as bonds, taxes, and fees, while accounting for equity
- Crafting innovative measures ranging from special districts to public-private partnerships and grant opportunities
- Accessing state and federal grant funds, as well as philanthropic and corporate funds.

These sources will likely include both funding and financing options (defined below) to ensure both immediate and sustained, long-term sources of funds for CAP actions.

The estimated cost of full CAP implementation is still being determined and will evolve over decades of action. But as described in the preliminary cost analysis in the [Executive Summary](#), it is clear that successful implementation will likely require tens of billions of dollars in public and private funds over multiple decades. No single revenue source will be financially sufficient or structurally appropriate to provide all of these funds. Rather, the City will have to embrace a mixed approach.

As City leaders evaluate funding strategies to pursue, they should consider the effectiveness, feasibility, and equity implications of each measure. In particular, when determining effectiveness, leaders should assess each measure for its:

- Adequacy to meet the revenue needs for particular CAP actions
- Sustainability and stability of funds over time
- Potential to deliver emissions reductions
- Potential to deliver and socioeconomic co-benefits

A. EXISTING CITY REVENUE SOURCES

According to an analysis in the CAP, local tax revenues provide the vast majority of San Francisco’s revenue, comprising over \$4.2 billion of the \$5.7 budgeted for the City’s General Fund in Fiscal Year 2019-2020; nearly half of local tax revenue (approximately \$2 billion) comes in the form of property taxes.²⁸ In Fiscal Year 2019-2020, San Francisco’s revenue sources included:

- Local tax revenue: 74% (of total revenue)
- State subventions: 15%
- Federal subventions: 5%
- Service charges: 4%
- Licenses, fines, interests, and rent: 2%

Local tax revenue sources include:

- Property taxes: 48% (of all tax revenue)
- Business taxes: 26%
- Hotel room tax: 10%
- Real property transfer tax: 7%
- Sales tax: 5%
- Utility users tax: 2%
- Parking tax: 2%

The balance of City revenue and of local tax revenue shifted during 2020 and 2021 due to the COVID-19 pandemic; for example, hotel and business taxes declined sharply while federal aid increased.²⁹ However, as business activity returns to pre-pandemic levels, historic revenue balances (such as those from FY 2019-2020) will likely return and should be a useful predictor for future balances.

FUNDING AND FINANCING

Funding and financing are distinct pathways to pay for public projects and capital investments, and most governments regularly deploy a combination of both to fund their operations, including their climate-related investments. Funding generally describes tax revenue, fees, grants, or other public dollars that pay for project implementation without repayment obligation. Financing generally includes bonds, loans, or other mechanisms that allow a government to borrow money to cover project expenses with an eventual repayment obligation, including any interest that has accrued over time. Governments can use revenues generated by a completed project or another source of funds (such as tax revenue) to pay financing costs.²⁶ Financing measures can also include strategies such as credit enhancement and revolving loan funds that are distinct from government borrowing but can leverage public funds to attract private investment in decarbonization. For such measures, governments typically identify public funds that will seed the financing program; develop a structure to de-risk private investment (such as a loan loss reserve); and then use the program to connect desired projects to capital.

As implemented by public agencies, the key distinction is sometimes described as “pay-as-you-go” funding (i.e., projects are completed with currently available funds) versus “pay-as-you-use” debt financing (i.e., funds are borrowed to complete projects and then repaid over time). Key considerations include the project’s financial feasibility with present funds or any mismatch between construction and revenue timelines; the urgency of the project; and generational equity considerations regarding who benefits and who pays.²⁷

B. POTENTIAL REVENUE-GENERATING MECHANISMS TO FUND THE CAP

A range of funding and financing mechanisms have the potential to generate revenue to fund the actions outlined in the CAP. The City will need to combine versions of these taxes, fees, bonds, special districts, grants, and other sources in overlapping and iterative fashion to fund the CAP's ambitious, multi-decade decarbonization program.

This section provides an overview of strategies available to the City—including many the City already employs to some extent but could expand—and a discussion of how they might fit with the items included in the CAP.³⁰ The strategies in this section are not necessarily recommended for prioritization by City leaders; see the [Executive Summary](#) for top-priority recommendations and [Appendix A](#) for a full list of strategies identified by stakeholders.

1. Taxes

Local governments use taxes on real property, business conducted within the jurisdiction, and certain other activities to provide general fund revenue and pay for budgeted programs as well as to secure and repay debt.³¹ (For example, most general obligation bonds are secured and repaid with property tax revenues.) California local governments face a number of restrictions on their taxation authority under Proposition 13 and its associated constitutional provisions, which generally require voter approval for new tax measures, including a supermajority requirement for many taxes and a small group of exceptions for certain types of fees and charges.³²

Property taxes are the City's most significant source of revenue, currently generating approximately \$2 billion annually for the City's General Fund, based on an approximately 1 percent assessment on all real property in San Francisco. Property taxes are the primary revenue stream used to support financing instruments including issuance of general obligation bonds, which allow the taxing government body to access revenue immediately to fund near-term projects. Property tax assessments are often the source of revenue for special financing districts. Under California's Proposition 13, two thirds of voters must approve any property tax increase, and increases are generally constrained in total amount and in applications, potentially limiting the usefulness of standard property tax increases to support CAP investments.

Parcel taxes generally take the form of a flat fee (rather than percentage assessment) per parcel of property, meaning owners pay the same amount regardless of the size or value of their property. Parcel taxes can raise a predictable and significant amount of revenue, but the flat rate across all property and community types results in inequitable outcomes, as high-income and low-income property owners pay the same flat rate. For example, 2016 Bay Area Measure AA instituted a \$12 parcel tax to fund approximately \$25 million per year in regional restoration and resilience efforts.

Sales taxes are a common source of local and regional transportation funding throughout California, such as the ½-cent taxes instituted in Los Angeles (Measure M, 2016), San Diego (Proposition A, 2004), and San Francisco (Proposition K, 2003). Sales taxes follow Proposition 13's requirement of two-thirds voter approval for any tax imposed for specific purposes (i.e., a “special” tax) or simple majority voter approval for any tax imposed for general purposes (i.e., a “general” tax).³³ A citywide **gas tax**—which would be imposed on top of existing federal and state gas taxes—would carry the same public approval requirements as any other tax on the sale of goods, but with the benefit of disincentivizing a significant GHG-emitting activity in line with CAP goals. Sales taxes (including gas taxes) are generally quite regressive since they consume a higher proportion of the assets of lower-income residents, and thus they could diminish the overall equity of a CAP revenue-generation plan.

Business taxes are imposed on the total receipts of most businesses operating in the City and generate hundreds of millions of dollars in City revenue each year. Business taxes require voter approval under Proposition 13. In 2020, San Francisco voters approved Proposition F which transitioned the City from a payroll tax to a gross receipts tax and raised the exemption threshold for small businesses.³⁴ Portland's Clean Energy Surcharge funds climate action programs through a 1 percent **gross receipts tax** on large, high-revenue retailers.³⁵ Some view this tax as a business tax rather than a sales tax since it is imposed on gross receipts and not on each transaction, and since its limitation to large retailers with gross income over \$1 billion means that affected businesses are national or international in character and thus less likely to pass new costs through to local residents (and more likely to raise costs, if at all, across all locations).

Transfer taxes are imposed at the point of sale of real property and generate over one hundred million dollars in City revenue each year. Transfer tax increases require voter approval under Proposition 13. Senate Bill 2 (2017) added a \$75 state transfer tax, with fifty percent of proceeds made available to local governments to streamline housing production.³⁶

Vacancy taxes are imposed on unoccupied residential and commercial real property units. These taxes are designed to motivate owners and investors to sell or rent unoccupied units, addressing housing supply concerns while also creating an additional source of revenue for a local jurisdiction. The City currently administers a commercial property vacancy tax which generates revenue for small business support.³⁷ A recently introduced proposal for the November 2022 ballot would institute a vacancy tax ranging from \$2,500 to \$5,000 per unit per year, with escalations for consecutive years of vacancy (defined as occupied for less than half the year).³⁸ A January 2022 City Budget and Legislative Analyst analysis on the number of residential vacancies in San Francisco, reasons for vacancies, comparison to other cities, and policy options concluded over 40,000 housing units are vacant, or approximately ten percent of San Francisco's more than 400,000 housing units. Approximately half of vacant units are in sale or leasing processes, and half are vacant for other reasons including occasional use, ongoing repairs, and personal or family reasons.³⁹ Notable jurisdictions with residential vacancy taxes include Washington, DC (adopted in 2016), Vancouver (2017), British Columbia (2018),

and Oakland (2018). Oakland’s Vacant Property Tax established an annual tax of \$3,000 to \$6,000 on vacant properties, determining that a property is considered vacant if it is “in use less than fifty days in a calendar year,” and not subject to any exemption.⁴⁰ British Columbia’s speculation and vacancy tax applies to about 6,500 residential properties (primarily owned by foreign residents and satellite families) and raised about \$80 million in revenue during the 2020 tax year.⁴¹ Berkeley is also currently considering a vacancy tax.⁴²

Personal income taxes are the greatest source of revenue for the state of California and are among the most equitable forms of revenue generation because of their progressive imposition, but there are no local government income taxes in California.⁴³ Prior to 2021, San Francisco imposed a payroll expense tax on employers which was often characterized as an income tax since it was calculated on employee pay (i.e., income) and employers could pass it through to employees.⁴⁴ While income taxation at the local or regional level would likely require authorization by the state legislature or potentially an amendment to the state Constitution, it represents one of the greatest opportunities to raise significant levels of revenue in a manner that reflects ability to pay and does not impose disproportionate burdens on lower-income residents. A regional approach would mitigate risk of out-migration from San Francisco.

A **carbon tax** could be imposed on greenhouse gas emissions or energy consumption specifically to fund CAP investments and disincentivize emitting activities. Such a tax would require voter approval (subject to Proposition 13 special/general tax requirements) but could potentially be structured in a progressive fashion to avoid inequitable imposition. The commercial buildings greenhouse gas emissions tax included in this report’s recommendations would be a form of carbon tax. Because California’s state-level cap-and-trade program covers major energy generation and industrial facilities and San Francisco contains very few of either, a city carbon tax would primarily cover building energy consumption (electricity and natural gas) and vehicle energy consumption (gasoline and, increasingly, electricity). Given the complexity of emissions measurement and verification, implementation of a carbon tax at the city level could prove challenging, although the City has made significant progress on commercial building emissions through the reporting requirements of the Existing Buildings Energy Ordinance.⁴⁵

Some analyses use the term **Climate Action Plan tax** to describe a carbon tax (or any tax) that is introduced to fund CAP investments; in practice, any tax measure described in this section could be considered a Climate Action Plan tax.

2. Fees

California local governments’ ability to assess fees is generally less restricted than the ability to tax, but fees must be narrowly tailored to ensure that the funds they generate are used to fund a program or project that specifically benefits the payors of the fee.⁴⁶

Utility user fees are collected from a variety of activities, such as building permit fees or solid waste fees. The City collects a relatively small portion of its total revenue from utility user fees, but this revenue stream may be a candidate for funding energy- or transportation-related CAP projects, as user fees are collected from energy and transportation activities. Similarly, Responsible Production and Consumption CAP activities could continue to be partially funded through solid waste fees, a type of user fee collected by the City. Utility user fees have the benefit of linking directly to energy, transportation, and waste services that are the subject of CAP decarbonization investments; however, they are typically imposed uniformly, and thus can be regressive in nature.

Vehicle registration and parking fees are paid by drivers who register a vehicle through the state Department of Motor Vehicles (a portion of this fee is passed to local jurisdictions) or who park vehicles in San Francisco. San Francisco implements a parking space occupancy tax “for the rent of every occupancy of parking space in a parking station in the City and County.”⁴⁷ Increasing the parking tax to collect additional revenue would be subject to Proposition 13 and require approval by two-thirds of voters.

SFMTA also collects fees from residential parking permits required for street parking in designated permit areas covering approximately one quarter of the city.⁴⁸ The program is currently operated on a revenue-neutral basis, with permit costs designed to generate just enough revenue to cover program operation costs. Expanding the parking permit system to include all parking uses of the curb (private curb cut access and street parking) and to cover the entire city, modifying it to allow for positive revenue generation, and increasing rates accordingly could generate tens of millions of dollars in sustained funds to support transportation investments in line with CAP actions. While SFMTA has traditionally operated the permit program on a revenue neutral basis, the California Constitution and state law likely accord cities the ability to charge reasonable fees for the use of public space (i.e., the curb) that generate positive revenue without triggering the restrictions of Proposition 13, a strategy legal experts have called for to support transit networks after COVID slowdowns.⁴⁹ (City leaders could also adopt a more robust parking fee system as a publicly approved tax measure under Proposition 13 rules, but it would not be necessary.) However, a parking tax or fee could raise equity concerns if its imposition is regressive and burdens San Francisco’s lowest income residents; solutions include charging for curb cuts that provide access to private driveways (so owners of private parking spaces are not exempted) and dynamic pricing (which could charge lower rates in lower-demand neighborhoods, although this strategy would require close evaluation as it could reduce rates in low-density, high-income residential areas). San Francisco also has special state law authorization to institute an additional local vehicle registration fee and the San Francisco County Transportation Agency administers a \$10 vehicle registration fee, approved in 2010, to fund road repair and transit investments.⁵⁰

Development impact fees are collected from new development projects within San Francisco. Collected revenue funds mitigations to increased strain on City services (e.g., more passengers at a particular Muni stop may be offset with Muni service enhancements).⁵¹ Impact fees are generally not subject to Proposition

13's requirements since they are classified as fees imposed in exchange for a specific benefit not conferred to the general public. The most recent fee information, including a list of specific developments required to pay the fee, is available through the Impact Fee Register.⁵² The Capital Planning Committee oversees rate increases. Article 4 of the City Planning Code covers development impact fees, including evaluation of fees and requirements for implementation.⁵³

3. Bonds⁵⁴

Local governments issue bonds in a range of formats to finance capital investments and public programs, with a range of local revenue streams—principally property taxes—providing security and repayment of the debt. California municipal finance and capital planning departments manage complex investment and revenue considerations when crafting bond proposals, with voters often responsible for final approval. One key advantage for municipal debt issuers—the ability to sell tax-exempt bonds which many investors prefer and are thus cheaper to issue—may be unavailable when the planned investments are for private use or benefit, which could limit the scope or size of potential bonds for building decarbonization and vehicle electrification measures in the CAP.⁵⁵

General obligation bonds are government-issued debt secured by local property tax revenue and are a common financing instrument used by local governments. General obligation bonds enable local governments to facilitate immediate and predictable access to revenue to fund major investments. General obligation bonds require approval of two thirds of eligible voters and their proceeds must fund improvements to real property or infrastructure that are deemed a public necessity by the Board of Supervisors. Per the City Charter, San Francisco is bound to a cap on outstanding general obligation bond indebtedness of 3 percent of the assessed value of taxable property within the city, and plans future bonds within this cap on a multi-year schedule; in addition, the Office of Resilience and Capital Planning has committed not to issue GO bonds that increase property tax rates above 2006 levels.⁵⁶ These two limitations may make it challenging to introduce significant new CAP-related general obligation bonds. However, these limitations are self-imposed measures meant to promote fiscal responsibility by preserving the City's bond rating, buyers' interest in City issuances, and the faith of taxpayers; they can be modified, and to the extent climate change poses a threat to the City's long-term resilience (and property values), they may merit raising specifically to allow for more CAP-focused investment.

The table below shows the upcoming proposals on the City's general bond obligation schedule that may be relevant to CAP investments and climate programs. Proposition A, the June 2022 \$400 million transportation bond that was largely devoted to Muni system maintenance and safety measures, narrowly failed to receive the requisite majority of votes, which could have significant implications for the bond schedule and future Muni system investments, including creating potential for a more CAP-oriented transportation bond in the near future.⁵⁷

SAN FRANCISCO GENERAL OBLIGATION BOND PROGRAM
(Dollars in millions)

ELECTION DATE	BOND PROGRAM	AMOUNT
June 2022	Transportation	400
November 2023	Public Health	187
November 2024	Affordable Housing	160
November 2026	Waterfront Safety	130
November 2027	Earthquake Safety & Emergency Response	217
November 2028	Parks and Open Space	151
November 2031	Public Health	TBD
TOTAL		1,245

Figure 3: Upcoming San Francisco GO bond schedule. Source: OneSF Capital Plan Overview.⁵⁸ June 2022's Proposition A failed to receive the requisite supermajority of votes for passage.

Revenue bonds are government-issued debt secured by the future revenue generated by the project that the bonds finance. Voter approval is required for most revenue bonds, but bonds for port- and airport-related projects secured exclusively by port and airport revenues, bonds for electric power facilities owned by the San Francisco Public Utilities Commission, and bonds for renewable energy and energy conservation equipment or facilities can be approved by the Board of Supervisors or the relevant City departments.⁵⁹ Because the project itself is the source of revenue that supports the bond issuance, revenue bonds would likely only be viable for revenue-generating projects in the CAP such as new energy investments. SFPUC's revenue bond program includes the City's first green bond, a 2015 issuance that generated \$30 million for clean energy and energy efficiency projects.⁶⁰

Environmental impact bonds finance environmental and resiliency projects, allowing for upfront capital to cover investments that enhance local environment and resilience goals. Environmental impact bonds are an emerging financial instrument, and differ from green bonds, which are more commonly used. An environmental impact bond links financial return to project performance, resulting in higher financial returns when a project achieves environmental benefits.⁶¹ Environmental impact bonds could be leveraged to finance CAP actions, and CAP actions with performance metrics may be strong candidates for environmental impact bonds.

Green bonds are a certification applied to bonds that support climate and environmental goals through the projects they finance and may receive preferential tax treatment or attract particularly motivated investors. Unlike

environmental impact bonds, green bonds do not tie financial returns to project performance.⁶² San Francisco issued its first green bond in 2015 through the SFPUC.⁶³ In 2020, SFPUC became the first US municipal green bond on the London Stock Exchange.⁶⁴

Joint powers authorities (JPAs) can issue **JPA housing bonds** to finance the purchase of market-rate housing with a property tax abatement, conversion to deed-restricted housing for lower- and middle-income tenants, and eventual government ownership or control of the buildings on conclusion of bond repayment. These instruments have the potential to create and preserve affordable multifamily housing, but advocates have voiced significant concern over the potential risks to local governments and the need to ensure that tenant savings exceed the foregone tax revenue and service fees.⁶⁵

4. Financing and Assessment Districts

In addition to general and enterprise fund revenue sources such as taxes and fees and traditional general obligation bonds, California local governments and agencies can finance capital projects with debt secured by voter-approved special assessments and taxes linked to specific projects. These strategies include financing and special assessment districts and tax-increment financing mechanisms that rely on the anticipated increase in property taxes that will result from the new infrastructure.⁶⁶ Since financing and assessment districts are typically tied to distinct neighborhood/district boundaries (and property taxes), they may not be optimal for funding citywide decarbonization efforts as compared to GO bonds—but for locally specific measures (such as green infrastructure) and later CAP investment stages, they may provide key revenue streams.

Enhanced Infrastructure Financing Districts (EIFDs) are financing districts that allow for the collection of revenue based on a property tax increment to fund public facilities including CAP-relevant items such as transit facilities, parks and open space, waste facilities, transit priority projects, SB 375 Sustainable Communities Strategy implementation projects, port and harbor infrastructure, and climate adaptation and resilience projects.⁶⁷ An EIFD is administered by a public financing authority (PFA) established by the local legislative authority (i.e., the Board of Supervisors), which is authorized to issue bonds to fund the selected infrastructure investments based on the incremental property tax revenue, subject to approval by 55 percent of district voters.⁶⁸ EIFDs have recently been used in the city to fund improvements at Treasure Island and Mission Rock.⁶⁹

Community Facilities Districts (CFDs) are financing districts that fund public improvements within the district boundaries (which can potentially extend citywide) based on a special parcel tax that is assessed on all properties within the district according to a “rate and method of apportionment” that can potentially reflect owners’ ability to pay or their likely benefit from infrastructure investments (rather than an ad valorem approach).⁷⁰ CFDs can finance CAP-relevant items such as maintenance of parks, streets, and roads; and a provision authorizes the financing of “tangible property with an estimated useful life

of five or more years that is owned by the local agency” that establishes the district, which could allow a CFD to finance a number of CAP investments.⁷¹ The facilities funded through the CFD can provide general services in the district area (including operation and maintenance costs) and need not provide a special or unique benefit to particular owners; however, those services must be “in addition to those provided in the territory of the district before the district was created” and cannot “supplant services already available,” potentially limiting application for some CAP items. Issuance of bonds to fund the infrastructure investments based on the assessment revenue requires two-thirds approval of district voters.⁷² An existing CFD may also annex new territory into the district.⁷³ CFDs have recently been used in the city to fund improvements at the Transbay Transit Center and on Treasure Island.

Special Assessment Districts (SADs) involve an assessment on properties within the district to fund a “special” improvement with specific benefits for those properties (the assessment revenue cannot be used to fund “general” benefits enjoyed by other properties or the public.⁷⁴ State-level analyses have recently raised concerns around SAD oversight.⁷⁵ One prominent example are **Geologic Hazard Abatement Districts (GHADs)**, which finance and maintain soil erosion and earthquake protection improvements.⁷⁶ SADs can fund a range of improvements, but due to the property-specific use of funds, they may not be a viable option for most CAP investments.

Community Revitalization and Investment Authorities (CRIAs) are districts that enable geographically targeted funding of economic development investments.⁷⁷ CRIAs execute community revitalization plans within a specific geographic area. Property taxes provide financing for CRIA investments that support a variety of potential projects, including transit stations, affordable housing, building retrofit loans or grants, public spaces, and transit-oriented development projects, among others. The cities of Riverside and Victorville have proposed creation of CRIA within their jurisdictions.⁷⁸

5. Grants

Federal, state, and regional government grant programs are a primary source of funding for City investment in transportation, housing, and other key CAP-related infrastructure.⁷⁹ City agencies with a record of funding major capital projects, such as SFMTA, are highly familiar with the process of applying for and spending these grant funds, and the City in general has a sophisticated ability to seek and obtain external grant funds.⁸⁰ In addition to winning grants for specific CAP investments, these agencies should consider how to integrate CAP priorities into their other grant applications wherever possible to contribute to interagency CAP goals.

In general, federal grants are a key source of funding for municipal infrastructure projects and come in two main forms. Competitive grants, which are typically awarded based on proposed projects’ alignment with program goals and ability to attract matching funds, have funded many climate action-relevant projects in San Francisco. For example, SFMTA has obtained approximately \$1 billion from the US Department of Transportation’s New Starts grant program to

fund the Central Subway project. While City leaders should target this and other federal Capital Investment Program sources for the most significant transportation capital projects in the CAP, funds are not guaranteed, and local and regional matching funds are typically expected.

By contrast, formula grants allocate funds to recipients (typically states) on a non-competitive basis and according to a set formula (e.g., factoring in population or income) as long as the recipient meets requirements. The federal Infrastructure Investment and Jobs Act (IIJA, also known as the Bipartisan Infrastructure Law or BIL) allocates funding towards formula grants that align with CAP implementation goals. For example, Surface Transportation Block Grant Program funds are distributed to states according to a formula, and state governments then direct the funds to eligible recipients, which may also be determined by a formula. States must direct 55 percent of Surface Transportation Block Grant funds to areas with certain population sizes, while 45 percent of the funds may be directed to any region of the state.⁸¹ Formula grants may offer more certainty than competitive grant programs, but available funding can still change over time as funding amounts or formula-based allocations may be modified, and the headline dollar amounts of new programs represent pools to be divided among many state and local entities.

This section discusses state and federal grant opportunities. At the federal level, both the Inflation Reduction Act of 2022 (IRA) and the IIJA will play a crucial role in climate action and will offer an array of grant opportunities relevant to the CAP. Tables below provide an overview of programs that could be applicable to CAP implementation. However, given the early stages of policy implementation, details are subject to change.

Although grants are crucial, CAP implementation cannot rely solely on grants to cover implementation costs. In particular, competitive grants may fund significant portions of large capital investments, but the City is not certain to win them; at the same time, formula grants may be more certain, but the City is only one of many recipients within the state.

CLEE's review of the IIJA, IRA, and the recent California state budget identifies several grant programs aligned with CAP implementation efforts. While these sources of funding offer several promising pathways for CAP implementation, relatively few of the funding programs and eligibility criteria in the IIJA or state budget align directly with CAP goals. Nonetheless, several programs stand out as potential opportunities:

- **IIJA:** Dedicated funding for electric vehicle and charging infrastructure deployment, including \$7.5 billion available for EV infrastructure.⁸² California is slated to receive around \$384 million of that funding over five years through formula grants.⁸³ The state will also be eligible for competitive grants to provide additional EV charging funds.
- **IIJA:** Allocations to public transit and active transportation, including an expected \$10.3 billion for California over five years.⁸⁴
- **IIJA:** \$550 million nationwide towards the Energy Efficiency and Conservation Block Grant Program until funds are exhausted.

- **IRA:** \$7 billion available for state, local, and tribal governments to fund green banks and other financing strategies for decarbonization investments.
- **California State Budget:** \$25 million available for building weatherization and electrification in low-income households and \$922 million for equitable building decarbonization measures administered by the California Energy Commission.
- **California State Budget:** \$750 million for active transportation and \$6.1 billion for ZEV infrastructure and access.

Several headline programs in IIJA focus on climate resilience, which is not directly covered by the CAP, while others do not include city governments as eligible recipients of funds. IIJA in particular has the potential to fund projects unaligned with local climate goals. In fact, a Georgetown Climate Center analysis concluded that the IIJA could potentially increase GHG emissions if funds are not spent carefully and intentionally by recipient government agencies, primarily because a high proportion of IIJA dollars are allocated towards surface transportation investments that could be directed towards highway expansion.⁸⁵ Thus, City leaders should look to IIJA for grant opportunities related to EV infrastructure and potentially building decarbonization, but may not be able to support a large portion of CAP implementation from the law. In accordance with the Administration's Justice40 initiative, City leaders should consider targeting these investments in lower-income and underserved communities. [Table 4](#) below highlights a selection of CAP-aligned opportunities that IIJA funds could support, and [Table 5](#) highlights a selection of CAP-aligned opportunities in the IRA.

California's 2022-2023 budget also represents a significant potential source of new funding for CAP actions, allocating \$22.5 billion in new funding for climate initiatives over five years while expanding on the \$15 billion directed towards climate resilience in the 2021 Budget Act.⁸⁶ CAP implementation could benefit from certain mitigation programs funded through the budget. Resilience investments are beyond the scope of the CAP. [Table 6](#) below highlights a selection of CAP-aligned opportunities that the state budget could support.

Grants can serve an important role as a source of supplemental funding to cover upfront costs, establish and grow programs, and jumpstart delivery of CAP actions that are well-suited for the particular grant program—in particular major capital investments in transit infrastructure.

Key grant funding opportunities may include the following federal, state, and regional programs:

Federal programs

The **Capital Investment Grants** program is administered by the Federal Transit Administration under the U.S. Department of Transportation (DOT), including the **New Starts, Small Starts, and Core Capacity** programs for public transit investment projects, which differ in their eligibility requirements (such as project type or estimated total capital cost).⁸⁷ Grant funding could be used towards transit projects in line with CAP goals.

The **Greening America's Communities** program through the U.S. Environmental Protection Agency (EPA) enables cities to undertake pilot projects that promote environmental and economic benefits.⁸⁸ Examples of eligible projects include pedestrian and bicycle infrastructure and safety improvements, urban greenways, and green infrastructure.⁸⁹ CAP actions related to Healthy Ecosystems, such as urban forestry or greening and integration of local biodiversity into the built environment, or active transportation improvements may be strong candidates for funding from this program.

Community Development Block Grants (CDBG) are administered by the U.S. Department of Housing and Urban Development (HUD) for resilience-focused housing projects that minimize future disaster risk.⁹⁰ While the program is better suited for resilience activities (e.g., making buildings more resilient to changing storm patterns), certain activities eligible under the program may align with the climate mitigation activities described in the CAP. For example, a CDBG grant can be used for improving building codes (which may be relevant for the CAP's building operations actions) or managing land use planning and community development (which may be relevant for housing and transit decisions).

Technical assistance grants can build institutional capacity and support climate action implementation, such as EPA's Environmental Justice Thriving Communities Technical Assistance Centers Program and collaboration with the Department of Transportation to issue grants to community organizations and nonprofits to manage environmental justice and transportation improvements.⁹¹

The 2021 **Infrastructure Investment and Jobs Act** includes billions of grant dollars for electric vehicle charging infrastructure, public transportation, congestion mitigation, and other investments through creation of new programs or increased funding for existing programs. Specific programs within the Act that may provide relevant funding for CAP actions focus primarily on transportation investments.

The table on the following pages identifies key IIJA provisions that could support implementation of CAP strategies and actions.

**INFRASTRUCTURE INVESTMENT
AND JOBS ACT SECTION⁹²**

POTENTIALLY RELEVANT CAP ACTION(S)^e

Sec. 11109. Surface Transportation Block Grant Program

TLU.7-2, TLU.7-5, TLU.7-7. This existing program covers a wide array of transportation investments, including National Highway System investments. The IJA modifies the existing program by expanding eligibility to include EV charging infrastructure.⁹³ The Surface Transportation Block Grant also includes eligibility for EV workforce and training, EV planning projects, EV infrastructure for freight transportation, and EV charging that supports “transit capital projects eligible under chapter 53 of title 49, United States Code.”⁹⁴ Actions to achieve TLU.7-2, 7-5, and 7-7 may be best situated to receive Surface Transportation Block Grant funds.

Sec. 11121. Construction of Ferry Boats and Ferry Terminal Facilities

TLU.1-8, TLU.3-5. This section allocates funding towards ferry and terminal construction. TLU.1-8 calls for enhanced collaboration and funding opportunities to improve regional and local transit connections, including ferry service. TLU.3-5 implements the Treasure Island Mobility Management program, which includes new ferry service. These CAP actions may be eligible to secure federal funding through the program.

Sec. 11130. Public Transportation

TLU.1-1, TLU.1-8. This section adds funding eligibility for bus rapid transit corridors or bus lanes. CAP actions TLU.1-1 and TLU.1-8 may be strong candidates for this funding given their emphasis on transit-only lanes and improved service reliability (TLU.1-1) and improving seamless transfers between local and regional transit systems (TLU.1-8).

Sec. 11133. Bicycle Transportation and Pedestrian Walkways

TLU.2-1, TLU.2-2, TLU.2-4. This section adds new language regarding shared micromobility and pedestrian and bicycle access. Relevant CAP actions include TLU.2-1, which expands corridors for micromobility devices, bicycles, pedestrians, and other modes of active transportation; TLU.2-2, which expands partnerships to encourage accessibility and safety of biking, including for electric bikes; and TLU.2-4, which expands the protected bikeway network at least 20 miles by 2025.

e This table is intended to provide an overview of sections of the Infrastructure Investment and Jobs Act that may offer funding for CAP actions, and to match relevant CAP actions where possible. This is not a comprehensive list of all the possible Infrastructure Investment and Jobs Act funding programs that the City may wish to explore, nor is it a comprehensive list of all the possible CAP actions that could be funded by each program. The City will need to ensure it meets any eligibility requirements before pursuing funding from these programs. Additionally, some funding initiated by the Infrastructure Investment and Jobs Act may be distributed to state governments, and then passed through to municipal governments. For a review of EV-oriented funding opportunities in the IJA, see Governor’s Office of Business and Economic Development, “Infrastructure Investment and Jobs Act: California Local Opportunities,” available at <https://static.business.ca.gov/wp-content/uploads/2022/05/IJA-Funding-Packet-Final-Updated.pdf>.

**INFRASTRUCTURE INVESTMENT
AND JOBS ACT SECTION**

POTENTIALLY RELEVANT CAP ACTION(S)

<p>Sec. 11401. Grants for Charging and Fueling Infrastructure</p>	<p>TLU.7. This new program allocates \$1.25 billion each to two categories of charging and fueling—corridor charging and local public charging.⁹⁵ The program seeks to deploy infrastructure “accessible to all drivers of electric vehicles, hydrogen vehicles, propane vehicles, and natural gas vehicles.”⁹⁶ CAP actions identified under TLU.7 may be strong candidates for this federal funding given their focus on expanding ZEV accessibility.</p>
<p>Sec. 11403. Carbon Reduction Program</p>	<p>TLU.1, TLU.2, TLU.3, TLU.7. This new program covers a wide range of projects aimed at reducing transportation emissions. Eligible uses of funds include bicycle infrastructure improvements, congestion pricing or other demand shift methods, and alternative fuel vehicle deployment (including charging infrastructure), and other eligible projects. The broad eligibility of the Carbon Reduction Program means that several categories of CAP actions could benefit from this funding, including TLU.1 (transit system), TLU.2 (active transportation), TLU.3 (pricing strategies), and TLU.7 (ZEV adoption).</p>
<p>Sec. 11404. Congestion Relief Program</p>	<p>TLU.4-2, TLU.4-4, TLU.4-5. The Congestion Relief Program funds cities that “advance innovative, integrated, and multimodal solutions to congestion relief in the most congested metropolitan areas of the United States.”⁹⁷ Grant funds may be used for “planning, design, implementation, and construction activities,” system deployment and operation, and incentive programs (including parking pricing and congestion pricing), among other end uses. The Congestion Relief Program may be relevant for TLU.4-2, which calls for expanded paid parking throughout San Francisco, as well as TLU.4-4 and 4-5, which seek to expand the parking tax on private parking and to develop programs to reduce parking pricing’s impact on low-income individuals, respectively.</p>
<p>Sec. 71102. Electric or Low-emitting Ferry Pilot Program</p>	<p>TLU.1-8, TLU.3-5. The IJA establishes a pilot grant program “for the purchase of electric or low-emitting ferries and the electrification of or other reduction of emissions from existing ferries.”⁹⁸ The program will receive \$50 million for each fiscal year between 2022 and 2026. TLU.1-8 involves funding projects and collaboration activities that improve connectivity between local and regional transit systems. TLU.3-5 specifically focuses on new ferry, bus, and tolling systems under the Treasure Island Mobility Management Program. These CAP actions may be positioned well for funding under the ferry pilot program.</p>
<p>Sec. 11529. Active Transportation Infrastructure Investment Program</p>	<p>TLU.2. The Active Transportation Infrastructure Investment Program funds projects that “provide safe and connected active transportation facilities in an active transportation network or active transportation spine.”⁹⁹ Application evaluation considered the applicant’s commitment to public input in project development and the extent to which projects connect transit services, “communities, including schools, workplaces, residences, businesses, recreation areas, and other community areas,” among other evaluation factors.¹⁰⁰ TLU.2 might be well positioned for these grants as it contains a set of several actions intended to shift trips from cars to active transportation modes, such as walking and biking.</p>

**INFRASTRUCTURE INVESTMENT
AND JOBS ACT SECTION**

POTENTIALLY RELEVANT CAP ACTION(S)

<p>Sec. 24112. Safe Streets and Roads for All Program</p>	<p>TLU.2. The Safe Streets and Roads for All Program is intended to provide up to \$6 billion in grants for local governments “to prevent roadway deaths and serious injuries.” Potentially eligible projects include multimodal network improvements, speed management measures, and safe transit route access investments, which could support or form components of CAP investments in transportation mode-shift.¹⁰¹</p>
<p>Sec. 40107. Deployment of Technologies to Enhance Grid Flexibility</p>	<p>ES.3-1, ES.3-3. IJJA Section 40107 amends the Energy Independence and Security Act of 2007 to include new technologies that improve grid resilience and flexibility, such as enhanced data analytics, Smart Grid technologies, or wireless broadband communications. This section also appropriates \$3 billion for the Smart Grid Investment Matching Grant Program between FY 2022 and 2026. ES.3-1 focuses on building a reliable and flexible energy grid by planning for demand and use changes due to transportation and building electrification. ES.3-3 invests in distribution infrastructure and smart-grid technologies. These CAP actions may be eligible for this portion of IJJA funding.</p>
<p>Sec. 40552. Energy Efficiency and Conservation Block Grant Program</p>	<p>BO.2, BO.3. The IJJA allocates \$550 million towards the Energy Efficiency and Conservation Block Grant Program, originally established in the Energy Independence and Security Act of 2007. IJJA expands the allowable uses of grant funding to include financing programs and other programs, such as “loan programs and performance contracting programs, for leveraging of additional public and private sector funds, and programs that allow rebates, grants, or other incentives....”¹⁰²</p>
<p>Sec. 11406. Healthy Streets Program</p>	<p>HE.5-1. The Healthy Streets Program supports projects that either install cool and porous pavements or increase tree cover. The program aims to improve air quality, reduce the urban heat island effect, and mitigate risks to residents and road users from floods or heat impacts. HE.5-1 is aligned with the goals of the Healthy Streets Program as it envisions 30,000 trees planted in San Francisco’s sidewalk tree wells by 2040.</p>

Table 4. Comparison of Infrastructure Bill Sections to Relevant CAP Actions.

City climate leaders can refer to the White House’s Bipartisan Infrastructure Law guidebook and interactive data table to assess which programs might be a good fit for their needs and collect information on eligibility or application requirements.¹⁰³

The **Inflation Reduction Act of 2022 (IRA)** is a multifaceted piece of legislation that will have major implications for national efforts to curb greenhouse gas emissions. Portions of the legislation apply directly to units of local government, including portions of the Greenhouse Gas Reduction Fund that will support state and local green bank initiatives.¹⁰⁴ In addition to the sections of the IRA outlined below, local governments with municipal utilities are now eligible to benefit from clean energy tax credits. Perhaps most notably, Section 13801 of the IRA allows municipalities and municipal utilities to directly access tax credits and pass on 100 percent of cost savings to customers.¹⁰⁵ This can assist municipalities and municipal utilities with increasing investments in clean energy generation and purchasing clean energy assets. Specific programs within the Act may provide relevant funding for CAP actions, including:

Sec. 60103. Greenhouse Gas Reduction Fund

ES.1-1, ES.1-3, ES.2-1, ES.2-2, ES.3-3, BO.2-7, BO.2-12. The IRA Greenhouse Gas Reduction Fund is a new fund administered by the Environmental Protection Agency (EPA). Municipal governments, tribal governments, and nonprofit entities that provide and leverage capital (e.g., green banks) to finance projects to reduce greenhouse gas emissions are eligible. The program has multiple components:

- \$7 billion for grants, loans, and financial and technical assistance “to enable low-income and disadvantaged communities to deploy or benefit from zero-emission technologies,” including rooftop solar, and other GHG reduction activities.¹⁰⁷
- \$11.97 billion for direct and indirect investment in projects, activities, or technologies that (1) reduce or avoid greenhouse gas and other air pollution by leveraging investment from the private sector or (2) assist communities in the efforts of those communities to reduce or avoid greenhouse gas and other air pollution.
- \$8 billion for the same activities specifically in low-income and disadvantaged communities, and the funding will remain available until September 30, 2024 to make grants on a competitive basis.

Actions to achieve ES.1, ES.2, ES.3, BO.2-7, and BO.2-12 may be best situated to receive greenhouse gas reduction fund awards because they will decarbonize the energy supply of the city and reduce emissions from the built environment.

Sec. 60114. Climate Pollution Reduction Grants

ES.5-1, ES.5-3, BO.2-1, BO.2-3, TLU.1-7, TLU.7-3. This section directs the EPA to allocate:

- \$4.75 billion for grants to implement GHG pollution reductions
- \$250 million to support the development of plans to reduce greenhouse gas pollution in support of later projects that implement such pollution reductions
- Many of the details remain to be determined by the EPA, but applications for funding will need to include information regarding the degree to which greenhouse gas air pollution is projected to be reduced in total and with respect to low-income and disadvantaged communities.¹⁰⁸

^f This table is intended to provide an overview of sections of the Inflation Reduction Act of 2022 that may offer funding for CAP actions, and to match relevant CAP actions where possible. This is not a comprehensive list of all the possible funding programs that the City may wish to explore, nor is it a comprehensive list of all the possible CAP actions that could be funded by each program. The City will need to ensure it meets any eligibility requirements before pursuing funding from these programs. Additionally, some funding initiated by the Inflation Reduction Act may be distributed to state governments, and then passed through to municipal governments.

CAP actions identified to reduce energy system, building operations, and transportation emissions may be strong candidates for this federal funding. Planning and infrastructure efforts, such as TLU.7-3 efforts to help the City’s non-revenue fleet and small and locally owned businesses build zero emission transportation infrastructure could qualify. Additionally, BO.2-3 aims to develop a plan and policy to require all newly installed residential and other small building equipment to be efficient and all-electric. Building decarbonization would reduce climate pollution and improve public health.

Sec. 50131. Assistance for Latest and Zero Building Energy Code Adoption

BO.2-7. In conjunction with the City’s All-Electric New Construction Ordinance, the City could apply for funding from the Department of Energy to expedite building codes that meet or exceed the 2021 International Energy Conservation Code (for residential) or the ANSI/ASHRAE/IES Standard 90.1-2019 (for commercial).¹⁰⁹ Local governments that have building code authority are eligible as grantees to assist with developing or adopting these plans. The IRA also appropriates \$670 million for the adoption of codes that meet or exceed the zero energy provisions in the 2021 International Energy Conservation Code or an equivalent stretch code and for related compliance plans.

Sec. 60107. Low Emissions Electricity Program

ES.1, ES.2, ES.3, ES.5. Through a \$17 million appropriation to the EPA, this program allows for outreach and technical assistance to local governments with respect to reductions in greenhouse gas emissions that result from domestic electricity generation and use. While the appropriation does not specify details for how EPA might allocate funds, the City could use potential funding for deployment of renewable energy resources, advanced metering infrastructure, demand response, and equitable electrification as they decommission the natural gas system.

Sec. 60501. Neighborhood Access and Equity Grant Program

TLU.2, TLU.3, HE.3, HE.5. A Federal Highway Administration (FHWA) program will provide more than \$3 billion of funding for highway removal or remediation, building or improving complete streets or active transportation networks, and increasing access to public spaces and transportation hubs. This new program covers a wide range of projects aimed at restoring communities and reimagining existing infrastructure while reducing transportation emissions. Eligible uses of funds include bicycle infrastructure improvements and alternative fuel vehicle deployment (including charging infrastructure), along with other eligible projects. The broad eligibility of the Neighborhood Access and Equity Grant Program means that several categories of CAP actions could benefit from this funding, including TLU.2 (active transportation), TLU.7 (ZEV adoption), HE.3 (park and open space restoration), HE.5 (street trees). There could also be alignment with Housing goals to create vibrant low- and moderate-income communities.

INFLATION REDUCTION ACT SECTION

POTENTIALLY RELEVANT CAP ACTION(S)

Sec. 40007. Alternative Fuel and Low-Emission Aviation Technology Program

RPC.4. The U.S. Department of Transportation is directed to allocate \$244.5 million in funding for projects to produce, transport, blend, or store sustainable aviation fuels and \$46.5 million for other projects “relating to low emission aviation technologies.”¹¹⁰ Local governments are among the public and private entities eligible to receive this funding. CAP actions RPC.4-1 and 4-2 regarding incorporating sustainable aviation fuel at San Francisco International Airport (SFO) may be bolstered by program funding. Switching aviation sector fuel to low carbon sources for both air and ground fleets and working with airlines to replace up to 50% of its fuel supply with Sustainable Aviation Fuels by 2050 will likely be eligible activities under the program.

Sec. 23003. State and Private Forestry Conservation Programs

HE.3, HE.5, HE.6. The U.S. Department of Agriculture is responsible for allocating a \$1.5 billion program to support tree planting activities by local governments, states, insular areas, Indian Tribes, and nonprofit organizations through the Urban and Community Forestry Assistance Program. Applicable Healthy Ecosystem CAP actions include supporting ecological parkland, planting street trees in the sidewalk tree wells (HE.5-1), and creating a City-owned and managed local native plant nursery that supplies plants annually to City agencies (HE.6-4).

Sec. 60201. Environmental and Climate Justice Block Grants

BO.2-8, BO.2-9. As part of a new federal block grant program, more than \$2.8 billion is available for activities including: “(1) community-led air and other pollution monitoring, prevention, and remediation, and investments in low- and zero-emission and resilient technologies; (2) mitigation of urban heat islands, extreme heat, wood heater emissions, and wildfires; (3) reducing indoor air pollution; (4) climate resilience and adaptation; and (5) facilitating engagement of disadvantaged communities in State and Federal advisory groups, workshops, rulemakings, and other public processes.”¹¹¹ Applicable CAP actions include efforts to align anti-displacement policies in buildings transitioning to efficient and all-electric systems and offering targeted technical assistance for BIPOC and low-income owners and tenants including building decarbonization incentive, rebate, and financing information.

Table 5. Comparison of Inflation Reduction Act Sections to Relevant CAP Actions.

State programs

The [California Climate Investments \(CCI\)](#) program, funded by California's cap-and-trade program, includes the following continuously appropriated programs:

- The [Affordable Housing and Sustainable Communities \(AHSC\)](#) program for emissions-reducing infill housing development.
- The [Transformative Climate Communities \(TCC\)](#) program for community-led resilience and emission reduction investments. (TCC is not funded via continuous appropriations but future funding rounds may become available.)
- The [Transit Intercity Rail Capital Program](#) for transformative capital investments in transit systems; and
- [Low Carbon Transit Operations](#) to provide operating assistance to transit agencies.

The [State Transportation Investment Program \(STIP\)](#) funds support local transit and transportation network improvements and [Senate Bill 1](#) grants for road improvement and public transportation investments.

The [Housing-Related Parks Program](#) funds investment in new or rehabilitated park space associated with low-income housing development.

The [Clean Transportation Program](#) funds investment in advanced transportation and fuel technologies.

The [California Infrastructure and Economic Development Bank \(IBank\)](#) provides direct public financing for local government building energy efficiency investments through the [Statewide Energy Efficiency Program \(SWEET\)](#), loans for capital investments including street, transit, and energy projects through the [Infrastructure State Revolving Fund \(ISRF\)](#), and flexible financing to attract capital through the [Climate Catalyst Fund](#) (funds are currently limited to wildfire management projects but may expand in future years).

[Table 6](#) below highlights some of the key allocations in the [FY 2022-2023 State Budget](#) that may be aligned with CAP implementation efforts. This is not a comprehensive list of all the climate-focused FY 2022-2023 budget allocations and does not include money available through existing programs that were not modified by the latest budget.

Zero-Emission Vehicle (ZEV)

TLU.7. The budget includes \$6.1 billion of new funding to bolster ZEV infrastructure and access. An additional \$3.9 billion from the 2021 Budget Act also targets ZEV deployment. Specific allocations that may be of interest for CAP implementation include:

- \$900 million for ZEV infrastructure build out in low-income communities
- \$419 million for expanded zero-emission mobility options in low-income communities, with emphasis on community-identified projects

Transportation

TLU.1, TLU.2, TLU.6. The budget allocates \$750 million for active transportation efforts, including improved connectivity of active transportation networks and pedestrian safety efforts, all with a focus on improving equity.

Energy

BO.2, BO.4. The budget directs over \$922 million to the California Energy Commission between 2022 and 2024 for equitable building decarbonization. The California Air Resources Board receives an additional \$40 million over the same time frame for equitable building decarbonization efforts related to ultra-low global warming potential refrigerants.

Sustainable Communities

TLU.5, TLU.6, H.1, H.2, H.3, H.4. The budget allocates funds towards infill development, affordable housing, and adaptive reuse projects. Line items relevant for CAP implementation include:

- \$500 million for infill parcel housing development in downtown areas
- \$300 million “to support land-use, housing, transportation, and land preservation projects for infill and compact development that reduce climate pollution.”¹¹⁴
- \$100 million for projects that facilitate adaptive reuse of buildings for residential purposes, primarily in downtown areas

Nature-Based Solutions and Community Resilience

HE.3, HE.4, HE.5, HE.6. Although the CAP focuses on climate mitigation efforts rather than resilience, the state budget categorizes some items under resilience that may be relevant for CAP implementation. These include:

- \$100 million for urban and community forestry and urban greening
- \$25 million for building weatherization and electrification (e.g., heat pumps) in low-income households

The budget also allocates \$1.4 billion towards nature-based solutions, and a portion of that amount will be dedicated towards improving community greening and enhancing biodiversity.

Circular Economy

RPC.2, RPC.3. The 2021 Budget Act directed \$270 million over two years to circular economy practices that reduce and repurpose waste materials. The 2022-2023 budget allocates “\$65 million associated with the second year of these investments to support implementation of goals to reduce short-lived climate pollutants, including advancing organic waste infrastructure, edible food recovery, and non-organic waste recycling.”¹¹⁵

Table 6. Comparison of FY 2022-2023 California State Budget Items to Relevant CAP Actions.

Regional programs

Metropolitan Transportation Commission (MTC) competitive grants support transportation capital investments.

Regional Transportation Investment Program (RTIP) funds support local transit and transportation network improvements, which are a portion of STIP funds.

6. Other Potential Revenue Sources

Congestion pricing involves the imposition of a charge on vehicles entering designated zones within San Francisco to reduce traffic and air pollution, with the resulting revenue available to fund projects including public transit and active transportation investments outlined in the CAP. The San Francisco County Transportation Agency is currently evaluating a proposal for congestion pricing for entry to the downtown (northeast) area, with fees imposed during weekday rush hours only and scaled by income. The proposed fee schedule would include a \$6.50 base fee for middle- and high-income residents; 33 percent, 66 percent, and 100 percent discounts for moderate-, low-, and very-low-income residents respectively; a 50 percent discount for disabled residents; and potential discounts for zone residents and bridge toll payers

as well as for Muni use, with associated increases in the base rate.¹¹⁶ The potential to adjust pricing strategies based on equity, as well as the direct link between disincentivizing private vehicle travel and improving transit service in congested areas (with appropriate investment in transit options to ensure equitable access), make congestion pricing an appealing option for raising CAP revenues. However, state authorizing legislation would be necessary due to a current ban on local road use fees, an issue the City has recognized since it first analyzed the strategy in 2010.¹¹⁷ London, Singapore, and Stockholm have instituted successful congestion pricing programs.

As the City increases its supply of publicly available electric vehicle charging pursuant to TLU.7, **City-owned and operated electric vehicle charging** at curbside and public parking locations could provide a substantial revenue stream to support installation and maintenance of the charger network. While private electric vehicle supply equipment (EVSE) companies may occupy much of the publicly available charging space, City-managed chargers could be a priority option to drive installation in lower-income communities in particular.

A **municipal green bank** can take many forms, but the core structure involves committing public funds to financing mechanisms such as direct loans, revolving funds, or credit enhancement to reduce investment risk in order to attract private capital to clean energy technologies and upgrades. Green bank programs often take the form of loan loss reserve fund credit enhancement for financial institutions and credit unions, serving as both an implementation strategy and a revenue generation strategy by leveraging limited public investment into significant private investment. Montgomery County, Maryland provides an example of a municipal green bank that has invested in energy efficiency for small business customers and renewable energy finance.¹¹⁸ New York City and Washington, DC have also created local programs and state-level programs exist in California, Connecticut, and Michigan to fund a range of decarbonization investments.

A **revolving loan fund** model would leverage a seed investment or initial fund to provide loans for the creation of new businesses or development of projects under the CAP with the capacity to generate revenue. That revenue then can be used to repay the loans and replenish the fund for subsequent iterations. Since fund recipients must be able to generate revenue, the model might only be applicable to a subset of CAP strategies (for example, those relating to electric vehicle charging infrastructure) or could be useful to facilitate clean transportation or energy efficiency retrofit service startups. The Biomass Utilization Fund created in Tuolumne County with a \$17 million federal investment is one example.¹¹⁹ The Climate Tech Finance program co-administered by the Bay Area Air Quality Management District and California Infrastructure and Development Bank, which includes a loan fund for innovative microgrid and electrification projects, is another.¹²⁰

Energy savings performance contracts (ESPCs) allow state and private property owners to finance building energy efficiency retrofits and installations based on a contract with an energy service company which commits to funding an efficiency project in exchange for repayment via the energy cost savings generated by the upgrade.¹²¹ ESPCs may present an opportunity for performance

upgrades of City infrastructure and, if aggregated and supported by the City, could assist private property owners as well.

Private philanthropy from national and local foundations as well as anchor companies could provide direct funding for new initiatives or pilot projects, seed funding for revolving loan funds or other investments with direct links to corporate operations (such as building retrofits), or additional funding for planned investments where existing City revenue will be inadequate to complete the project. The Business Council on Climate Change (BC3) is an example of corporate engagement that could facilitate identification of philanthropic opportunities.¹²²

California Environmental Quality (CEQA) mitigation can, in some cases, provide funding for emissions-reducing and other climate investments that align with the need to offset or reduce the environmental impacts of development projects. CEQA requires developers and lead agencies to mitigate the significant impacts of new projects where feasible. Some mitigation actions—in particular, strategies for mitigating vehicle miles traveled impacts under Senate Bill 743—could align directly with CAP investments in public transit, active transportation, and transit-oriented development, including potentially through a mitigation bank or exchange program to help direct investment.¹²³

Voluntary carbon markets allow for the sale of credits representing verified emissions reductions from the party achieving the reductions to parties seeking to support decarbonization or meet corporate emissions reductions pledges. While major questions remain around verification and additionality (i.e., confirmation that reductions would not have occurred but for the revenue source) of emissions reductions, voluntary markets represent an opportunity to monetize the GHG impacts of the CAP. With voluntary carbon markets valuing carbon at over \$10/ton and the CAP contemplating emissions reductions in the millions of metric tons per year, voluntary markets could generate millions of dollars for CAP implementation efforts while engaging City corporate and philanthropic partners.

C. EXAMPLES OF LOCAL CLIMATE AND CAP-RELEVANT FUNDING MECHANISMS

The following list includes representative examples of local funding mechanisms instituted in San Francisco, California, and nationwide that may offer valuable precedent for CAP implementation. It is not an exhaustive list.

San Francisco Proposition K (2003 Transportation Sales Tax): Authorized a ½-cent sales tax to fund transportation investment, administered by SFCTA, with approximately 65 percent dedicated to new transit investments.¹²⁴ Voters will decide on renewing the sales tax in November 2022.

San Francisco Proposition C (2012 Housing Trust Fund): Created a trust fund with redirected general fund money to create, acquire, and rehabilitate affordable housing and promote affordable home ownership programs over 30 years.¹²⁵

San Francisco Proposition A (2014 Transportation Bond): Authorized \$400 million in general obligation bonds to fund Muni rapid transit network improvements and extensions, pedestrian and street safety measures, and other priority transit infrastructure upgrades.¹²⁶

San Francisco Proposition A (2018 Seawall Safety Bond): Authorized \$425 million in general obligation bonds to fund planning, design, and construction of earthquake, flood protection, and general mitigation projects along the Embarcadero seawall.¹²⁷

San Francisco Proposition D (2019 Ride-Share Business Tax): Authorized a tax on commercial ride-share trips originating in San Francisco (1.5 percent for shared rides, 3.25 percent for single rides, 1.5 percent for all zero-emission vehicle rides) through 2045, expected to raise approximately \$30 million per year for public transit and pedestrian and bicycle safety investments.¹²⁸

Bay Area Measure AA (2016 Water and Habitat Protection Tax): Authorized a 12-cent parcel tax for 20 years (approved by voters), anticipated to raise \$25 million per year for habitat restoration, flood protection, and shore access projects across the nine-county Bay Area.¹²⁹

Bay Area Regional Measure 3 (2018 Toll Increase): Authorized toll increases on seven state-owned bridges in the Bay Area with 55 percent voter approval (enabled by state legislation, SB 595) to finance \$4.5 billion in transportation investments, including BART extension and service improvements, Caltrain extension, SF Muni and Transbay bus service improvements, and numerous roadway improvements.¹³⁰

Los Angeles Measure R and M (2008/2016 Transportation Sales Taxes): Authorized a ½-cent sales tax in Los Angeles County to fund transit projects, including 35 percent to new rail and bus rapid transit projects and 20 percent to bus and rail operations. Total anticipated funding of \$700 million in year one, \$8.5 billion through year 10, and \$40 billion through year 30. The tax was first approved by voters in 2008 (through 2039) and then made permanent in 2016.¹³¹

Los Angeles Measure A (2016 Parks Parcel Tax): Authorized a parcel tax of 1.5 cents per square foot of improved property with no expiration date, expected to raise over \$90 million per year for a mix of direct investment in priority parks and a competitive grant program for public agencies and nonprofits to invest in local parks and beaches.¹³²

Los Angeles Measure W (2018 Water Parcel Tax): Authorized a special parcel tax of 2.5 cents per square foot of impermeable surfaces, estimated to raise \$300 million per year for stormwater capture and treatment programs.¹³³

Palmdale EIFD/Infrastructure Financing Plan: The enhanced infrastructure financing district (EIFD) is the largest in the state, raising \$176 million to fund street/road, water, and other infrastructure on 23,000 acres of Palmdale and LA County, and is intended to support \$3.5 billion in private development.¹³⁴

Miami Forever Bond (2017): A \$400 million general obligation bond to fund investments in climate resilience-related areas including flood prevention, roads, parks, and affordable housing.¹³⁵

Portland Clean Energy Surcharge and Community Benefits Fund (2018): A voter-approved 1 percent surcharge on gross receipts of large retailers, with exemptions for grocery and medical purchases, to fund clean energy projects and associated job training and apprenticeship programs, anticipated to raise approximately \$50 million per year.¹³⁶

Denver Ballot Initiative 2A (2020): A voter-approved 0.25 percent increase in the local sales and use tax to create a “Climate Protection Fund” expected to raise \$40 million per year for distributed generation, adaptation and resilience, climate justice, employment, and other related programs.¹³⁷

Atlanta Environmental Impact Bond (2019): \$14 million EIB issued to fund stormwater improvements and related green infrastructure in a disproportionately impacted community, with a pay-for-success component based on total water capture as well as a water equity task force to guide decision making.¹³⁸

DC Water Environmental Impact Bond (2016): \$25 million EIB issued to fund green stormwater management infrastructure, with a pay-for-success component based on “risk share” or “outcome” payments depending on the over- or under-performance of the installation.¹³⁹

Richmond Social Impact Bond (2015): \$3 million bond issued for repair and rehabilitation of abandoned residential properties, followed by sale to first-time home buyers, with a focus on energy efficient construction.¹⁴⁰

Watsonville Carbon Impact Fee (2014): Development impact fee imposed on all new residential and commercial construction equal to 30-50 percent of the standard permit fee, with revenues deposited in a dedicated carbon fund for climate-related city projects.¹⁴¹

Congestion Pricing Programs

- **London:** £15 daily charge for vehicle entry into central London during peak hours, with discounts for zone residents (90%), 9+ passenger vehicles (100%), and other groups and exemptions for motorbikes, disabled drivers, and emergency vehicles. The program is associated with tens of thousands of fewer vehicles in the zone and hundreds of millions of dollars in annual net revenues.¹⁴²
 - **London Ultra Low Emission Zone:** £12.50 daily charge for vehicle use within the greater London area 24 hours a day, with exemptions for qualifying ultra low-emission vehicles (PM and NOx standards that went into effect for all new vehicles between 2005 and 2014) as well as taxis and a small group of utility vehicles.

- **Singapore:** Approximately \$3 daily charge for entry into the central business district during Monday-Saturday peak hours, with variable pricing based on congestion conditions. Associated with hundreds of millions of dollars in annual net revenues.¹⁴³
- **Stockholm:** Approximately \$4 daily charge for entry into the central business district during weekday peak hours, with variable pricing based on time of day. Associated with hundreds of millions of dollars in annual net revenues.¹⁴⁴

D. REVENUE GENERATION OPPORTUNITIES IN CAP ACTIONS

A number of emission reduction strategies and actions in the CAP have the potential to directly raise revenue that could be used to self-finance these actions (and/or potentially to fund other CAP actions). As City leaders develop strategic plans for CAP implementation, they should consider prioritizing completion of those actions that can generate funds while reducing emissions—in particular, congestion and parking pricing strategies as identified in the Executive Summary:

Energy Supply

- Rate design to facilitate renewable procurement (ES.1-3/4, ES.3-2)
- Local renewable energy development (ES.2-3/4/6)

Building Operations

- Commercial building electrification in-lieu fee (BO.2-7)
- Revolving decarbonization fund through virtual power plant or other district scale solution that monetizes the benefits derived from energy efficiency, demand response, and energy storage systems (BO.2-12)

Transportation and Land Use

- Downtown San Francisco Congestion pricing implementation (TLU.3-1)
- Local vehicle pricing strategies including vehicle licensing fees (TLU.3-2)
- Curb use fees and pricing strategies (TLU.3-3)
- Pricing/financing of mobility through implementing the Treasure Island Mobility Management Program, including new ferry service and East Bay bus service, while ensuring money generated from pricing programs is invested in transportation improvements for lower-income communities (TLU.3-4/5/6)
- Expanding paid parking citywide where appropriate with prices to reduce parking demand, reform residential parking system, add demand-responsive pricing (TLU.4-2)
- Expanding the parking tax on private parking (TLU.4-4)

- Expanding publicly available EV charging, launching pilots to advance the use of ZEVs, e-bikes, and other low-carbon modes of transportation (TLU.7-2/3/4/5/6/7)

Housing

- Federal, state, and local resources for accessibility, energy efficiency, decarbonization, and resilience upgrades in existing and new housing (H.2-4)
- Cost cutting measures to make affordable housing developments in San Francisco more competitive for regional, state, and federal funding (H.4-4)

Responsible Production and Consumption

- Creating markets for sustainable aviation fuel (RPC.4-1/2)



IV. EQUITY CONSIDERATIONS AND STRATEGIES

The CAP is expressly grounded in principles of racial and social equity, based on recognition that lower-income and BIPOC communities are among those least responsible for contributing to climate change and those most vulnerable to its impacts. The CAP’s equity focus—in particular, its emphasis on high-priority communities and its significant housing element—represents something of an evolution from past trends in California climate action planning, which has largely focused solely on greenhouse gas emission reduction and lacked concrete actions to address equity concerns.¹⁴⁵

Through the CAP community engagement process, City leaders identified five key themes and community priorities: evidence-based efforts rooted in transparency and avoidance of negative impacts; equitable distribution of cost burdens; balance of agency such that large institutions are responsible for climate actions rather than individuals; alignment with existing programs and policies; and workforce development that extends opportunities in low-income and BIPOC communities.¹⁴⁶ Additionally, the CAP applies four equity lenses through which CAP implementation actions are viewed and delivered. These include racial and social equity, economic recovery and just transition, protecting public health, and resilience.¹⁴⁷

Building from the CAP’s equity goals and lenses, CLEE conducted targeted outreach and interviewed experts and leaders from community-based organizations, local environmental justice groups, and policy and research institutions. CLEE heard from community members concerned about workforce impacts, economic burdens, displacement, infrastructure accessibility, and participatory opportunities in the CAP funding and implementation phase. The revenue recommendations in this report strive to incorporate these and other crucial equity concerns while remaining informed by the engagement process conducted to develop the CAP itself. Many but not all of these strategies are reflected in the [Executive Summary](#). The table on the following pages summarizes key equity strategies developed for CAP implementation.

As the CAP states, in order to acknowledge and remedy climate-related disparities, “strategies to reduce emissions must be intentionally designed for equity to mitigate and reverse these outcomes.”¹⁴⁸ It follows that funding and financing mechanisms to support those strategies should, where possible,

also be designed to reflect and advance the CAP’s equity principles and avoid traditional revenue-raising strategies that can overburden the residents least able to afford the cost.¹⁴⁹

The City undertook extensive engagement to develop the CAP strategies, drawing on input from communities across San Francisco’s diverse neighborhoods. City leaders have similarly stated that they are committed to equity in implementing the CAP and raising the revenue necessary to deliver on the CAP actions identified by San Franciscans. Some revenue generation strategies that deliver significant funding for CAP actions may be regressive, placing a burden on residents least able to afford additional taxes or fees. **Equitable CAP implementation will require raising adequate revenue without further disadvantaging these residents, and, wherever possible, reinvesting it in communities where historic and ongoing underinvestment has generated inequitable outcomes.**

This section presents various strategies that San Francisco could adopt in its efforts to ensure equity throughout CAP revenue generation and implementation. The section begins with an overview of the CAP’s equity considerations and a discussion of equity-aligned goals for funding and financing, followed by case studies examining equitable economic and revenue-generating principles. It concludes with a set of high-priority equity strategies and a summary of other equity-focused tools and strategies relevant for CAP implementation.

A. CAP EQUITY COMPONENTS, GOALS, AND METRICS

The equity grounding of the CAP’s analysis and strategies includes the following core components:

- CAP “lenses” that are designed to shape climate actions to “maximize benefits for the entire community, and with a special eye toward reducing burdens on marginalized communities” including racial and social equity, economic recovery and just transition, public health, and resilience.¹⁵⁰
- Action items focused specifically on equity, from equitable energy rate design and expansion of subsidy programs for lower-income residents to local hiring and workforce development initiatives throughout the CAP.¹⁵¹
- A Racial and Social Equity Assessment Tool (RSEAT) used to evaluate and improve CAP strategies.¹⁵²
- An analysis of the socioeconomic benefits of CAP strategies, with a focus on public health and reduced energy cost burdens.¹⁵³

The CAP’s Racial and Social Equity Assessment applied the RSEAT (a series of questions in five themes and 17 impact areas to address distribution of benefits and root causes of racial disparities) to the CAP’s strategies. The analysis identified eight cross-sector equity goals, associated metrics and CAP actions, and other recommendations to further advance racial justice. The first two columns in the table below detail these eight goals and systemic racial equity metrics to track progress in achieving them, derived from CAP

Appendix D. The third column of the table offers additional considerations for funding and financing each goal, based on the authors' analysis.

CAP GOAL	CAP METRICS TO TRACK PROGRESS	CONSIDERATIONS FOR FUNDING AND FINANCING
Shift financial responsibility for climate action away from parties least responsible for climate change	<ul style="list-style-type: none"> · Reduce cost burdens for low-income populations · Reduce wealth and income disparities by race 	<ul style="list-style-type: none"> · Rate and fee structures · Role of grants, incentives, and loans
Increase opportunities for people with barriers to employment and reduce income disparities by race	<ul style="list-style-type: none"> · Reduce wealth and income disparities by race · Increase City and County of SF contracts awarded to Disadvantaged Business Enterprises (DBEs) and Local Business Enterprises (LBEs) · Increase income for people with barriers to employment 	<ul style="list-style-type: none"> · Labor and workforce investments · Identifying priority populations · Incentives for DBE/LBE hiring in financing structure (aligning with the principles of the California Workforce Development Board's Putting California on the High Road report)
Reduce burden on and increase support for BIPOC-owned small businesses and nonprofits to reverse their displacement	<ul style="list-style-type: none"> · Reverse displacement of nonprofits that are BIPOC-owned and serving · Reduce income and wealth disparities by race 	<ul style="list-style-type: none"> · Incentives for hiring · Access to capital and funding · Legal services and technical assistance to access funding/finance · Tenant protections in building improvement financing
Repair land and property injustice	<ul style="list-style-type: none"> · Increase traditional land use and management by local tribes and the American Indian community · Reverse displacement of American Indian, Black, and other People of Color · Reduce disparity in homeownership by race · Reduce disparity in wealth by race 	<ul style="list-style-type: none"> · Land trusts and land banking · Equity measures in funding building decarbonization to avoid displacement and reverse housing discrimination · Investments in first-time homeownership

CAP GOAL	CAP METRICS TO TRACK PROGRESS	CONSIDERATIONS FOR FUNDING AND FINANCING
Protect low-income residential tenants from rising costs and displacement and support development of affordable housing	<ul style="list-style-type: none"> · Reduce housing cost burden for low-income tenants · Reverse displacement of American Indian, Black, and other People of Color 	<ul style="list-style-type: none"> · Work on pass through of building retrofit and upgrade costs to avoid burdens on residents · Affordable housing investments · Displacement avoidance strategies – legal assistance, etc.
Protect all mobility needs, including for those who are vehicle reliant	<ul style="list-style-type: none"> · Improve mobility in areas underserved by transit, based on community needs · All people in SF have mobility that is comfortable, affordable, and reliable · Improve air quality in high air pollutant exposure zones 	<ul style="list-style-type: none"> · Considerations for parking and pricing policies – exceptions and/or discounts · Public-private partnerships for transit gaps/connections · Small business support for fleets
Ensure equitable development and service provision, while preventing displacement	<ul style="list-style-type: none"> · Reverse displacement of BIPOC communities · Reverse health disparities by race · Increase representation from BIPOC communities in decision making roles 	<ul style="list-style-type: none"> · Displacement avoidance investments and tools · Technical assistance and capacity building as an investment need · Community benefits agreements · Community solar and other projects designed to support participation by renters, low-income population, etc. · Co-development of investment strategies
Reduce racial bias and discrimination in government and community processes	<ul style="list-style-type: none"> · Reduce disproportionate arrests of Black and Brown people 	<ul style="list-style-type: none"> · Co-development of investment strategies · Technical assistance and capacity building as an investment need

Table 7. CAP equity goals and metrics, with considerations for funding and financing.

B. CASE STUDY: GREENLINED ECONOMY GUIDEBOOK

The Greenlining Institute’s *Greenlined Economy Guidebook* presents a “long-term vision for an economic system with racial equity at its core” based on a cooperative, regenerative, democratic, non-exploitative, and inclusive economy.¹⁵⁴ The Guidebook distinguishes between the inequitable redlined economies that have given rise to climate change and an equitable, racially just, “greenlined” economy to build resilience. The framework includes six standards for equitable community investment that offer guiding insight for CAP investment:

- **Emphasizing race-conscious solutions** to target and prioritize the most impacted communities, in light of the role that racist policies have played in creating today’s economic and environmental challenges.
- **Prioritizing multi-sector approaches** in light of the multi-sector nature of climate and economic problems.
- **Delivering intentional benefits** to those most in need while avoiding increased or new burdens, rather than hoping for benefits to trickle down to communities.
- **Building community capacity** to acknowledge and overcome the role of structural racism in limiting the capacity of communities of color to invest and improve.
- **Being community-driven at every stage** of idea generation and decision-making.
- **Establishing paths toward wealth-building** for as many community members as possible, including pathways beyond and lower barriers to entry to homeownership.¹⁵⁵

The Guidebook maps these standards across public, private, public-private, and philanthropic investment types, including an emphasis on community targeting for public investments and bond measures.¹⁵⁶ To the extent possible, City leaders could focus CAP investments on communities and areas that stand to benefit the most from equitable community investment standards.

C. CASE STUDY: MORE THAN FINES AND FEES: INCORPORATING EQUITY INTO CITY REVENUE STRATEGIES

In December 2021, the Urban Institute published an assessment of efforts to describe the challenge and opportunity of integrating equity principles into city revenue strategies.¹⁵⁷ The efforts were completed by the What Works Cities Initiative City Budgeting for Equity and Recovery program, funded by Bloomberg Philanthropies. The Urban Institute analysis examined city revenue structures, including the types of revenues cities rely on and how much cities collect from residents by race or ethnicity.

Key findings from the report include:

- Cities have limited revenue-generating alternatives because state rules restrict which local revenue-raising mechanisms are permissible. Overall, limits on local tax authority and property taxation, a need to maintain the economic base, and a need to meet service demands can constrain cities' flexibility and ability to reform revenue structures.
- Only a handful of cities routinely use “mature” equity plans or frameworks for all citywide revenue proposals. One example is the District of Columbia which recently instituted a Council Office of Racial Equity (CORE) and racial equity impact assessments (REIAs) for major legislation.¹⁵⁸
- Many cities, including Buffalo, New York and St. Louis, Missouri, have filed recovery plan reports describing use of American Rescue Plan Act funds guided by equity.¹⁵⁹ For example, the City of Buffalo's spending proposal includes “disaggregated data on service industry employment by race and neighborhood” in efforts to better contextualize the wealth gap, needed job training and skill building, and related spending allocations.¹⁶⁰ Buffalo officials noted that because communities of color disproportionately made up service industry jobs impacted by the pandemic (hotel workers, restaurant workers, etc.), focusing on pandemic-proof job training opportunities in those communities could impact system economic inequities.¹⁶¹
- The Infrastructure Investment and Jobs Act (IIJA) outlines equity as a core value in infrastructure spending, including for economic redevelopment, roads, highways, bridges, climate change mitigation, water, sewer, and other functional areas.¹⁶² In addition, the IIJA reauthorizes and expands eligibility for the Surface Transportation System Funding Alternatives Program to local governments. The new Strategic Innovation for Revenue Collection program will “test the design, acceptance, equity, and implementation of user-based alternative revenue mechanisms” such as road usage fees.¹⁶³
- Cities could monitor and measure how changes in revenue and revenue dispersion are placing burdens on low-income residents and communities of color.¹⁶⁴ Using this data, cities can better assess outcomes by race, income, and other factors indicative of progress towards equity goals.

Additionally, the Urban Institute developed criteria questions that help assess traditional and equitable tenets of revenue evaluation, with some additional considerations to frame funding opportunities through the lens of equity. For example, alongside traditional tenets of revenue evaluation (such as adequacy, sustainability, stability, and transparency of funding), leaders should assess revenue measures for their horizontal and vertical equity, market neutrality, and equity in the use of proceeds. Key questions could include “Does the tax provide fair distribution of burden across individuals and businesses at different income levels, geographies, and demographics?” or “If vulnerable populations are disproportionately paying the tax, are they (at a minimum) receiving a proportional benefit?”¹⁶⁵ These types of inquiries are vital for City leaders as

they craft CAP revenue strategies, particularly given the scale and diversity of measures that will be needed to adequately fund CAP implementation. The report also defines a “mature” equity-informed revenue approach as one that includes “principles and a process to integrate equity into revenue strategies” and “measures and tracks how the equity-informed revenue processes enhance determinants of equity in the city over time,” highlighting the extent to which equitable CAP implementation will rely on creation and support of concrete decision-making processes, some of which the City has already initiated.¹⁶⁶

D. EQUITABLE FUNDING AND IMPLEMENTATION STRATEGIES

Based on research outreach, CLEE identified a set of strategies for equity in CAP revenue generation and implementation. Table 8 describes a set of top-priority strategies developed through CLEE’s process, many of which are reflected in the [Executive Summary](#). The remainder of the section discusses a range of equitable taxation, budgeting, contractual, impact assessment, mapping, and oversight strategies that can shape CAP implementation.

1. Top-priority strategies

STRATEGY	EXAMPLES/PRECEDENT
<p>Create an independent community council to provide equity oversight of CAP investment and implementation with representatives from city government and community, climate, environmental justice, labor, and small business groups</p> <ul style="list-style-type: none"> · Focus council activities on individual CAP sectors for one- or two-year timeframes, beginning with Building Operations followed by Transportation and Land Use, with sector-specific leaders from City departments invited to participate as relevant · Vest the council with substantive decision-making authority by requiring council approval for a designated portion of investment decisions in major GO bonds 	<p>Solar on Multifamily Affordable Housing (SOMAH) Advisory Council: A program serving California investor-owned utilities, the community-driven process includes an advisory council of stakeholders from community-based organizations. These organizations contribute to program development and implementation, and thus the advisory council can monitor the progress of the program and maximize benefits to low-income housing tenants.</p> <p>SF Planning EJ working group: The City established an Environmental Justice Working Group to include both community leaders representing the neighborhoods most impacted by environmental justice and staff from City agencies that have EJ programs and/or oversee relevant work.</p> <p>City of Los Angeles Climate Emergency Commission: A body designed to assist with establishing climate priorities and approving the climate roadmap, with positions designated for tribal, youth, disadvantaged community, small business, and other representatives.</p>

STRATEGY

EXAMPLES/PRECEDENT

Establish a participatory budgeting process for a specific portion of total CAP investments as part of the oversight council processes

[Fresno TCC process](#): The City of Fresno used a participatory budgeting process to develop a suite of proposals for its submission to the state Transformative Climate Communities (TCC) program. The five-month process included five community steering committee meetings, ultimately leading to winning more than \$66 million in funding.

[SFMTA-BHP process](#): SFMTA engaged Bayview-Hunters Point community residents for a two-year process to develop spending priorities under a Caltrans Sustainable Planning Grant. The process included formation of a community steering committee, solicitation of ideas, and a public vote on project proposals. The selected projects included crosswalk upgrades, new bus shelters, and more staff.

[Cambridge, MA participatory budgeting](#): Projects must benefit the public; be one-time expenditures that cost \$1 million or less; be physical infrastructure or capital projects (something bought or built); and be implemented by the city on city property.

Require racial equity impact assessments for major revenue generation and investment initiatives based on the CAP's Racial and Social Equity Assessment Tool

[DC Racial Equity Impact Assessments](#): Washington, DC's Council on Racial Equity (CORE) conducts Racial Equity Impact Assessments (REIAs) for most proposed legislation. Notably, general obligation and revenue bonds and the budget are excluded. REIAs assess how a bill would operate in practice, examine the inclusion of different groups in the bill's development, and determine whether the bill would impact particular groups or racial equity.

Work with priority communities, as identified in the Environmental Justice Communities Map, to identify high-priority projects that address community needs and support CAP implementation

[AB 617 Community Air Protection Program \(CAPP\)](#): In response to Assembly Bill (AB) 617, CARB established the CAPP to reduce exposure in EJ communities. Each selected community organizes a Community Steering Committee to develop and implement strategies and priorities. Each Committee develops a Community Assessment Monitoring Plan to identify hotspots and a Community Emissions Reduction Plan to prioritize investment.

STRATEGY

EXAMPLES/PRECEDENT

Create a funding mechanism to support CAP-related project predevelopment activities, such as electrical panel upgrades before building decarbonization installations, to ensure program accessibility for high-need applicants with limited resources

[TECH Clean California](#): A \$120 million state initiative to advance building decarbonization, including incentives for multifamily properties and “quick start” grants that can fund electrification readiness and fuel switching preparation measures.

Ensure community-based organization (CBO) outreach and language services

[SOMAH Marketing and Outreach Services](#): As part of the SOMAH program, community-based organizations were paid as subcontractors to provide multilingual services, such as a multilingual tenant hotline. The organizations completed direct outreach and education in target communities, with a focus on small property owners and tenants.

Administer stipends for community engagement and participation so that time is compensated

[Eastern Coachella Valley AB 617 Community Steering Committee](#): Active community residents on the Committee are entitled to receive a stipend for each meeting attended, subject to the availability of AB 617 funding. The stipend is only available for local community residents. The stipend allows for greater participation and procedural equity within the AB 617 implementation process.

Table 8. *High-priority strategies for equitable CAP funding and implementation.*

2. Progressive and equitable tax strategies

City leaders can craft any CAP-oriented taxes to ensure their burdens are distributed equitably across residents according to ability to pay and in recognition of the traditional disproportionate impact of tax policies on lower-income and underserved communities. Strategies could include:

Exemptions or carve-outs for essential goods and services such as food and medical care. For example, Portland’s Clean Energy Surcharge on large retailer income excludes qualifying groceries, pharmaceuticals, medical services, and certain other expenses.¹⁶⁷

Exemptions or carve-outs for smaller businesses. For example, Portland’s Clean Energy Surcharge only applies to retailers with total gross income over \$1 billion and in-city gross income over \$500,000.¹⁶⁸

Progressive application to larger properties. For example, Los Angeles Measure A's parks parcel tax is charged per square foot of improved property, meaning owners of larger properties pay proportionately higher taxes. Los Angeles Measure W's water parcel tax is charged per square foot of impervious property, meaning owners of larger properties and homes pay proportionately higher taxes; however, if lower-income owners have reduced vegetation and tree canopies on their properties, such a charge could prove inequitable without other exemptions or opportunities for vegetation cover.

3. Community and participatory budgeting processes

Participatory budgeting is a process in which community members participate directly in spending decisions, with the goal of ensuring greater equity and public buy-in for public investments. Participatory budgeting typically includes process design by a steering committee, idea generation by community members, proposal refinement and outreach by volunteer delegates, and a public vote.¹⁶⁹ Examples of participatory budgeting include:

Bayview-Hunters Point, where SFMTA partnered with community residents for a two-year process to develop spending priorities for \$750,000 under a Caltrans Sustainable Planning Grant as part of a broader Community-Based Transportation Plan.¹⁷⁰ The process included formation of a community steering committee, solicitation and refinement of ideas into 11 qualifying categories, and a public vote on 15 project proposals by 368 voters. The selected projects included three transit assistant positions, four crosswalk upgrades, and two new bus shelters.¹⁷¹

Fresno, where the city used a participatory budgeting process to develop a suite of proposals for its submission to the state Transformative Climate Communities (TCC) program. The five-month process included five community steering committee meetings and a final vote by 125 committee members, resulting in over \$215 million in proposed climate resilience investments including a satellite community college campus, mixed-use development, clean shared mobility and rail connectivity, and parks and urban greening.¹⁷² (Approximately \$77 million of the proposals were included in the TCC proposal and over \$137 million sought match funds.) While some analysts found that the budgeting process had limited community representation and was overly reliant on existing community groups and elite institutions,¹⁷³ the proposal that the participants developed was ultimately successful, winning a \$66 million TCC grant, the largest in the program's history.¹⁷⁴ Following the grant award, Fresno developed and dedicated over \$800,000 to a Community Engagement Plan for residents, business owners, and other stakeholders in priority communities to "be active participants in all areas of project planning and implementation" of the project, building on the community budgeting effort.¹⁷⁵

New York City, where regular participatory budgeting processes have been used since 2011 to inform community decision-making on the investment of individual council members' discretionary district funds. Qualifying projects must be physical infrastructure with a lifespan of at least 5 years, cost over \$50,000, and benefit the public. The most recent round included over 30 of

the 51 council districts and \$35 million in parks, transit, schools, and other investments.¹⁷⁶

Cambridge, Massachusetts, where since 2015 residents over 12 years old have had the opportunity to vote directly on a subset of capital expenditures through a program run by the City's budget department. In the most recent round, residents selected six projects for a total of \$1 million in capital expenditures, including investment in two new public EV chargers.¹⁷⁷ The annual process includes community submission of ideas, volunteer outreach and development of formal proposals, City staff vetting for feasibility and cost, and public voting on a final list of 20 options. Proposals must involve one-time capital expenditures on public property and confer a community benefit. The process takes approximately six months.¹⁷⁸

4. Community benefits agreements

Community benefits agreements (CBAs) are agreements between developers and community-based organizations for community support of new projects based on commitment to measures such as local hiring minimums, affordable housing units, and parks or community facility development. CBAs can include any commitment between a developer and community members, though they are often tailored to the nature of the development in question.¹⁷⁹ Government officials and agencies are typically not party to a CBA, but they can be involved in the process and can require the creation of a CBA as a condition to approval or preferential bid factor for private developments. One prominent CBA example is the 2008 agreement between the master developer of San Francisco's Hunters Point Shipyard and Candlestick Point and a group of community nonprofits, which committed the developer to making 32 percent of housing units affordable for low- and middle-income residents, providing \$27 million in housing purchase assistance funds, contributing \$8.5 million to a local workforce development fund, and including local hiring requirements in project contracts.¹⁸⁰

5. Racial Equity Impact Assessments

Washington, DC's Council on Racial Equity (CORE) conducts Racial Equity Impact Assessments (REIAs) for most proposed legislation in the district.¹⁸¹ (Notably, general obligation and revenue bonds and the budget are excluded.) REIAs assess the potential pros and cons of how a bill would operate in practice, examine the inclusion of different groups in the bill's development, and determine whether the bill would impact particular groups or advance racial equity. REIAs do not make explicit policy or amendment recommendations and are not binding—while a REIA may find that proposed legislation could harm a particular group or equity in general, that finding would not necessarily prevent passage. Dedicated CORE staff conduct REIAs upon request of the City Council, and CORE maintains a database of REIAs.¹⁸² For example, an April 2022 REIA for a proposed urban forest preservation act to protect “special and heritage trees” found that the bill would likely improve health outcomes for residents of color but would likely harm Black residents because

the imposition of fines for damage to those trees could disproportionately impede Black wealth building.¹⁸³

[The City of Oakland's 2030 Climate Action Plan](#) was developed as an Equitable Climate Action Plan (ECAP).¹⁸⁴ As part of the ECAP process, the city completed a Racial Equity Impact Assessment and Implementation Guide. The REIA aimed to understand the needs of BIPOC customers, businesses, and communities with a systematic examination of how different racial and ethnic groups will likely be affected by proposed actions, such as building decarbonization goals.

The Oakland REIA highlights community engagement strategies including establishment of inter-departmental communication, delegation of power to frontline communities, establishment of local implementation committees, and development of equitable partnership agreements.¹⁸⁵ Local implementation committees are envisioned as “decentralized, neighborhood-based governance bodies, envisioned as regularly occurring decision-making forums, held in neutral, community-oriented, and accessible public spaces” with standing meetings and dedicated implementation staff; partnership agreements are envisioned as financial commitments from the City to compensate community members for participation in ECAP implementation.¹⁸⁶

The Oakland REIA also identifies equity-specific strategies for implementation of each of the ECAP items, including some—such as exploration of transfer of development rights (TDR), working with community land trusts (CLTs), progressive parking fees, priority tree planting in lowest tree-cover areas, and requirements for ride-share companies to fund vehicle upgrades—that may have relevance to equitable CAP implementation.¹⁸⁷

6. Mapping and assessment tools

Environmental justice- and equity-focused mapping and assessment tools assist decision-makers in identifying the communities and neighborhoods most affected by social and environmental inequities, most vulnerable to environmental impacts, and most in need of prioritization in future climate-related investment plans. Consistent application of these tools can be vital to ensuring that new investments are structured and targeted—and the funds that support those investments are raised—in an equitable manner. Key examples include:

[CalEnviroScreen](#), a program of the California Office of Environmental Health Hazard Assessment (OEHHA), which identifies disadvantaged communities (DACs) that bear disproportionate burdens of environmental pollution based on a combination of pollution burden (e.g., air quality, water quality, proximity to hazardous sites) and population (e.g., asthma rate, housing burden, poverty) indicators.¹⁸⁸ Under Senate Bill 535 (De Leon, Chapter 830, Statutes of 2012) and Assembly Bill 1550 (Gomez, Chapter 369, Statutes of 2016), the state is required to commit a minimum percentage of funds generated by the greenhouse gas cap-and-trade program to investments that benefit or are located in DACs.

San Francisco’s [Environmental Justice Communities Map](#), which builds on CalEnviroScreen with additional local data on pollution and demographics, identifying “EJ communities” as the census tracts with the top 30% of cumulative environmental and socioeconomic vulnerability across the city, including Bayview Hunters Point, South of Market, Tenderloin, Chinatown, Visitacion Valley, Potrero Hill, Treasure Island, and Mission neighborhoods.

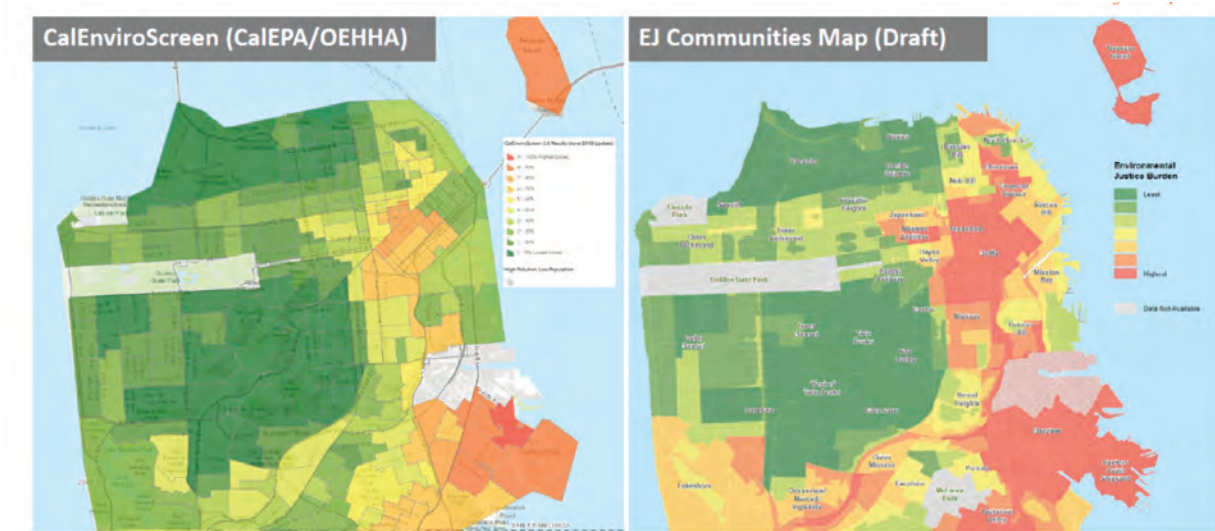


Figure 4: Comparison of CalEnviroScreen and San Francisco EJ Communities Map analyses of San Francisco communities’ environmental and socioeconomic vulnerabilities. Source: SF Planning.

San Francisco’s [Racial and Social Equity Assessment Tool](#) (RSEAT), which the City developed as part of the CAP to track progress and support implementation across eight equity goals including strategies such as income-based fee structures for EV charging, community benefits and workforce development criteria, and equitable passthrough of building electrification costs.¹⁸⁹

The Metropolitan Transportation Commission’s [Equity Priority Communities](#) map, which identifies Bay Area communities that are or have historically been underserved based on a mix of income, demographic, transportation access, and other data relevant to equitable regional transportation investment decision-making.

The White House Council on Environmental Quality’s [Climate and Economic Justice Screening Tool](#), which assists federal agencies in achieving the Biden Administration’s Justice40 Initiative goal of directing 40 percent of benefits to disadvantaged communities.¹⁹⁰ The tool identifies communities’ climate change burden, transit and housing availability, pollution exposure and health burdens, among other factors, compared to income and higher education attainment at the Census tract level.

7. Equity oversight boards and committees

Establishment of an oversight board or committee to solicit community input and provide accountability could also improve equitable implementation of CAP actions. While there are limited examples of oversight committees with firm authority to direct investment or funding, jurisdictions are working to uplift frontline communities through new entities and transparent processes.

In the [City of Los Angeles](#), the Climate Emergency Mobilization Office (CEMO) has a designated Commission to assist with establishing climate priorities and approving an Equitable Climate Action Roadmap.¹⁹¹ The CEMO focuses on addressing and engaging the voices of frontline and Indigenous communities through convening community assemblies and stakeholder engagement sessions. Working in collaboration, the Commission will recommend strategies to CEMO that align with the City of Los Angeles's Green New Deal (2019 Climate Action Plan). The City of LA Climate Emergency Commission is composed of:

- Three Indigenous members, with one from each of the following three historic local tribes: Gabrielino-Tongva, Fernandefio-Tataviam Band of Mission Indians, and Chumash
- Seven members representing geographically distinct communities in the top 10% score/segment on CalEnviroScreen
- One organized labor member
- Three members that are policy experts on climate change/air quality, toxics, and/or workforce
- One member that is an owner of a small business
- Two youth members that are under the age of 24
- One member appointed by the President of the City Council
- One member appointed by the Chair of the Energy, Climate Change, Environmental Justice, and LA River Committee.¹⁹²

[Sacramento County](#) has established a Climate Emergency Mobilization Task Force to provide input, guidance, oversight and assistance to the County Sustainability Manager, and to serve as an advisory body.¹⁹³ While still soliciting Task Force members, the group will be composed of 13 members, including six members with technical expertise in air quality, agriculture, built environment, economics, energy, or transit/transportation; six environmental justice leadership members; and one student member. Notably, Sacramento is planning to compensate Task Force members \$70 per meeting.

The [Bay Area Air Quality Management District's Community Health Protection Program](#) implements California Assembly Bill 617 (C. Garcia, Chapter 136, Statutes of 2017) to reduce community exposure to air pollutants.¹⁹⁴ The Community Steering Committees are a collaborative initiative that brings together community

groups, community members, environmental organizations, regulated industries, and other key stakeholders to reduce harmful air pollutants. The Bay Area Air Quality Management District and California Air Resources Board selected West Oakland and Richmond as the first two AB 617 communities. Each has its own Steering Committee, which serves to identify areas of concern for air pollution sources and sensitive receptor sites, and review existing plans, studies and reports on air quality.¹⁹⁵ The Committee provides strategic input towards Plan development and disseminates information to community stakeholders.

Also as part of AB 617, some air districts and communities have developed stipend programs to financially compensate Community Steering Committee members' participation.¹⁹⁶ In the [Eastern Coachella Valley](#), active community residents on the Committee are "entitled to receive a stipend of \$75 per meeting attended (excluding any additional meetings such as Working Group meetings, Subcommittee Meetings, and Workshops), subject to the availability of AB 617 funding."¹⁹⁷ The stipend is only available for local community residents and is subject to certain requirements. The stipend allows for greater participation and procedural equity within the AB 617 implementation process.

[Los Angeles County's Safe Clean Water Program \(Measure W\)](#) raises revenue for improving drinking water quality and quantity through a parcel tax of 2.5 cents per square foot of each parcel's impermeable area.¹⁹⁸ The parcel tax incorporates exemptions for low-income seniors, and a potential credit for all low-income owners. The program relies on Watershed Area Steering Committees to envision, execute, and evaluate projects, vesting these bodies with substantial decision-making authority regarding program funding.¹⁹⁹ Each Watershed Area Steering Committee includes five seats for community stakeholders "represent[ing] environmental justice interests, business interests, and environmental interests," with two seats allocated for "representatives from the community, such as: public health, labor, non-governmental organization, disadvantaged communities, community-based organization, schools, academia, and others."²⁰⁰



V. LABOR CONSIDERATIONS AND STRATEGIES

Successful implementation of CAP actions will rely on a well-paid, trained, and supported local workforce ready to electrify buildings, build active and public transportation networks, and expand urban greening, among many other actions critical to achieving CAP goals across all six sectors. At the same time, delivering quality employment and training opportunities to priority communities will be vital to achieving an equitable transition to a low-carbon economy.

The CAP explicitly prioritizes a just transition for workers displaced by the transition to a clean economy and development of “quality jobs that support economic and climate justice” in recognition that “whole communities could be left behind and penalized in the shift to decarbonization, unless policies are advanced to protect against that harm.”²⁰¹ While San Francisco is home to relatively few jobs in fossil fuel-based industries that are at the greatest risk of displacement, ensuring shared prosperity and supporting local workers is a key component of the City’s own just transition.

CAP implementation and revenue-raising activities should seek to incorporate demand-side strategies (i.e., policies or goals that catalyze demand for labor, such as community workforce agreements), supply-side strategies (i.e., initiatives that prepare workers for success, such as targeted training programs or new apprenticeship programs), and just transition strategies that retrain displaced workers and enable them to excel in new career pathways. Revenue-raising strategies across all CAP sectors can benefit from prioritizing labor demand, supply, and transition.

This section describes multiple approaches for incorporating labor considerations into CAP implementation, including an overview of California’s just transition strategy, a case study from San Diego County, and a sector-specific example for deploying equitable labor strategies in the building electrification context.

A. CASE STUDY: PUTTING CALIFORNIA ON THE HIGH ROAD: A JOBS AND CLIMATE ACTION PLAN FOR 2030

In their June 2020 report *Putting California on the High Road: A Jobs and Climate Action Plan for 2030*, the California Workforce Development Board (CWDB) and Governor’s Office of Planning and Research (OPR) defined a just transition in the context of economic decarbonization as:

integrated policy approaches offering protection, support, and compensation for displaced workers and communities in specific industries or regions.... Just transition programs can offer resources for both immediate short-term assistance to workers and communities directly affected by these trends, and long-term assistance to communities and workers as they “retool” and adapt to a carbon-neutral economy. These strategies can also incorporate economic development planning, to help regions better identify the most promising emerging new industries based on regional assets including geography, educational and research institutions, and existing workforce skills.²⁰²

The report, commissioned under California Senate Bill 398, provides a framework for integrating job creation, workforce training and retraining, community benefits and project labor agreements, community-based organization partnerships, and other workforce development strategies into California’s climate policies.²⁰³

This framework can inform funding and implementation decisions made under San Francisco’s CAP, which defines a just transition as “a strategic, people-focused approach to phasing out polluting industries while creating employment pathways for workers in those industries, plus a new generation of workers, to transition to quality jobs that support economic and climate justice,” and which identifies a just transition as one of four lenses through which new initiatives should be developed and implemented to reduce burdens for marginalized communities and maximize benefits for all.²⁰⁴

To achieve a just transition through decarbonization programs, the CWDB and OPR framework emphasizes a “high-road” approach based on high-quality jobs, high-quality work, and wages and benefits sufficient to support both, through demand-side, supply-side, and just transition policy strategies.²⁰⁵ These strategies include skilled workforce and wage standards, job training programs, displaced worker assistance, and community workforce agreements. They can be aligned with the specific policy mechanisms (such as public investments and incentive programs) that drive climate mitigation and may affect jobs in one or more sectors:

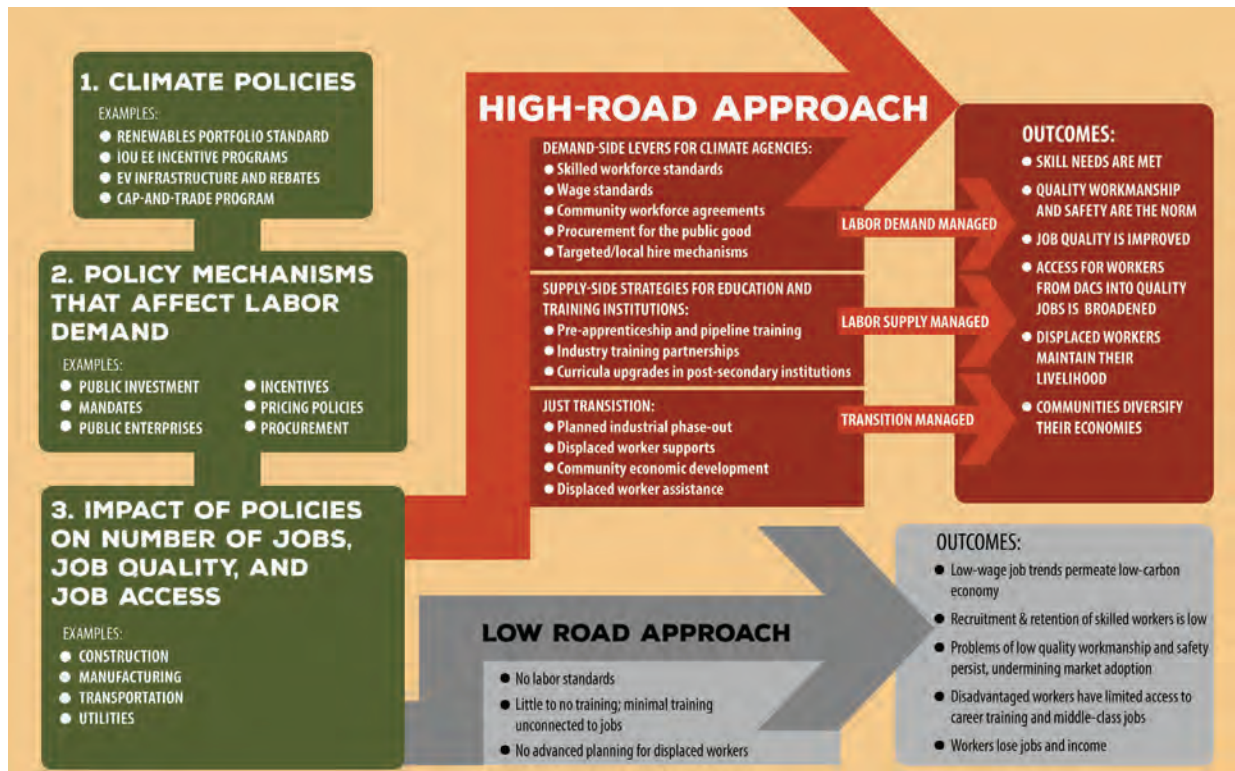


Figure 5: Visual depiction of California’s high road workforce training approach. Source: CWDB and OPR, *Putting California on the High Road* (June 2020).

To achieve these goals, policymakers should consider labor an investment rather than a cost of the decarbonization transition; focus on the quality as well as the quantity of jobs; and craft deliberate policy interventions to advance job quality and social equity.²⁰⁶ While San Francisco’s CAP and broader decarbonization goals only implicate a portion of the just transition question since the city is home to relatively few carbon-intensive industries at risk of displacement, these principles can nonetheless inform the development of a labor- and workforce-supportive CAP funding plan. Key labor investment strategies for CAP leaders to consider include:

- **Demand-side strategies** include prevailing wage standards for specific sectors and projects (see, e.g., Senate Bill 35, Wiener, Chapter 366, Statutes of 2017) and living wage requirements (such as San Francisco’s existing requirements);²⁰⁷ skilled and trained workforce and certification requirements; responsible contractor and employer standards; project labor agreements and community workforce agreements; inclusive and first-source hiring;²⁰⁸ and insourcing/public sector work retention.²⁰⁹ Key strategies with potential application to CAP funding and financing models include community workforce agreements, inclusive procurement requirements for large capital investments, responsible employer standards for incentive programs, increased scale of projects, and public sector insourcing.²¹⁰

- **Supply-side strategies** include inclusion training with career matching, screening, technical training, and job readiness; pre-apprenticeship, apprenticeship, and mentoring programs for disadvantaged communities and the formerly incarcerated;²¹¹ community college pathway promotion programs; training for skilled construction and technical occupations; and skills upgrade programs such as the Green Janitors Education Program and California Advanced Lighting Controls Training Program.²¹² Key strategies with potential application to CAP funding and financing models include aligning with existing state programs such as CWDB’s High Road Training Partnership initiative, creating new apprenticeship programs, and creating new inclusion and pre-apprenticeship programs for construction, technical, and professional jobs.²¹³
- **Just transition strategies** largely focus on plant closure and industry phase-out concerns for high-emitting sectors such as coal mining and steel production, which are not applicable to San Francisco’s CAP in most cases. However, certain key strategies—such as the Diablo Canyon nuclear plant closure plan and “Joint Proposal” for employee support and retraining²¹⁴—could have potential application to CAP funding and financing models.²¹⁵
- **Energy sector strategies** with potential application to CAP funding and financing models include responsible contractor standards, increased project scale including municipal, school, hospital, and community installations, and apprenticeship programs for distributed generation; responsible contractor requirements, skilled workforce requirements, increased project scale, and community workforce agreements for energy efficiency; inclusive procurement and insourcing for public procurement and low-income weatherization programs; and just transition support for natural gas workers.²¹⁶
- **Transportation sector strategies** with potential application to CAP funding and financing models include inclusive procurement for programs that contract with transportation network companies (TNCs) and micro-transit services; worker protections and strict enforcement of labor laws for TNCs; electric vehicle infrastructure training program (EVITP) certification requirements for all EV charging infrastructure installation; and project labor agreements or community workforce agreements for major transit infrastructure projects.²¹⁷
- **Waste sector strategies** with potential application to CAP funding and financing models include climate-related rate increases for waste services and training partnerships to meet the demand for organic diversion.²¹⁸
- **Urban forest and ecosystem sector strategies** with potential application to CAP funding and financing models include inclusive procurement policies for large capital purchases and insourcing for local urban greening projects.²¹⁹

B. CASE STUDY: PUTTING SAN DIEGO COUNTY ON THE HIGH ROAD TO A CARBON-NEUTRAL ECONOMY: SOCIAL POLICIES AND CAPITAL INVESTMENTS TO ENSURE A JUST TRANSITION FOR WORKERS

This 2022 report for San Diego County applies the strategies outlined in the 2020 state High Road jobs report to the San Diego Regional Decarbonization Framework (RDF), a county-wide climate action policy document designed to support implementation of the county's 2018 climate action plan.²²⁰ The analysis includes recommendations for a number of CAP-relevant sectors, including:

- **Building decarbonization.** San Diego's RDF calls for 90%+ electrification of new equipment by 2030 and 90%+ electrification of all equipment by 2050, with potential new jobs from retrofit projects as well as a loss of jobs from the phaseout of the gas system. Strategies with potential relevance to CAP implementation include skilled workforce requirements and community workforce agreements for nonresidential buildings; neighborhood aggregation and pre-qualification of responsible contractors for residential buildings; apprenticeship programs; and neighborhood-scale carbon-free district energy pilots installed by current gas workers.²²¹
- **Energy supply decarbonization.** San Diego's RDF calls for 100% renewable energy by 2050 including maximum rooftop and distributed generation, with job opportunity and wage limitation concerns in the distributed installation and maintenance sector. Strategies with potential relevance to CAP implementation include community- and other larger-scale/aggregated models for distributed generation installations; responsible employer requirements; and apprenticeship opportunities.²²²
- **Transportation decarbonization.** San Diego's RDF includes EV adoption and EV infrastructure deployment goals as well as public transit and active transportation goals, with potential negative job quality and wage concerns for EV infrastructure installers and TNC drivers, contrasted with union protections for public transit operators and transit infrastructure development. Strategies with potential relevance to CAP implementation include EVITP certification requirements for EV charger installations; inclusive procurement, responsible employer, and sustainable wage policies for TNC-related programs; project labor agreements and community workforce agreements for new transit infrastructure projects; and apprenticeship programs.²²³

C. CASE STUDY: CULTURE, COLLABORATION, AND CAPITAL: LEVERAGING PROCUREMENT FOR ECONOMIC EQUITY

This 2019 City Accelerator report identifies a group of equity-focused procurement policies including:

- **Pre-bid tools** such as contract procurement forecasting to provide advance notice of opportunities to small and minority-owned businesses; bonding and insurance assistance to address financing limitations for smaller businesses; and joint ventures.²²⁴
- **Procurement tools** such as streamlining bidding processes, breaking up large contracts into smaller contracts, prompt payment initiatives, and minority business distributorships to attract a more diverse pool of businesses.²²⁵

The report also highlights successful procurement overhaul examples in Los Angeles, such as a top-to-bottom city procurement review and new certification training initiatives, which are relevant to San Francisco due to California Proposition 209's ban on many racial affirmative action policies.

D. CASE STUDY: HEAT PUMP RETROFITS: OPTIONS TO PROMOTE EQUITABLE AND AFFORDABLE ADOPTION IN EXISTING BUILDINGS²²⁶

This 2022 report from CLEE and UCLA School of Law focuses on policy and workforce solutions to scaling deployment of space and water heat pumps in existing buildings, one of the central technologies in building decarbonization efforts. The report builds on multiple recent efforts by UC researchers at the intersection of building decarbonization and labor, including CLEE's and UCLA's 2021 report *Building Toward Decarbonization* and the UCLA Luskin Institute's 2019 comprehensive assessment of *California Building Decarbonization Workforce Needs and Recommendations*.²²⁷

Most notably for San Francisco, the California Workforce Development Board's High Road to Building Decarbonization in the San Francisco Bay Area program is a \$10 million demonstration project designed to model partnership strategies for the state that will decarbonize buildings, generate high quality careers, and create health benefits for disadvantaged communities in the Bay Area.²²⁸ Led by Rising Sun Center for Opportunity, this project aims to prepare the emerging building decarbonization industry and workforce with knowledge and resources about heat pump technology. Local workforce development boards from Alameda County and Oakland Workforce Development Boards have developed relationships with CWDB and Building and Construction Trades. City leaders could consider expanding on or replicating the demonstration project in the first rounds of CAP building decarbonization investment.

Strategies recommended in the report include:

- **Carrot and stick models for raising building retrofit standards.** State and local leaders can condition rebates and incentives (including accelerated permitting) for building electrification projects on commitments to workforce, hiring, and skill standard criteria to attract high performing contractors, ensure work quality, and prevent wage and labor law violations.
- **In-house apprentice programs and HVAC schools.** Since many technicians and installers are trained by companies, finding solutions to improve in-house training can result in more knowledge transfer. Utility programs could offer incentives to contractors for in-house training. Programs can also support City College workforce development opportunities or opportunities hiring residents from disadvantaged communities.

VI. CONCLUSION

Based on research, interviews, workshops, and guidance from both the City of San Francisco and the Technical Advisory Committee, CLEE presents the following priority recommendations for CAP revenue generation:

Near-term Measures:

- Propose and pass **CAP-focused general obligation (GO) bonds**, coupled with an increase in the City's GO bond limit to allow property tax increases exclusively to fund new bonds for CAP investments, including:
 - A **building decarbonization GO bond** to fund efficiency and electrification retrofits for existing residential buildings
 - Increase the size of the 2024 **affordable housing GO bond** to fund the San Francisco Housing Accelerator Fund for CAP-aligned housing investment
- Implement an **additional gross receipts tax on the highest-revenue businesses** to fund workforce development initiatives, City staff to implement the CAP, and equity oversight bodies.
- Implement a parcel tax (based on square footage of property or impermeable surfaces) to fund parks, green infrastructure, and tree canopy investments.

Medium-term Measures:

- Propose and pass a **transportation GO bond** to fund public transit, active transportation, and electric vehicle charging infrastructure (coupled with an increase in the City's GO bond limit to allow property tax increases exclusively to fund new bonds for CAP investments)
- Implement **vehicle pricing strategies** to incentivize reductions in driving and raise revenue for low-carbon transportation, with rebates, discounts, or exemptions for lower-income residents or in priority communities as applicable:
 - Institute **downtown vehicle congestion pricing** with revenue dedicated to public transit, active transportation, and/or electric vehicle charging infrastructure
 - Expand the **residential parking permit system** to encompass all curbside parking and private parking spaces/curb cuts and authorize SFMTA to operate it as a revenue-positive program, with revenue dedicated to public transit, active transportation, and/or electric vehicle charging infrastructure
- Implement a **carbon emissions tax for large commercial buildings** to fund building decarbonization and workforce development investments.

These recommendations reflect the principles, priorities, and strategies identified by a range of experts and stakeholders who will be central to realizing San Francisco's CAP. Together with this report's implementation and equity recommendations, they offer a roadmap for the first iterations of CAP action. Leaders throughout the City will now need to lead long-term engagement processes with communities and stakeholders to convert recommendations into the programs and investments that will achieve San Francisco's climate goals.



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APPENDIX A: CAP REVENUE STRATEGIES

The following table lists the top strategies for CAP revenue generation identified in CLEE’s research and outreach processes, including funding and financing strategies for actions within each CAP sector and across sectors. The list is not comprehensive with respect to the CAP but is intended to highlight a mix of opportunities to initiate equitable CAP investments and engagement. Some of these strategies are included in the [Executive Summary](#).

Certain key accelerating/enabling actions—including a number of actions identified in the CAP itself—will support these strategies and merit near-term prioritization to accelerate early CAP implementation:

- Updating the City Charter and Office of Resilience and Capital Planning’s General Obligation Bond Policy to allow increases in outstanding general obligation bond indebtedness and property tax levels for CAP funding purposes
- Establishing a citywide CAP-related governance structure to coordinate CAP-relevant revenue generation and investment decision-making across all relevant City departments and identify multi-benefit priority projects
- Fast-tracking certain low- and no-cost CAP and CAP-derived actions to accelerate more capital-intensive actions, including:
 - Establishing a requirement for full electrification of all residential and commercial buildings a) at point of transfer or substantial renovation and b) no later than 2040 (BO.2-10)
 - Expanding housing capacity, density, height limits, and multifamily zoning (TLU.5-1, TLU.6-2)
 - Streamlining development approval processes in transit-accessible corridors (TLU.5-3)
 - Completing the Downtown Congestion Pricing Study (TLU.3-1)

The revenue strategies are grouped by the CAP sector and individual CAP strategies and actions they could support, beginning with a group of cross-sectoral/general CAP funding options. Within each sector below, revenue strategies are not necessarily presented in order of priority or feasibility, but high-priority strategies included in the [Executive Summary](#) are listed first in bold.

CAP Sector	CAP Strategies/Actions	Revenue Strategy	Example/Notes
Cross-Sectoral		<p>Implement an additional gross receipts tax on the highest-revenue businesses to fund workforce development initiatives, City staff to implement the CAP, and equity oversight bodies.</p>	<p>Portland Clean Energy Surcharge 1% surcharge on gross receipts of large retailers with exemptions for grocery and medical purchases to fund clean energy projects and associated job training and apprenticeship programs.</p> <p>San Francisco Proposition F Proposition F was approved by voters in November 2020, eliminating the City's Payroll Expense Tax and gradually raising the Gross Receipts Tax rates across most industries while temporarily lowering those rates for some small businesses in certain industries.</p> <p>Denver Initiative 2A A voter-approved 0.25% increase in the local sales and use tax to create a "Climate Protection Fund" expected to raise \$40 million per year for distributed generation, adaptation and resilience, climate justice, employment, and other related programs.</p>
		<p>Establish a fund, administered by the Mayor's Office and SF Environment, for corporate and philanthropic partners to provide direct funding for community engagement and educational efforts (subject to the limitations on solicitation of behested payments detailed in City Campaign and Governmental Conduct Code § 3.620)</p>	<p>Kalamazoo Foundation for Excellence A gift of \$400 million to a small Michigan city to fund infrastructure projects, reduce property taxes, and take other leadership initiatives.</p> <p>Richmond Social Impact Bond A \$3 million bond issued for repair and rehabilitation of abandoned residential properties, followed by sale to first-time home buyers, with a focus on energy efficient construction.</p> <p>NYC Central Park Conservancy The Conservancy's goal is to preserve the park. Funded primarily by individual donations, the Conservancy invests funds into park protection and improvements. The Conservancy is meant to last in perpetuity, allowing the NYC Department of Parks and Recreation to allocate nearly its entire budget to other parks.</p>
		<p>Implement a general CAP-oriented GO Bond to fund a combination of infrastructure investments across all six CAP sectors, initiating the first level of investment in each focus area. (Coupled with increases in the City's GO bond-limiting policies to allow property tax increases exclusively to fund new bonds for CAP investments.)</p>	<p>Miami Forever Bond A \$400 million general obligation bond to fund investments in climate resilience. Not directly related to energy assets, but focused on infrastructure and resilience broadly.</p>
		<p>Initiate a program to sell credits in the voluntary carbon market backed by verified GHG emissions reductions achieved through CAP implementation, with revenue dedicated to City operations, community outreach and engagement, and other CAP implementation supporting actions.</p>	<p>Verra Verified Carbon Standard A voluntary carbon market program with sectoral protocols for energy, transport, waste management, and forestry projects.</p>

CAP Sector	CAP Strategies/Actions	Revenue Strategy	Example/Notes
		<p>Apply for and obtain federal and state grants for a variety of CAP implementation areas, including:</p> <p>Federal funds available through DOT’s Capital Investment Grants program, EPA’s Greening America’s Communities program, HUD’s Community Development Block Grants, and other federally administered programs aimed at climate mitigation activities aligned with the CAP</p> <ul style="list-style-type: none"> ● Federal funds available through new or expanded programs under the 2021 Infrastructure Investment and Jobs Act (IIJA), including \$550 million allocated towards the Energy Efficiency and Conservation Block Grant Program, \$6 billion towards the Safe Streets and Roads for All Program, and various programs directed at active transportation and public transit improvements. ● State funding available through the California Climate Investments Program, the State Transportation Investment Program, Housing-Related Parks Program, Clean Transportation Program, and other state programs aimed at reducing emissions. ● State funds allocated through the 2022-2023 budget, including \$922 million for equitable building decarbonization, \$500 million for infill parcel housing development in downtown areas, \$100 million for urban greening and community forestry, and \$270 for circular economy efforts, along with other programs. 	<p>Infrastructure Investment and Jobs Act (See Table 4)</p> <p>Inflation Reduction Act (See Table 5)</p> <p>California State Budget 2022-2023 (See Table 6)</p>
		<p>Consider the following approaches (or a combination of multiple approaches, if appropriate) to increase tax revenue relevant to CAP implementation:</p> <ul style="list-style-type: none"> ● Implement a city carbon tax to fund all CAP strategies as directed by an interagency governing body such as a CAP Joint Powers Authority ● Advocate for state legislative (or constitutional) authorization of local and regional income taxes to fund climate action through a truly progressive revenue source ● Reinstating the City’s Payroll Expense Tax for individual compensation (including wages, bonuses, and property/stock) exclusively in high income brackets 	<p>States Where Cities and Counties Levy Additional Income Taxes</p> <p>In Michigan, New Jersey, New York, Oregon, and other states, cities and counties administer local income taxes to fund city services.</p>
<p>Energy Supply</p>	<p>ES.2-2 ES.3-3</p>	<p>Implement a general obligation bond to fund electrical grid resilience and decarbonization investments including municipal building decarbonization efforts and smart grid technologies to sync energy demand with energy supply, thus reducing reliance on fossil fuel sources and improving efficient use of renewable energy generation</p> <p>(Coupled with increases in the City’s GO bond-limiting policies to allow property tax increases exclusively to fund new bonds for CAP investments.)</p>	<p>Miami Forever Bond</p> <p>A \$400 million general obligation bond to fund investments in climate resilience. Not directly related to energy assets, but focused on infrastructure and resilience broadly.</p>
	<p>ES.1-3 ES.2-3</p>	<p>Implement SFPUC/CleanPowerSF revenue bonds to fund:</p> <ul style="list-style-type: none"> ● PG&E distribution grid asset purchase to enhance resilience and support development of additional infrastructure that can deliver clean energy to households and businesses ● Distributed generation/storage investments to improve renewable energy generation and supply 	<p>SFPUC Power Revenue Green Bonds</p> <p>\$32 million revenue bond issuance to fund zero-carbon power generation and energy efficiency projects.</p> <p>California Community Choice Financing Authority Municipal Bond</p> <p>Three California Community Choice Aggregators (East Bay Community Energy, Marin Clean Energy, and Silicon Valley Clean Energy) issued municipal non-recourse Clean Energy Project Revenue Bonds to support 450 megawatts of clean energy resources.</p>

CAP Sector	CAP Strategies/Actions	Revenue Strategy	Example/Notes
Building Operations	BO.2 BO.3	<p>Implement a general obligation bond to fund a combination of residential building decarbonization initiatives including:</p> <ul style="list-style-type: none"> • Direct grants for retrofits for lower-income multifamily and single-family residences managed by one or more nonprofit program administrators, including decarbonization workforce development through CityBuild program • SF Green Bank to attract private capital for decarbonization investments through credit enhancement and/or revolving loan fund <p>(Coupled with increase in the City's GO bond limiting policies to allow property tax increases exclusively to fund new bonds for CAP investments.)</p>	<p>CT Smart-E Program The Connecticut Green Bank partners with local lenders and contractors to offer long-term, low-interest financing to help upgrade private home energy performance with no money down, with equity restrictions to keep the program limited to owner-occupied properties.</p> <p>Ithaca, NY Electrification Ithaca introduced a citywide electrification plan to retrofit 6,000 buildings using \$100 million from private investors, philanthropic funds, and government grants.</p> <p>Montgomery Co. Green Bank The County's Green Bank is introducing energy efficiency financing measures for residential units. Eligible customers can receive a loan of up to \$35,000 with low</p>
	BO.2 BO.3	<p>Implement a carbon emissions tax for large commercial buildings to fund building decarbonization and workforce development investments</p>	<p>New York Local Law 97 Sets binding emissions limits for large buildings and imposes penalties for failure to achieve reduction targets.</p>
	BO.2-7	<p>Expand the commercial PACE GreenFinanceSF program to improve access to financing for commercial property owners while allowing a repayment plan via their property tax bill.</p>	<p>GreenFinanceSF Property owners can secure financing for commercial Property Assessed Clean Energy projects, and repay the cost of the upgrade over time through a special line item on their property tax bill.</p>
	BO.2 ES.2-2 ES.2-3	<p>Obtain California IBank financing for energy efficiency, electrification, and decarbonization investments at City-owned buildings.</p>	<p>SWEEP Statewide Energy Efficiency Program through the state Infrastructure Bank (I-Bank) that funds local government and nonprofits to undertake energy efficiency upgrades. Eligible projects include demand response, energy storage, and HVAC upgrades.</p> <p>ISRF The Infrastructure State Revolving Fund Program provides low-cost public financing to local government entities.</p>
	BO.2 ES.2-2 ES.2-3	<p>Enact a property tax abatement for investments in carbon capture at buildings and facilities located in the city, incentivizing installation of carbon capture technologies and reducing emissions within San Francisco.</p>	<p>New York Carbon City Property Tax Abatement Act Early-stage proposed legislation to amend real property tax law to provide a tax abatement for facility-integrated carbon-to-value equipment.</p>
Transportation and Land Use	TLU.1 TLU.2	<p>Implement a transportation general obligation bond to fund public transit, active transportation, and electric vehicle charging infrastructure, as well as safe pedestrian, bicycle, wheelchair, and micromobility routes that encourage active transportation options.</p> <p>(Coupled with increase in the City's GO bond limiting policies to allow property tax increases exclusively to fund new bonds for CAP investments.)</p>	<p>Miami Forever Bond A \$400 million general obligation bond to fund investments in climate resilience. Not directly related to energy assets, but focused on infrastructure and resilience broadly.</p>

CAP Sector	CAP Strategies/Actions	Revenue Strategy	Example/Notes
	<p>TLU.1 TLU.2 TLU.3-1 TLU.3-6 TLU.4 TLU.7-1 TLU.7-2</p>	<p>Implement vehicle pricing strategies to incentivize reductions in driving and raise revenue for low-carbon transportation, with rebates, discounts, or exemptions for lower-income residents or in priority communities as applicable:</p> <ul style="list-style-type: none"> ● Institute downtown vehicle congestion pricing with revenue dedicated to public transit, active transportation, and/or electric vehicle charging infrastructure ● Expand the residential parking permit system to encompass all curbside parking and private residential parking spaces/curb cuts and authorize SFMTA to operate it as a revenue-positive program, with revenue dedicated to public transit, active transportation, and/or electric vehicle charging infrastructure 	<p>London Congestion Charge £15 daily charge for vehicle entry into central London (deemed low or ultra-low emission zones) during peak hours, with discounts for zone residents (90%), 9+ passenger vehicles (100%), and other groups and exemptions for motorbikes, disabled drivers, and emergency vehicles. The program is associated with tens of thousands of fewer vehicles in the zone and hundreds of millions of dollars in annual net revenues.</p> <p>Singapore Congestion Charge Approximately \$4 daily charge for entry into the central business district during Monday-Saturday peak hours, with variable pricing based on congestion conditions. Associated with hundreds of millions of dollars in annual net revenues.</p> <p>Stockholm Congestion Charge Stockholm: Approximately \$4 daily charge for entry into the central business district during weekday peak hours, with variable pricing based on time of day. Associated with hundreds of millions of dollars in annual net revenues.</p> <p>Parking Benefit Districts These initiatives add meters in all areas (residential and commercial) that can fund transportation services.</p>
	<p>TLU.3-1 TLU.7-1 TLU.7-2</p>	<p>Introduce a rideshare tax and use revenue to support EV charging infrastructure investments, including:</p> <ul style="list-style-type: none"> ● Expanding publicly available EV charging infrastructure while ensuring accessibility for low-income residents ● Developing and implementing a public awareness campaign designed to improve residents' awareness of and openness to EVs ● Initiate pilot projects for e-bicycles, e-scooters, and other micromobility methods 	<p>SF Traffic Congestion Mitigation Tax Ordinance (2019 Proposition D) The transportation network company (TNC) Tax imposes a surcharge on app-based ride-hailing trips that originate in San Francisco, for the portion of the trip within the city. The tax also applies to private transit companies and rides given by autonomous vehicles commercially. The tax went into effect on January 1, 2020, and sunsets in November 2045.</p>
	<p>TLU.7-1 TLU.7-2</p>	<p>Introduce feebates on internal combustion engine (ICE) vehicles registered in SF and use revenues to support EV charging infrastructure.</p>	<p>Singapore Vehicular Emissions Scheme Operated by the Land Transport Authority (LTA) of Singapore, individuals may enjoy a rebate or pay a surcharge depending on the vehicle's emissions. The scheme applies to personal vehicles and taxi cabs. Electric vehicles are rated by applying an emission factor to the electricity energy consumption.</p>

CAP Sector	CAP Strategies/Actions	Revenue Strategy	Example/Notes
	TLU.1 TLU.2	Implement a VMT mitigation bank or exchange program for land use developments under CEQA, with program investments in transit and active transportation aligned with CAP investments. Eligible mitigation projects could include: <ul style="list-style-type: none"> ● Expanded active transportation networks ● Improved public transportation reliability ● Expanded public transportation service ● Transit-oriented development that improves housing accessibility near transit, jobs, healthcare, schools, and other services 	SF TDM program City program that addresses induced transportation demand by requiring investment in offsetting transit, active transportation and other development project features. San Diego Mobility Choices program City program that imposes an in-lieu fee on low-density, high-VMT development with funds directed to transit and density investments. CLEE Implementing SB 743 Report Overview of potential strategies to develop VMT mitigation bank programs, with potential to deliver revenue for transit and density projects.
Housing	H.1 H.2 H.4	Increase the amount of the November 2024 affordable housing general obligation bond and direct the additional revenue to the SF Housing Accelerator Fund for CAP-aligned housing investments	SF Housing Accelerator Fund Public-private partnership working to stabilize existing housing stock, build affordable housing, and utilize financing tools that support SF goals to amplify public funding for housing.
	H.4	Implement vacancy tax to fund rental subsidies for lower-income residents and the acquisition and rehabilitation of deed-restricted affordable housing	Oakland Vacancy Tax Annual tax on vacant property, considered “vacant” if it is in use less than 50 days in a calendar year and not subject to any exemption.
	H.1 H.2 H.4	Collaborate with MTC and ABAG on upcoming regional housing bond measures to ensure alignment with CAP housing investments. Potential investments could include: <ul style="list-style-type: none"> ● Expanding affordable housing production and access, with a focus on housing historically marginalized groups, including by expanding affordable and multi-family housing supply in high-resource areas ● Providing resources for unhoused individuals ● Support workforce development, training, and apprenticeship programs covering green construction methods 	Transit-Oriented Affordable Housing Fund MTC revolving loan fund program for production and preservation of housing in transit priority areas, responsible for hundreds of affordable housing units in San Francisco. Bay Area Preservation Pilot Fund MTC revolving loan fund program for acquisition of unsubsidized multifamily housing near transit service. City of Los Angeles Transit Oriented Communities Incentive Program The Transit Oriented Communities Incentive Program encourages the construction of affordable housing near bus and train stations. Passed as part of a broader ballot initiative by voters, the measure amended the Los Angeles Municipal Code to create the affordable housing program for developments within a half-mile radius of a major transit stop.
Responsible Production and Consumption	RPC.2 RPC.3	Increase waste/recycling program user fees to support waste reduction and recycling pilot programs	San Francisco Zero Waste Program City’s pioneering waste reduction program that has diverted more than 2.5 million tons of organic waste and 3 million tons of recyclables from landfill. SF Environment leads zero waste programs, with approximately half of department funding coming from Recology waste and recycling program ratepayer fees. San Francisco Checkout Bag Charge Program requiring retail charge of 25 cents per checkout bag (and requiring all bags be compostable or recyclable), generating millions of dollars in annual fees.

CAP Sector	CAP Strategies/Actions	Revenue Strategy	Example/Notes
	RPC.4-1 RPC.4-2	Increase SFO landing fees, with exemption or discounts for flights powered by sustainable aviation fuel (SAF), to support investments in SAF fueling infrastructure at the airport. (While the Clean Air Act and Federal Aviation Act broadly preempt state and local regulation of aircraft and aircraft emissions, airports have the authority to—and SFO already does—impose reasonable fees that fund airport infrastructure improvements.)	<p>SFO Landing Fee Fee charged for landing aircraft based on craft weight.</p> <p>Proposed Hawaii Visitor Green Fee Proposal to tax all non-residents a \$50 per person “green fee” who use state and county beaches, parks and trails to fund programs to protect and restore land, water, wildlife and cultural resources impacted by tourism.</p>
Healthy Ecosystems	HE.1 HE.3 HE.4 HE.5 HE.6	Implement a parcel tax (based on square footage of property or impermeable surfaces) to fund parks, green infrastructure, and tree canopy investments	<p>Los Angeles County Measure A Parcel tax of 1.5 cents per square foot of improved property with no expiration date (raising approx. \$90 million/year) for a mix of direct investment in green space and parks in disadvantaged areas, and establish a competitive grant program for public agencies and nonprofits to invest in local parks and beaches.</p> <p>Los Angeles Measure W Parcel tax of 2.5 cents/sq.ft. of impervious surfaces (raising approx. \$300 million per year) with a 30-year time-horizon, for stormwater capture and treatment programs.</p> <p>East Bay Parks Bond In November 2018, Alameda and Contra Costa counties extended an existing \$12/year (\$1/month) parcel tax to fund regional park services including wildfire prevention, public access, trails, and restoring natural habitat.</p>
	HE.2 HE.5 HE.6	Implement SFPUC water revenue bonds and/or environmental impact bonds for greening projects	<p>DC Water Environmental Impact Bond \$25 million bond issued to fund green stormwater management infrastructure, with a pay for success component based on “risk share” or “outcome” payments depending on the over- or under-performance of the installation.</p> <p>Atlanta Environmental Impact Bond \$14 million bond issued to fund stormwater improvements and related green infrastructure in a disproportionately impacted community, with a pay for success component based on total water capture as well as a water equity task force to guide decision-making.</p>

APPENDIX B: SUMMARY OF ALL CAP STRATEGIES & ACTIONS

	CAP Strategy/Action	CAP Estimated Cost and Potential GHG Emissions Impact (strategies only)	Action Type (capital investment, other direct spending, non-city spending, policy/planning, analysis/study, engagement/advocacy)	Matching HCR Action
ES.1	Supply 100% renewable electricity to residents and businesses	Cost: \$500 million+ GHG Impact: < 100,000 mtCO2e		
ES.1-1	Provide 100% renewable electricity at affordable rates.		Other direct spending	
ES.1-2	Promote early adoption of 100% renewable electricity products to all San Franciscans, with a preference for City programs.		Policy/planning	
ES.1-3	Ensure 100% renewable electricity is the only option for San Francisco residents and businesses by 2025, by supporting state or local regulatory requirements and/or acquiring PG&E's grid assets serving San Francisco.		Other direct spending	
ES.1-4	Continue to expand programs and rates that provide low-income customers with renewable electricity and ensure community and stakeholder engagement in program development and rate-setting.		Other direct spending	
ES.2	Invest in local renewable energy and energy resilience projects	Cost: \$10-100 million GHG Impact: Enabling/Accelerating (no direct reduction)		
ES.2-1	Assist affordable housing developments with installing on-site solar and battery storage and meeting City energy efficiency and solar energy requirements.		Other direct spending	
ES.2-2	Continue to develop onsite solar on City-owned buildings and reservoirs based on emerging opportunities and SFPUC feasibility analysis.		Other direct spending	B-5.02
ES.2-3	Explore developing grid-independent solar and storage at critical municipal facilities and other critical or vulnerable community sites.		Other direct spending	B-5.02
ES.2-4	Support the development of local renewable electricity production by scaling up programs such as net metering, community solar, feed-in tariffs, and battery storage.		Policy/planning	
ES.2-5	Ensure SFPUC customer programs center equity in their design and metrics.		Policy/planning	
ES.2-6	Continue to encourage private sector investment in local renewable energy solutions by engaging in public advocacy, educating consumers about their options (such as financing), and serving as a strategic partner.	Engagement/advocacy		
ES.3	Design and develop the reliable and flexible grid of the future	Cost: \$500 million+ GHG Impact: Enabling/Accelerating (no direct reduction)		
ES.3-1	Plan for the change in electricity demand and usage due to electrification of transportation and buildings through efforts such as the SFPUC's Integrated Resource Plans and ensure community engagement in these efforts.		Policy/planning	IN-5.05
ES.3-2	By 2023, evaluate the rate and program options to facilitate an affordable transition to all-electric buildings.		Analysis/study	IN-5.05
ES.3-3	Invest in distribution infrastructure (including acquisition of PG&E assets) and smart-grid technologies, such as advanced metering infrastructure, demand response, and distribution automation.	Capital investment	IN-5.05	
ES.4	Develop workforce capacity to deliver clean energy resources	Cost: \$1-10 million GHG Impact: Enabling/Accelerating (no direct reduction)		
ES.4-1	Continue to champion clean energy installers participating in City-funded incentive programs that engage in workforce development.		Engagement/advocacy	
ES.4-2	Utilize workforce development programs, such as Project Pull Internship and CityBuild, and education programs, such as Project Learning Grants and the Teacher Externship Program, to expose youth to clean energy related jobs and careers and diversify the workforce.		Policy/planning	
ES.4-3	Include community benefits criteria for renewable energy and other contracts of \$5 million or more, giving preference to contracts that demonstrate a commitment to community benefits and environmental justice.		Policy/planning	
ES.4-4	Engage in analysis to identify opportunities to meet diversity and workforce goals in the procurement of clean energy resources.	Analysis/study		
ES.5	Plan for the equitable decommissioning of the city's natural gas system	Cost: \$1-10 million GHG Impact: Enabling/Accelerating (no direct reduction)		
ES.5-1	By 2023, assemble data to inform strategic and equitable planning for geographically focused electrification and gas decommissioning plans. Develop metrics to inform prioritization and implementation, including cost, equity, safety, climate and just transition.		Analysis/study	
ES.5-2	By 2025, report annually on the status of gas decommissioning, including reduction of methane leakage in San Francisco attributable to decommissioning or removal of gas distribution, along with cost, equity, safety, and just transition.		Analysis/study	
ES.5-3	By 2025, publish a Decarbonization Masterplan documenting the systematic approach to decommissioning natural gas distribution and transmission in San Francisco. Specify difficult-to-address loads/uses that are likely to remain "residual" in 2040. Provide neighborhood groups and business districts with interactive planning mechanisms to empower coordination of electrification, and to set localized goals and priorities.		Policy/planning	
ES.5-4	By 2026, establish memorandum of understanding between the City, state regulators, and utilities stating mutual intent to de-commission natural gas transmission and distribution in San Francisco.		Policy/planning	
ES.5-5	By 2030, transition the district system steam loop serving downtown and Civic Center to renewable energy.	Other direct spending		
BO.1	Eliminate fossil fuel use in new construction	Cost: cost-neutral, potential savings of \$1-10 million GHG Impact: < 100,000 mtCO2e		
BO.1-1	By 2021, require newly constructed buildings to be efficient and all-electric with no on-site carbon emissions.			
BO.2	Eliminate fossil fuel use in existing buildings by tailoring solutions to different building ownership, systems, and use types			

BO.2-1	By 2023, develop a system to monitor the replacement rate of existing private sector natural gas-fueled equipment with all-electric. Annually report to BOS whether fossil-fuel using equipment is being switched at a rate sufficient to meet climate goals, including access to electrification by BIPOC and low-income communities.	<p>Cost: \$500 million+</p> <p>GHG Impact: 100,000 - 250,000 mtCO₂e</p>	Analysis/study	
BO.2-2	By 2023, develop a time-of-replacement policy that phases in requirements that all newly installed residential and other small building equipment be efficient and all-electric. The policy should customize requirements for simple equipment replacements to full renovations.		Policy/planning Non-city spending	
BO.2-3	By 2024, begin recording decarbonization status for each property at time of sale and permit review to ensure compliance with time of replacement policy.		Policy/planning	B-3.02/3.03
BO.2-4	By 2023, perform an inventory of natural gas-fueled equipment in municipal buildings.		Analysis/study	B-3.02/3.03
BO.2-5	By 2024, ensure the City's Capital Plan is updated to reflect the need to replace gas-fueled equipment, in alignment with the City's 2040 net-zero goal.		Capital investment	B-3.02/3.03
BO.2-6	SFO will a) evaluate an efficient, all-electric Terminal Central Utility Plant that would reduce total direct (Scope 1) airport emissions by approximately 80% by 2030, and b) prioritize all-electric equipment replacements throughout campus buildings, including terminal and non-terminal spaces that are occupied by tenants and the Airport Commission.		Analysis/study	B-3.02/3.03
BO.2-7	Adopt a building performance policy requiring large commercial buildings to: a) completely transition to efficient and all-electric equipment no later than 2035 b) in 2025, begin regular disclosure of progress toward goal c) allow payment of annual fees in lieu of electrification, which must be invested into decarbonization of low-income and affordable housing.		Policy/planning Non-city spending	
BO.2-8	By 2023, develop and adopt tenant protection and anti-displacement policies for renters in buildings transitioning to efficient and all-electric systems.		Policy/planning	
BO.2-9	By 2023, begin offering targeted technical assistance for BIPOC and low-income owners and tenants including information about incentives, rebates, and public and private financing options.		Other direct spending	B-3.02/3.03
BO.2-10	By 2024, pass a residential time-of-sale policy that requires an electrification plan, prioritizing water and space heating, indoor air quality, electric safety, how to access emergency response information, and recording of the presence or absence of gas service for each property.		Policy/planning	B-3.02/3.03
BO.2-11	By 2024, develop and implement prescriptive criteria and permit & inspection processes for residential heat pump water heaters to be installed with a single integrated permit.		Policy/planning	B-3.02/3.03
BO.2-12	Explore the creation of a revolving decarbonization fund by developing a virtual power plant (VPP) or other district scale solutions that monetizes the benefits derived from energy efficiency, demand response, and energy storage systems.		Policy/planning	
BO.3	Expand the building decarbonization workforce, with targeted support for disadvantaged workers			
BO.3-1	Partner with workforce development entities, labor unions, and apprenticeship programs to align with and disseminate regional and statewide building electrification training, funding and project financing opportunities, prioritizing those transitioning from fossil-fuel dependent trades.	Engagement/advocacy		
BO.3-2	Partner with affordable housing providers, equipment vendors, subject matter experts, utilities and CleanPowerSF, CBO's and others to create a Clean Energy Buildings Hub to connect building owners and other customers with high-road service providers and installers, rebates and financing, and case studies.	Engagement/advocacy		
BO.3-3	By 2023, define goals and create policies for professional and workforce development building upon CityBuild Pro to ensure equitable access to building decarbonization jobs for BIPOC and low-income communities, from design to installation to business operations.	Policy/planning		
BO.3-4	By 2025, create a Public-Private facilities managers and building operators roundtable to support peer-to-peer learning on fuel switching.	Engagement/advocacy		
BO.4	Transition to low-global warming potential refrigerants			
BO.4-1	By 2023, publish guidelines for refrigerant management best practices for selection of lowest-GWP refrigerants in new and replacement equipment, and collection and recovery of refrigerants from existing equipment to enhance compliance with state regulations.	Policy/planning		
BO.4-2	Support the adoption of more stringent state and federal regulations to reduce refrigerant GWP.	Engagement/advocacy		
BO.4-3	By 2023, support City departments' transition away from high-GWP refrigerants, by providing guidelines and specifications for future purchases of products containing refrigerants.	Policy/planning		
TLU.1	Build a fast and reliable transit system that will be everyone's preferred way to get around			
TLU.1-1	Fund and implement the recommendations of the ConnectSF Transit Corridors Study and Muni Forward Plan, including taking steps to: a) Identify and implement key transit corridors for service every 5 minutes or better all day long. b) Ensure transit on frequent corridors is not delayed by recurring congestion by investing in transit-only lanes, signal management, queue-jump lanes and other transit priority treatments. c) Retime traffic lights to minimize signal delay for frequent lines. d) Optimize stop spacing on frequent lines to maximize transit ridership. e) Advance major transit capital projects, including a new Westside Subway along 19th Avenue and Geary, the Caltrain Downtown Extension, Central Subway extension, and the Link21 new transbay tube.	Capital investment	IN-5.09/5.10, B-5.01, C-5.20, IN-5.01	
TLU.1-2	Improve transit reliability by bringing infrastructure into a state of good repair. Adequately fund State of Good Repair with at least \$300 million annually.	Capital investment	IN-5.09/5.10, C-5.20	

TLU.1-3	Greatly improve rider comfort, safety, and experience on transit across age, gender, race, and ability to encourage more people to ride transit. Example activities include data collection, reporting, sensitivity training of fare inspectors, and expanding the Muni Transit Assistance Program.		Other direct spending		
TLU.1-4	Implement Phase One of SFMTA's Racial Equity Action Plan to improve working conditions and initiate the development of Phase Two in 2021 and then implement Phase Two in 2022 to improve safety, access, and opportunities for the public.		Policy/planning		
TLU.1-5	While meeting transit ridership goals, prioritize services and reduce obstacles for more vulnerable populations, neighborhoods with fewest mobility options, and populations that have faced historic disinvestment.		Policy/planning		
TLU.1-6	By 2025, implement 50 miles of Muni Forward transit priority improvements, including 30 miles of new transit-only lanes to increase reliability, frequency and safety for riders.		Capital investment	C-5.20	
TLU.1-7	By 2022, study the role of Muni fare programs on equity, climate, and mobility goals and adopt recommendations.		Analysis/study		
TLU.1-8	Improve connectivity between regional and local transit service by: a) Funding targeted projects that improve physical connections and make transfers seamless between local and regional transit systems b) Collaborating with regional partners to improve coordination between regional operators and secure funding for projects, including Caltrain Downtown Rail Extension, Caltrain Service Vision, Second Transbay Crossing, California's State Rail Plan, and ferry projects.		Cost: \$500 million+ GHG Impact: 100,000 - 250,000 mtCO2e	Capital investment	
TLU.2	Create a complete and connected active transportation network that shifts trips from automobiles to walking, biking, and other active transportation modes				
TLU.2-1	Continue to expand programs that provide corridors that are attractive to all demographics for walking, biking, and using scooters, wheelchairs, and other small mobility devices. Connect the Slow Streets network, car-free roads in parks, and the protected bikeway network to neighborhoods in San Francisco.	Capital investment			
TLU.2-2	Expand community programs and partnerships to make biking more accessible, via safety and maintenance classes, community parking, and subsidies for electric bikes for low-income residents.	Other direct spending			
TLU.2-3	By 2022, establish a modal planning framework, placing transit and active modes at the forefront, that will guide decisions about design and utilization of the City's rights-of-way.	Policy/planning			
TLU.2-4	Expand the protected bikeway network by at least 20 miles by 2025.	Capital investment			
TLU.2-5	Establish and utilize design guidelines to improve connectivity and access to active transportation options at major transit stops.	Policy/planning			
TLU.2-6	Update San Francisco's Bike Plan by 2023 to improve and expand the active transportation network with robust community input.	Policy/planning			
TLU.2-7	Encourage employers to further reduce auto commutes through incentives such as transit benefits and universal passes, e-bike incentives, active transportation support, telework policies, and carpool programs. a) Continue promoting Transit First initiatives and incentives for all City employees b) Integrate existing SFO Employee and Airline Employee BART Discount Programs	Cost: \$10-100 million GHG Impact: < 100,000 mtCO2e		Policy/planning	
TLU.3	Develop pricing and financing of mobility that reflect the carbon cost and efficiency of different modes and projects and correct for inequities of past investments and priorities				
TLU.3-1	By 2022, develop recommendations for programs and policies that will advance equity (e.g., provide discounts and exemptions for low-income individuals), reduce vehicle traffic, and increase transit service to downtown. For example, complete the Downtown San Francisco Congestion Pricing Study recommendations, and by 2026, study and implement the appropriate pricing policies.			Policy/planning	
TLU.3-2	Advance local, regional, state, and federal opportunities to transition away from fossil fuels by increasing fees to drive. a) By 2022, identify and consider pricing mechanisms that can be implemented locally (e.g., vehicle license fee). b) By 2022, establish priorities to advocate for regional, state and federal legislation (e.g. increase gas tax, application of road user charges).		Engagement/advocacy		
TLU.3-3	By 2023, introduce new tools to manage short-term curb uses, such as flexible regulations and pricing.		Policy/planning		
TLU.3-4	Develop and take all necessary steps to implement an integrated system of tolling for bridges and freeways and on Treasure Island to prioritize transit and higher occupancy vehicles.		Policy/planning		
TLU.3-5	Implement the Treasure Island Mobility Management Program including new ferry service, East Bay bus service, and island tolling.		Other direct spending		
TLU.3-6	Apply policy tools to reduce impacts on low-income and historically marginalized communities and ensure that money generated from pricing programs is invested in transportation improvements, especially for those communities.	Cost: \$0-1 million GHG Impact: 250,000 - 400,000 mtCO2e	Policy/planning		
TLU.4	Manage parking resources more efficiently				
TLU.4-1	Prioritize enforcement of parking and curb regulations that impact street safety and efficiency		Policy/planning		
TLU.4-2	Expand paid parking citywide, where appropriate. Set prices at a level that reduces demand for parking so that drivers can always find a parking space near their destination. a) Reinvent and expand the Residential Parking Permit program. b) Expand paid hourly parking to Sundays and evenings, where appropriate. c) Expand demand-responsive parking meter and garage pricing.		Policy/planning		

TLU.4-3	Steadily reduce the City's overall parking supply in keeping with traffic reduction and emissions reduction goals, and convert underutilized public and private parking lots, parking spaces, and garages to more productive uses, such as housing and car-free roads in parks.	Cost: \$0-1 million	Policy/planning	B-1.08	
TLU.4-4	Reinvent and expand the parking tax on private parking to reduce congestion, air pollution and emissions.		Policy/planning		
TLU.4-5	While using pricing to balance parking supply and demand, develop programs to reduce impact on low-income, auto-dependent people and ensure net benefit to low-income individuals.		Policy/planning		
TLU.4-6	Implement a program to prioritize access and parking for people-with-disability parking placards.		Policy/planning		
TLU.5	Promote job growth, housing, and other development along transit corridors	Cost: \$1-10 million			
TLU.5-1	Expand housing capacity (for example, by increasing heights and removing restrictions on density) in areas where existing or new high-capacity transit is planned.		Policy/planning		
TLU.5-2	Locate jobs close to existing or new high-capacity transit corridors.		Policy/planning		
TLU.5-3	Use streamlined approval processes, such as Housing Sustainability Districts, in the 1/4-mile areas around major transit stations to build housing and mixed-use developments more quickly.	GHG Impact: Enabling/Accelerating (no direct reduction)	Policy/planning		
TLU.6	Strengthen and reconnect communities by increasing density, diversity of land uses, and location efficiency	Cost: \$1-10 million			
TLU.6-1	Facilitate the development of neighborhoods where people live within an easy walk or roll of their daily needs. Create a working group of City agencies and residents to plan and design for such neighborhoods.		Policy/planning		
TLU.6-2	Examine rezoning to allow for multi-family housing throughout San Francisco.		Policy/planning		
TLU.6-3	By 2023, increase the types of home-based businesses allowed in residential districts.		Policy/planning		
TLU.6-4	Identify and reimagine under-utilized publicly owned land and roadways that could be transformed or repurposed.		Analysis/study		
TLU.6-5	Design public space and the transportation system (including roadways) to advance racial and social equity by co-developing plans and projects with BIPOC community members and understanding their needs before designing the space.		Policy/planning		
TLU.6-6	Update the Transportation Element of the City's General Plan.		GHG Impact: Enabling/Accelerating (no direct reduction)	Policy/planning	
TLU.6-7	Design public space and the transportation system to advance disability justice by co-developing plans and projects with diverse elements of the disability community and understanding their needs before designs are complete.		Policy/planning		
TLU.7	Where motor vehicle use or travel is necessary, accelerate the adoption of zero-emissions vehicles (ZEVs) and other electric mobility options				
TLU.7-1	By 2023, launch a public awareness campaign, including messaging tailored to specific communities, with the goal of educating residents about the health, economic, and environmental benefits of transit, active transportation, and electric vehicles.			Engagement/advocacy	
TLU.7-2	Expand publicly available EV charging across the city that is financially and geographically accessible to low-income households and renters. a) By 2022, complete an evaluation framework to develop curbside charging pilots b) By 2023, expand charging to 10% of spaces in municipally owned parking lots c) By 2023, expand charging to 10% of spaces within privately owned large commercial garages d) By 2023, create three "fast-charging hubs" with one serving a disadvantaged community within San Francisco. e) By 2025, install charging to 10% of SFO-owned parking stalls supported by load management software.		Policy/planning Other direct spending		
TLU.7-3	By 2024, develop a plan to help the City's non-revenue fleet and small and locally owned businesses build infrastructure that allows for zero emission delivery, drayage, and longer haul trucks.		Policy/planning		
TLU.7-4	By 2023, establish a pathway to incentivize Zero Emission Vehicles (ZEVs) for passenger service vehicles operating at the airport.		Policy/planning		
TLU.7-5	By 2024, launch a pilot to advance the use of ZEVs, e-bikes, and other low-carbon modes for door-to-door goods and meal delivery services.		Other direct spending		
TLU.7-6	By 2030, create incentives for the use of renewable diesel and emerging zero-emission technologies to reduce emissions from construction equipment at least 50% from 2020 levels.	Cost: \$1-10 million	Policy/planning		
TLU.7-7	Design by 2023 and launch by 2024 a pilot project to test the use of accessible bicycles, e-bicycles and e-scooters for commuting, as well as recreation.	GHG Impact: > 400,000 mtCO2e	Other direct spending		
H.1	Anchor BIPOC families and advance their return to San Francisco through robust housing, stabilization, and wealth building programs	Cost: \$10-100 million			
H.1-1	Leverage every housing action and investment to help reverse historic dispossession based on race, ethnicity, disability, or socio-economic status, and enable housing security for affected communities.		Other direct spending		
H.1-2	Prioritize affordable housing in cultural districts and areas with historically marginalized racial or ethnic communities to encourage their stabilization and return.		Other direct spending		
H.1-3	Expand tenant services including education, outreach, counseling, and legal and rent assistance to keep local residents and workers housed in San Francisco.		GHG Impact: Enabling/Accelerating (no direct reduction)	Other direct spending	
H.1-4	Initiate steps to increase housing production, particularly affordable and accessible housing, in higher opportunity neighborhoods that historically have been racially and economically exclusive.		Non-city spending	C-1.05	
H.2	Support vulnerable populations and communities in cultural districts and priority geographies through both the preservation and rehabilitation of existing housing and new housing development that serves their needs				

H.2-1	Provide funding and resources to help people who are unhoused or without stable housing become and stay safely housed.	Cost: \$100-500 million	Other direct spending		
H.2-2	Subsidize and develop incentives for building housing targeted towards vulnerable populations in high resource areas, especially along transit-rich, commercial, and social service corridors.		Other direct spending	C-1.05	
H.2-3	Initiate steps to fund the acquisition and preservation of existing, affordable, multi-family housing, with a goal of at least 400 units annually.		GHG Impact: Enabling/Accelerating (no direct reduction)	Other direct spending	
H.2-4	Secure federal, state, and local resources for accessibility, energy efficiency, decarbonization, and resilience upgrades in existing and new housing.			Other direct spending	
H.3	Advance zoning and implementation changes that encourage sustainable, small and mid-sized, multi-family, and workforce housing, especially in high opportunity neighborhoods	Cost: \$0-1 million			
H.3-1	Study changes to increase multi-family housing in higher-resource neighborhoods and near transit, jobs, services, parks, high quality schools, and other amenities.		Analysis/study		
H.3-2	Develop additional approval and permit streamlining for new housing that exceeds inclusionary and sustainability requirements.		Policy/planning		
H.3-3	Address financial and educational barriers for lower income small property owners to add housing (such as Accessory Dwelling Units) and rehabilitate existing units that are healthy and resource efficient.		Policy/planning		
H.3-4	By 2025 establish codes and regulations that facilitate use of new materials (e.g. cross-laminated-timber) and new technology (e.g. modular housing) to lower costs and increase resource efficiency of construction.		Policy/planning		
H.3-5	Expand green construction training and apprenticeship programs to grow the local pool of skilled labor and reduce construction costs.	GHG Impact: Enabling/Accelerating (no direct reduction)	Policy/planning		
H.4	Expand subsidized housing for low, and moderate-income families	Cost: \$100-500 million			
H.4-1	Meet Regional Housing Needs Allocation (RHNA) targets and requirements to affirmatively further fair housing by increasing production of affordable housing, especially for families with children, in both higher resource neighborhoods and Priority Geographies that have historically been home to lower income communities of color.		Capital investment Non-city spending	C-1.05	
H.4-2	By 2025 renew and increase public and private funding for affordable housing as one-time bond funds and ERAF allocations are depleted.		Other direct spending	C-1.05	
H.4-3	Advocate for increased regional, state, and federal funding for affordable and green housing.		Advocacy/engagement		
H.4-4	Identify cost cutting measures to make affordable housing developments in San Francisco more competitive for regional, state, and federal funding.		Policy/planning		
H.4-5	Continue to prioritize surplus City, enterprise agency, and other public land for affordable housing based on timing and financial feasibility.	GHG Impact: Enabling/Accelerating (no direct reduction)	Policy/planning	C-1.05	
RPC.1	Achieve total carbon balance across the buildings and infrastructure sectors	Cost: N/A			
RPC.1-1	Between 2024-2026, phase in policies to reduce embodied carbon more than 10% per project by addressing at least three product categories or building assembly types.		Policy/planning		
RPC.1-2	By 2025, develop a suite of incentives, policies, and/or guidelines for adaptive reuse of existing buildings, as well as the design and procurement of low-carbon structural materials for new construction.		Policy/planning		
RPC.1-3	By 2025, establish a maximum allowance for embodied carbon of buildings, to be adjusted at regular intervals.		Policy/planning		
RPC.1-4	By 2025, amend existing policies to require deconstruction of buildings and increase the source separation of specific materials.		Policy/planning		
RPC.1-5	By 2025, engage with designers, landlords, and lessees to develop guidelines for tenant improvement projects that reduce excess material purchases and support reuse distribution channels.		Policy/planning		
RPC.1-6	By 2025, create a policy framework to expand and cultivate regional building material reuse markets that support workforce development, small business enterprises, and entrepreneurial innovation.		Policy/planning		
RPC.1-7	By 2030, advance best practices for "Design for Disassembly" and "Buildings As Material Banks" by creating implementation resources in partnership with global cities, and pilot at least one municipal project to maximize the value of carbon already invested in buildings.	GHG Impact: N/A	Policy/planning		
RPC.2	Reduce the carbon footprint of the food system by reducing waste, promoting climate friendly diets, and getting excess food to communities in need				
RPC.2-1	By 2030, reduce food waste by 50% in alignment with the City's voluntary commitment to the Pacific Coast Collaborative initiative by implementing food waste reduction guidelines and recommendations in partnership with food retail, distributors, and manufacturers.		Policy/planning		
RPC.2-2	By 2022, continue implementing and scale the Kitchen Zero SF pilot program, which reduces food waste by tracking over-purchasing by food generators, and redirects otherwise wasted food to communities in need, including providing recovered fresh produce to communities with limited access.		Policy/planning		
RPC.2-3	By 2024, adopt a Food Waste Prevention and Edible Food Recovery policy and develop a program and incentives structure for compliance and monitoring in alignment with California's State Bill 1383 food recovery regulations.		Policy/planning		
RPC.2-4	By 2023, form strategic partnerships between SF Environment's Green Business Program, City agencies, and hospitality and food industry organizations to reduce over-purchasing of food and encourage lower-carbon intense menu choices.		Policy/planning		
RPC.2-5	By 2024, develop guidance in partnership with other municipal agencies to implement city procurement of food in alignment with the five core values put forth by the Good Food Purchasing Program (GFPP): developing local economies, improving health, valuing the workforce, considering animal welfare, and environmental sustainability, including regenerative agriculture.	Policy/planning			

RPC.2-6	By 2025, San Francisco Department of Public Health will ensure the Zuckerberg San Francisco General and Laguna Honda Hospitals meet a 20% reduction in carbon and water footprints by implementing sustainable food purchasing standards that ensure food procurement aligns with the core values of the GFPP.	Cost: \$1-10 million	Policy/planning	
RPC.2-7	By 2030, San Francisco Unified School District will continue to build upon its adopted resolution to participate in the GFPP, aiming to procure food locally and from minority owned businesses and farms, switch entrees to lower-emissions alternatives, reduce over-purchasing of food, and donate meals to communities in need.		Policy/planning	
RPC.3	Promote reduction, reuse, repair, and recovery of goods and materials	GHG Impact: N/A		
RPC.3-1	By 2023, reduce use of non-reusable foodware by requiring, incentivizing, supporting and/or promoting reusables for on and off-site dining (to-go or delivery).	Cost: \$1-10 million	Policy/planning	
RPC.3-2	By 2023, reduce, reuse, and repair, by requiring take-back and resale of used clothing, and promoting donation and longevity of used apparel and textiles.		Policy/planning	
RPC.3-3	By 2024, encourage or facilitate inclusive and networked neighborhood-scale projects such as lending libraries, repair clinics, and reuse exchanges for tools, equipment, electronics, furniture and other goods that reduce production and consumption of goods.		Engagement/advocacy	
RPC.3-4	By 2024, expand outreach, education, and incentives for paper and plastic use reduction by supporting businesses and institutions in their transition to more reusable and plastic-free packaging and digital forms of communication; support policies to extend producer responsibility to reduce and recover packaging.		Engagement/advocacy	
RPC.3-5	Increase compliance with mandatory construction and demolition debris recovery (newly amended Environment Code Chapter 14) and mandatory recycling and composting (Environment Code Chapter 19) to increase recovery and reduce disposal while providing economic and social benefits such as local jobs and reduced illegal dumping.		Policy/planning	
RPC.3-6	By 2025, advance opportunities, programs and policies within the city, neighborhoods, industrial and corporate campuses, and SFO airport to maximize material recovery.	GHG Impact: N/A	Policy/planning	
RPC.4	Lead the aviation sector by reducing emissions across the airline passenger journey	Cost: N/A		
RPC.4-1	SFO will encourage and incentivize, where viable, switching aviation sector fuel to low carbon sources for both air and ground fleets.		Policy/planning	
RPC.4-2	SFO will continue its leadership and partnership with airlines to work to replace up to 50% of its fuel supply with Sustainable Aviation Fuels by 2050.		Policy/planning	
RPC.4-3	SFO will explore how to expand its Scope 1 and 2 carbon mitigation and offset program, to also consider qualified soil carbon sequestration as well as other sequestration projects where viable and as an accepted best practice.		Policy/planning	
HE.1	Advance citywide collaboration to continually refine nature-based climate solutions that sequester carbon, restore ecosystems and conserve biodiversity	Cost: \$0-1 million		
HE.1-1	By 2022, complete the Alameda watershed carbon case study and quantify the value of carbon storage provided by protecting this natural area.		Analysis/study	
HE.1-2	By 2022, launch the municipal soil calculator and initiate an assessment of the potential for all City owned lands to sequester carbon while maximizing indigenous biodiversity.		Analysis/study	
HE.1-3	By 2023, City departments should develop their own policies and procedures for capital projects to assess carbon sequestration opportunities, prioritize biodiversity and green infrastructure, and maximize local native plants. Departments should work together in the Biodiversity Interagency Working Group to create shared policies and procedures where possible.		Policy/planning	
HE.1-4	By 2025, develop best practice guidelines for improving or maintaining carbon sequestration and retention in soils, plants and natural habitats, while preserving biodiversity and ecosystem services.		Policy/planning	
HE.1-5	By 2025, incorporate carbon sequestration and biodiversity conservation findings into a Carbon Sequestration and Ecosystem Restoration Strategy for City land and watershed management, consistent with agencies' existing plans and policies.	GHG Impact: Enabling/Accelerating (no direct reduction)	Policy/planning	
HE.2	Increase equitable community participation and perspectives in nature-based climate solutions, including meaningful efforts to prioritize Indigenous science and Traditional Ecological Knowledge	Cost: \$1-10 million		
HE.2-1	The City will engage American Indian tribes, cultural bearers, neighborhood organizations, local businesses, the San Francisco Unified School District, and non-profit organizations during the planning and implementation of greening projects, including for the purpose of local hiring and workforce development.		Engagement/advocacy	
HE.2-2	By 2022, establish an inter-jurisdictional working group of American Indian representation, federal and state parks agencies, cultural districts, local non-profits, and educational and research institutions, dedicated to nature-based solutions, focused on resilience and biodiversity conservation.		Engagement/advocacy	
HE.2-3	The City will honor Indigenous knowledge from the original stewards of these lands (Yelamu) and create strong partnerships through meaningful engagement with the Ramaytush Ohlone and the American Indian community to participate in stewardship of lands managed by San Francisco.		GHG Impact: Enabling/Accelerating (no direct reduction)	Engagement/advocacy
HE.3	Restore and enhance parks, natural lands and large open spaces			
HE.3-1	By 2030, explore expansion of the City's natural areas preservation system through land transfers and acquisitions of undeveloped/unprotected private and public lands.		Capital investment	

HE.3-2	By 2030, continue improving management of existing salt marshes and explore expanding restoration acreage of degraded Bayshore properties owned by the Port and Recreation and Parks at India Basin and at Candlestick State Recreation Area.	Cost: \$10-100 million GHG Impact: < 100,000mtCO2e	Policy/planning	
HE.3-3	By 2025, create a 3-acre horizontal levee at Heron's Head Park.		Capital investment	
HE.3-4	By 2030, restore and create 173 acres of natural ecological parkland on Yerba Buena and Treasure Islands, including implementing the Yerba Buena Island Habitat Management Plan.		Capital investment	
HE.3-5	By 2030, restore 100+ acres of upland and wetland habitats at the San Bruno Jail and SFO West of Baysshore Properties.		Capital investment	
HE.4	Optimize management of the city's entire urban forest system	Cost: \$10-100 million GHG Impact: Enabling/Accelerating (no direct reduction)		
HE.4-1	By 2023, encourage City agencies to develop guidelines for tree species selection and management procedures that incorporate community resilience, carbon sequestration, and ecosystem services and biodiversity, consistent with City agencies' strategic plans and goals.		Policy/planning	
HE.4-2	By 2023, pending availability of resources, standardize urban forestry and greening data collection (including street tree census and canopy coverage), and complete the Urban Forest Master Plan Phases 2 (Parks and Open Space) and Phase 3 (Private Lands and Backyards).		Analysis/study	
HE.4-3	By 2023, continue and, if applicable, expand urban wood waste diversion to maximize carbon sequestration and conserve landfill space.		Other direct spending	
HE.5	Maximize trees throughout the public realm	Cost: \$10-100 million GHG Impact: < 100,000mtCO2e		
HE.5-1	By 2040, plant 30,000 street trees in the sidewalk tree wells, approximately a 25% increase, to complete the street tree network.		Other direct spending	IN-2.06/2.10
HE.5-2	By 2030, maximize, where woody vegetation is appropriate, planting coast live oak and other native trees and arborescent shrubs throughout the entire public realm.		Other direct spending	
HE.5-3	By 2023, create a City-managed and -dedicated street tree nursery.		Other direct spending	
HE.5-4	By 2023, create a policy to require preservation of mature trees during development or infrastructure modifications and for planting of basal area equivalent of mature trees whose removal is unavoidable.	Policy/planning		
HE.6	Maximize greening and integration of local biodiversity into the built environment	Cost: \$10-100 million GHG Impact: < 100,000mtCO2e		
HE.6-1	By 2023, establish a measurable and geographically specific target for daylighting San Francisco creeks.		Policy/planning	IN-2.16
HE.6-2	By 2023, create permanent code and financial incentives for nurseries to sell local natives and for private property owners to preserve green space, protect existing mature trees and shrubs, plant local natives, and install living roofs and walls.		Policy/planning	IN-2.16
HE.6-3	By 2026, maximize revegetation of degraded City and State major expressway, highway and rail corridors with hardy, low-maintenance trees and shrubs.		Other direct spending	IN-2.16
HE.6-4	By 2025, create a City-owned and managed local native plant nursery that supplies plants annually to City agencies that do not currently have access to local native plants.		Capital investment	IN-2.16
HE.6-5	By 2030, maximize replacing concrete to create more biodiverse green space on public land.		Other direct spending	IN-2.16
HE.6-6	By 2030, build 10 pollinator habitat landscapes at public housing sites.		Capital investment	IN-2.16
HE.6-7	By 2030, fully implement the Sunset Boulevard Biodiversity Master Plan by planting native grasses, trees and shrubs for habitat and climate resilience.		Capital investment	IN-2.16
HE.6-8	By 2030, develop and implement science-based recommendations for creating ecological corridors where feasible.	Policy/planning	IN-2.16	
HE.7	Conduct carbon sequestration farming pilot projects and research	Cost: \$10-100 million GHG Impact: < 100,000mtCO2e		
HE.7-1	By 2024, apply approximately 500 wet tons of biosolids per year as a soil amendment and to sequester carbon on newly identified sites such as mine reclamation projects in Northern California.		Other direct spending	
HE.7-2	Improve compliance with Mandatory Composting (Environment Code Chapter 19 and SB 1383) and optimize organics processing to increase the quantity and quality of compost produced to support soil carbon sequestration activities.		Policy/planning	
HE.7-3	By 2030, pilot appropriate carbon sequestration techniques as part of ongoing ecological restoration of degraded habitats within SFPUC lands.		Other direct spending	
HE.7-4	By 2025, SFO will expand its carbon mitigation and offset program to include soil carbon sequestration projects, where viable.	Policy/planning		

APPENDIX C: ANALYSIS OF CAP-RELEVANT LOCAL BALLOT MEASURES

The California Debt and Investment Advisory Commission (CDIAC), a program within the California State Treasurer's office, collects data on all California bond and tax ballot measures at the state and local levels. An analysis of CDIAC data covering 2016 through 2021 local, primary, and general elections identified 89 local ballot measures specifically committed to CAP-relevant categories of public expenditure or based on CAP-relevant revenue strategies out of over 1,700 total local bond or tax measures. These included bond and tax measures funding public transit and active transportation, housing, parks and open space, and climate resilience; and utility taxes or tax increases that included energy and/or gas utilities. All other measures (including school, fire/police, public health and public safety, water and sewer, and road repair and maintenance with no transit component, as well as non-energy utility taxes) were excluded.²²⁹

The table on the following pages lists measures by jurisdiction, purpose/type, amount, and pass/fail record.

No ballot measures have been introduced to exclusively fund a CAP or a comprehensive decarbonization plan. However, the success of measures related to CAP actions may offer some indication of the likelihood of new CAP-related ballot initiatives. The data revealed an overall success rate of approximately 61 percent across simple and two-thirds majority votes, which is lower than the general success rate for all bond and tax ballot measures, which typically exceeds 70 percent.²³⁰ The success rate by measure type includes:

- Transit and transportation: 65 percent (11/17)
- Housing: 75 percent (9/12)
- Parks and open space: 59 percent (20/34)
- Utility taxes (with energy component) and other: 54 percent (14/26)

By geography, the success rate for CAP-related ballot measures includes:

- San Francisco: 88 percent (7/8) including 2016 Proposition C, 2016 Measure AA, 2016 Measure RR, 2018 Proposition D, 2018 Regional Measure 3, 2018 Proposition A, 2019 Proposition A, 2019 Proposition D.²³¹ Of these, only 2018 Proposition D, a proposed special commercial rent tax to fund housing and homelessness programs, did not receive the requisite votes.
- Bay Area: 73 percent (32/44)

These results indicate that while climate action-related measures generally see a lower success rate than other measures, San Francisco voters in particular and Bay Area voters in general are highly likely to approve such measures. However, June 2022's Proposition A, which would have authorized a \$400 million general obligation bond to fund transportation investments focused on Muni operations and maintenance, narrowly failed to reach the necessary 2/3 voter approval.

County	Agency Name	Type of Tax	Amount of Tax	Purpose	Measure	% Yes	% No	Result	Threshold	Year
Total = 61% (54/89)					Gold = pass			White = fail		
Transit and transportation (excluding pure road repair/highway measures): 65% (11/17)										
San Benito	San Benito County	Special Tax	Sales Tax: Impose an additional sales tax of 1/2% for 30 years for road repair/maintenance, relieve congestion, improve traffic flow, bicycle/pedestrian safety, transit for youth/seniors/disabled.	Transit/transportation	P	59.8	40.2	Fail	Two-thirds	2016
Alameda	Alameda County	GO Bond	\$3,500,000	Public Transit	RR	71.31	28.69	Pass	Two-thirds	2016
Alameda/Contra Costa	Alameda-Contra Costa Transit District	Special Tax	Parcel Tax: Extend the district's parcel tax of \$96 per parcel for 20 years.	Public Transit	C1	82.11	17.89	Pass	Two-thirds	2016
Alameda/Contra Costa/San Francisco	San Francisco Bay Area Rapid Transit District	GO Bond	\$3,500,000,000	Public Transit	RR	70.53	29.47	Pass	Two-thirds	2016
Contra Costa	Contra Costa County	Special Tax	Sales Tax: Increase sales tax by an additional 0.5% for 30 years.	Public Transit	X	63.45	36.55	Fail	Two-thirds	2016
Humboldt	Humboldt County	Special Tax	Sales Tax: Establish an additional half-cent sales tax for 20 years for transportation.	Public Transit	U	48.83	51.17	Fail	Two-thirds	2016
Los Angeles	Los Angeles County	Special Tax	Sales Tax: Impose an additional 0.5% tax for transportation and indefinitely extend an existing 0.5% sales tax for transportation, originally set to expire in 2039.	Public Transit	M	71.15	28.85	Pass	Two-thirds	2016
San Diego	San Diego County	Special Tax	Sales Tax: Adopt 0.5% tax for transportation repairs, public transit expansion, and open space preservation, increasing total tax rate to 8.5%.	Public Transit/Open Space	A	58.37	41.63	Fail	two-thirds	2016
Santa Clara	Santa Clara Valley Transportation Authority	Special Tax	Sales Tax: Impose additional 0.5% tax for 30 years for transportation infrastructure projects.	Public Transit	B	71.74	28.26	Pass	Two-thirds	2016
Stanislaus	Stanislaus County	Special Tax	Sales Tax: Impose additional 0.5% tax for 25 years for transportation improvements.	Public Transit	L	71.95	28.05	Pass	Two-thirds	2016
Alameda/Contra Costa/Marin/Napa/San Francisco/San Mateo/Santa Clara/Solano/Sonoma	Metropolitan Transportation Commission	Bridge Toll	Bridge Toll: Raise bridge tolls in the Bay Area (excluding the Golden Gate Bridge) by \$3 over 6 years to fund the Bay Area Traffic Relief Plan.	Traffic Relief/Public Transit	RM 3	55.1	44.9	Pass	Majority	2018
Yolo	Davis	Special Tax	Parcel Tax: Levy tax of \$99/residential unit & other rates for commercial and industrial to fund the maintenance of streets and bike paths, with the possibility of an annual 2% increase for 10 years.	Maintain Streets and Bike Paths	I	57.1	42.9	Fail	Two-thirds	2018
San Benito	San Benito County	Special Tax	Sales Tax: Increase tax by 1% to 8.25% for roads and transportation.	Repair Potholes/Maintain Roads/Widen Hwy 25 to Relieve Traffic Congestion/Improve Pedestrian, Bicycle, and Transit Options	G	69.77	30.23	Pass	Two-thirds	2018
San Francisco	San Francisco City and County	GO Bond	\$425,000,000	Waterfront/Public Transportation/Buildings/Piers/Roads	A	82.70	17.30	Pass	Two-thirds	2018
San Mateo	San Mateo County	Special Tax	Sales Tax: Impose 1/2 cent tax for 30 yrs. effective 7/1/2019 through 6/30/2049.	Reduce Traffic Congestion/Repair and Maintain Streets/Pedestrian Safety/Affordable Transit Services for Seniors and Disabled/Increase Caltrain and SamTrans Capacity	W	66.90	33.10	Pass	Two-thirds	2018
San Francisco	City and County of San Francisco	Special Tax	Transportation Tax: Enact tax on ride-share companies at a rate of 1.5% of total fares on shared rides and rides in zero-emission vehicles; 3.25% on private rides, to improve and maintain Muni services and improve pedestrian and bicycle infrastructure.	Public Transportation/Pedestrian and Bicycle Infrastructure	D	67.65	32.35	Pass	Two-thirds	2019
Sonoma / Marin	Sonoma-Marin Area Rail Transit District	PLF	Sales Tax: extending the existing 0.25 percent through March 31, 2059, generating approximately \$40,000,000 annually for an additional 30 years	Public Transit Services	I	53.60	46.40	Fail	Two-thirds	2020
Housing: 75% (9/12)										
Alameda	Alameda County	GO Bond	\$580,000,000	Affordable Housing	A1	73.30	29.61	Pass	Two-thirds	2016

Alameda	Oakland	GO Bond	\$600,000,000	Street/Sidewalks Repairs; Affordable Ho	KK	82.11	17.89	Pass	Two-thirds	2016
Los Angeles	Los Angeles	GO Bond	\$1,200,000,000	Affordable Housing	HHH	77.14	22.86	Pass	Two-thirds	2016
San Francisco	San Francisco	GO Bond	\$260,700,000	Affordable Housing	Prop C	76.01	23.99	Pass	Two-thirds	2016
Santa Clara	Santa Clara County	GO Bond	\$950,000,000	Affordable Housing	A	67.88	32.12	Pass	Two-thirds	2016
Alameda	Emeryville	GO Bond	\$50,000,000	Housing	C	72.1	27.9	Pass	Two-thirds	2018
San Francisco	San Francisco	Special Tax	Commercial Rent Tax: Levy a new tax in the amount of 1.7% of gross receipts for other commercial properties to fund low/medium income housing, homelessness services, and general fund.	Housing/Homeless Programs	Prop D	44.9	55.1	Fail	Two-thirds	2018
Alameda	Berkeley	GO Bond	\$135,000,000	Housing	O	77.48	22.52	Pass	Two-thirds	2018
San Francisco	City and County of San Francisco	GO Bond	\$600,000,000	Affordable Housing	A	71.16	28.84	Pass	Two-thirds	2019
Santa Clara	San Jose	PLF	Property Transfer Tax: 0.75% for property valued between \$2 million and \$5 million, 1.0% for property valued between \$5,000,000.01 and \$10 million, and 1.5% for property valued over \$10 million	Housing	E	53.46	46.54	Pass	Majority	2020
San Diego	San Diego	GO Bond	\$900,000,000	Housing	A	57.55	42.45	Fail	Two-thirds	2020
San Mateo	East Palo Alto	Special Tax	Transient Occupancy Tax: increase from 12% to 13% on January 1, 2022 and to 14% on January 1, 2023, generating an estimated \$195,000 the first year and \$390,000 per year thereafter	Housing	V	64.66	35.34	Fail	Two-thirds	2020
Parks and open space: 59% (20/34)										
Alameda	Hayward Area Recreation & Park District	GO Bond	\$250,000,000	Park Maintenance	F1	78.88	21.12	Pass	Two-thirds	2016
Fresno	Coalinga-Huron Recreation and Park District	GO Bond	\$14,900,000	Repair/Construct Park Facilities	N	69.82	30.18	Pass	Two-thirds	2016
Los Angeles	Los Angeles County	Special Tax	Parcel Tax: Levy parcel tax at an annual rate of 1.5 cents/sq. ft. of improved property. This is a safe, clean neighborhood parks, open space, beaches, rivers protection, and water conservation measure.	Parks and Open Space	A	74.90	25.10	Pass	Two-thirds	2016
Los Angeles	Mountains Recreation and Conservation Autho	Special Tax	Parcel Tax: Impose annual parcel tax of \$35/parcel primarily for the maintenance of natural areas.	Parks and Open Space	GG	83.68	16.32	Pass	Two-thirds	2016
Los Angeles	Mountains Recreation and Conservation Autho	Special Tax	Parcel Tax: Impose annual parcel tax of \$15/parcel primarily for the maintenance of natural areas.	Parks and Open Space	FF	76.99	23.01	Pass	Two-thirds	2016
Napa	Napa County	Special Tax	Sales Tax: Impose 0.25% tax for watershed and natural area preservation, wildfire risk reduction, and park maintenance.	Parks and Open Space	Z	64.70	35.30	Fail	Two-thirds	2016
Sacramento	Arden Manor Recreation and Park District	Special Tax	Parcel Tax: Implement tax for 20 years of \$75/single-family residential unit and varying rates for other parcel types.	Parks and Open Space	Q	65.71	34.29	Fail	Two-thirds	2016
Sacramento	Cordova Recreation and Park CFD No. 2016-1	Special Tax	Parcel Tax: Implement tax of \$48.64/single-family residential unit and other rates varying according to parcel type.	Parks and Open Space	J	71.23	28.77	Pass	Two-thirds	2016
San Joaquin	Lockeford Recreation and Park Services District	Special Tax	Parcel Tax: Impose tax of \$30/residential property, commercial property, or unimproved land for recreation and park services.	Recreation and Park Services	T	46.35	53.65	Fail	Two-thirds	2016
San Joaquin	Lodi	Special Tax	Sales Tax: Enact additional 0.125% sales tax for 15 years for park repairs and updates and riverbank erosion repairs.	Parks and Open Space	R	62.65	37.35	Fail	Two-thirds	2016
Sonoma	Sonoma County	Special Tax	Sales Tax: Establish 1/2 cent sales tax for 10 years for Sonoma County parks.	Parks and Open Space	J	65.12	34.88	Fail	Two-thirds	2016
Contra Costa	Clayton Community Facility District 2007-1 (Trails and Landscape Maintenance District)	Special Tax	Parcel Tax: \$234.84 per year per parcel for 10 years	Other Purpose	H	79.2	20.8	Pass	two-thirds	2016
Marin	Mesa Park Recreation District	Special Tax	Parcel Tax: Extend annual parcel tax of \$49/parcel to fund the improvements and operation of Bolinas Community Parks for 4 years.	Parks	F	82.61	17.39	Pass	Two-thirds	2017
Solano	Greater Vallejo Recreation District	Special Tax	Parcel Tax: Renew tax to \$48/parcel for 15 years.	Parks and Recreation	K	67.9	32.1	Pass	Two-thirds	2017

Contra Costa	Diablo Community Services District	Special Tax	Parcel Tax: Impose annual tax of \$662.26/improved parcel, \$128.06/unimproved parcel, & \$23,444.68 for Diablo Country Club parcels to fund police services and maintenance of roads, bridges, culverts, and trails.	Police Services/Road, Bridges, Culvert and Trail Maintenance	B	67.7	32.3	Pass	Two-thirds	2018
Kern	Rosamond Community Services District	Special Tax	Parcel Tax: Levy tax of \$119/improved land parcel and \$99/unimproved land parcel, with 3% automatic annual increase, to fund parks and recreation in the district.	Parks and Recreation	A	22.4	77.6	Fail	Two-thirds	2018
El Dorado	Holiday Lake Community Services District	Special Tax	Parcel Tax: Consolidate Resolution 88-01 and 2004-01 which currently equals \$75/parcel annually into a single \$150 tax, increasing the newly consolidated parcel tax to \$300/yr until rescinded totalling \$18,600 annually.	Parks and Recreation	G	85.9	14.1	Pass	Two-thirds	2018
Yolo	Davis	Special Tax	Parcel Tax: Renew tax of \$49/residential unit and other rates for commercial and industrial to fund park maintenance, recreational facilities, and open spaces for 20 years.	Park Maintenance/Recreational Facilities/Open Space	H	73.6	26.4	Pass	Two-thirds	2018
Alameda	Albany	Special Tax	Parcel Tax: Levy tax of an average rate of \$69/single-family residence.	Park and Recreation Facilities	M	77.82	22.18	Pass	Two-thirds	2018
Kern	Tehachapi Valley Recreation and Park District	GO Bond	\$43,000,000	Park and Recreation Facilities	R	32.53	67.47	Fail	Two-thirds	2018
Sacramento	Fair Oaks Recreation and Park District	GO Bond	\$26,900,000	Park and Recreation Facilities	J	68.94	31.06	Pass	Two-thirds	2018
Siskiyou	Mount Shasta Recreation and Parks District	Special Tax	Parcel Tax: Levy tax of \$75 for developed parcels and \$40 for undeveloped parcels for park upgrades and improvements for 25 yrs.	Park and Recreation Facilities	P	65.03	34.97	Fail	Two-thirds	2018
Sonoma	Sonoma County	Special Tax	Sales Tax: Impose tax of 1/8 cent for 10 yrs.	Park and Recreation Facilities	M	72.60	27.40	Pass	Two-thirds	2018
Contra Costa	El Cerrito	Special Tax	Parcel Tax: Extend parcel tax approved in 2000 that is set to expire 6/30/2020.	Parks/Recreational Facilities	H	78.34	21.66	Pass	Two-thirds	2019
Marin	San Anselmo	Special Tax	Parcel Tax: Impose annual tax of \$98 per residential unit or per 1,500 sq ft of non-residential use for 30 yrs.	Restore and Maintain Park	M	39.19	60.81	Fail	Two-thirds	2019
Butte	Chico Area Recreation and Park District	PLF	Parcel Tax: \$85 per parcel, raising an estimated \$3 million per year	Park and Recreation Facilities	A	48.57	51.43	Fail	Two-thirds	2020
Contra Costa	Pleasant Hill Recreation and Park District	GOB	\$63,500,000	Park and Recreation Facilities	A	60.25	39.75	Fail	Two-thirds	2020
Fresno / Tulare	Cutler-Orosi Joint Unified School District	PLF	Parcel Tax: annual tax of \$38.00 per parcel	Park and Recreation Facilities	K	54.89	45.11	Fail	Two-thirds	2020
Los Angeles	El Monte	PLF	Cannabis Tax: 9% for retail sales, 6% for cultivation and manufacture, and 5% for distribution and testing	Public Safety / Park and Recreation Facilities	PC	71.48	28.52	Pass	Two-thirds	2020
Napa	Napa County	PLF	Sales Tax: 0.25%, thereby increasing the sales tax from 7.75% to 8%	Park and Recreation Facilities	K	63.08	36.92	Fail	Two-thirds	2020
Riverside	Jurupa Area Recreation and Park District	PLF	Parcel Tax: \$30	Park and Recreation Facilities	H	43.93	56.07	Fail	Two-thirds	2020
Humboldt	Arcata	Special Tax	Parcel Tax: \$37 per parcel, thereby generating an estimated \$175,000 per year	Park and Recreation Facilities	A	80.66	19.34	Pass	Two-thirds	2020
Santa Clara	Santa Clara Valley Open Space Authority	Special Tax	Parcel Tax: renewing an existing annual parcel tax of \$24 per parcel, thereby generating an estimated \$8 million per year, until ended by voters	Park and Recreation Facilities	T	81.35	18.65	Pass	Two-thirds	2020
General/resilience/utility taxes (excluding pure telecommunications taxes): 54% (14/26)										
Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma	San Francisco Bay Restoration Authority	Special Tax	Parcel Tax: \$12 per year per parcel for 20 years.	Other Purpose	AA	70.6	29.4	Pass	two-thirds	2016
Los Angeles	Carson	General Tax	Utility User Tax: Extend 2% UUT for 7 years.	Other Purpose	C	69.5	30.5	Pass	Majority	2016
Alameda	Alameda	General Tax	Utility Users Tax: Continue annual transfer of \$3,700,000 from Alameda Municipal Power to the city and to update the utility users tax to include modern technologies.	General Government	K1	72.92	27.08	Pass	Majority	2016
Contra Costa	Brentwood	General Tax	Utility Users Tax: Increase tax on telecommunications, electricity, gas, and cable television to 3% in 2017 and 6% in 2018.	General Government	Z	39.13	60.87	Fail	Majority	2016

Contra Costa	Oakley	General Tax	Utility Users Tax: Establish a 3.5% tax on electricity, water, sewer, gas, and cable-television services for general city services.	General Government	E	32.95	67.05	Fail	Majority	2016
Del Norte	Crescent City	General Tax	Utility Users Tax: Increase sewer rates for all customer classes by 5% per year for the next three fiscal years.	General Government	Q	42.97	57.03	Fail	Majority	2016
Fresno	Firebaugh	General Tax	Utility Users Tax: Modify existing tax to add a 5% tax on wireless communication devices for general government purposes.	General Government	W	18.21	81.79	Fail	Majority	2016
Imperial	Brawley	General Tax	Utility User Tax: Extend 4% tax for 5 years.	General Government	W	62.02	37.98	Pass	Majority	2017
Los Angeles	Covina	General Tax	Utility User Tax: Renew utility user tax of 6% for 10 years.	General Government	CC	71.39	28.61	Pass	Majority	2017
Los Angeles	Vernon	General Tax	Utility User Tax: Impose tax of 6%.	General Government	R	66.0	34.0	Pass	Majority	2018
San Bernardino	Rialto	General Tax	Utility User Tax: Extend existing 8% utility user tax with exemptions for low-income households and individuals 65 years old or older.	General Government	M	58.2	41.8	Pass	Majority	2018
Santa Barbara	Isla Vista Community Services District	General Tax	Utility User Tax: Impose tax of 8% on gas, water, electricity, sewer, and garbage disposal services.	General Government	R-2018	84.0	16.0	Pass	Majority	2018
Fresno	Parlier	General Tax	Utility User Tax: Enact 4% tax on electric, natural gas, and telecommunication services with no expiration date.	General Government	K	48.30	51.70	Fail	Majority	2018
Kern	McFarland	General Tax	Utility Users Tax: Tax users at rate of 5% for phone, electric, natural gas, water, sewer, cable television, and trash services for 10 yrs.	General Government	P	42.32	57.68	Fail	Majority	2018
Los Angeles	South Pasadena	General Tax	Utility User Tax: Continue existing tax of 7.5% on water, gas, electricity, telephone, and cable television services.	General Government	N	20.18	79.82	Fail	Majority	2018
Riverside	Canyon Lake	General Tax	Utility Users Tax: Continue existing 3.95% tax for general government purposes.	General Government	S	76.86	23.14	Pass	Majority	2018
Alameda	Berkeley	General Tax	Transportation Sales Tax: Transportation Network Company trips of \$0.50 per private trip and \$0.25 per pooled trip for 20 years, generating an estimated \$910,000 per year	General Government	GG	58.78	41.22	Pass	Majority	2020
Alameda	Berkeley	General Tax	Utility Tax: increase from 7.5% to 10% on electricity and gas and a 2.5% increase to the gas users tax, generating an estimated \$2.4 million per year	General Government	HH	47.03	52.97	Fail	Majority	2020
Alameda	Newark	General Tax	Utility Tax: extension to the 3.25% utility users tax for nine years, generating an estimated \$2.75 million per	General Government	PP	71.77	28.23	Pass	Majority	2020
Alameda	Union City	General Tax	Utility Tax: 5% utility users tax for eight years on gas, electricity, video and telecommunications generating an estimated \$6.1 million per year	General Government	WW	56.87	43.13	Pass	Majority	2020
Imperial	Calipatria	General Tax	Utility Tax: 5% utility users tax on phones, electricity, gas, water, trash, sewer and cable generating an estimated \$348,078 per year	General Government	T	21.97	78.03	Fail	Majority	2020
Los Angeles	Hawthorne	General Tax	Utility Tax: 2.5% tax on utility bills generating an estimated \$3.2 million per year	General Government	UU	48.10	51.90	Fail	Majority	2020
Los Angeles	Long Beach	General Tax	Oil Barrel Production Tax: increase from \$0.15 to up to \$0.30 per barrel generating an estimated \$1.6 million per year in addition to the city's special-purpose oil production tax of \$0.33 per barrel	General Government	US	57.08	42.92	Pass	Majority	2020
Los Angeles	Pomona	General Tax	Utility Tax: 0.75% increase to the utility users tax for ten years	General Government	PA	14.65	85.35	Fail	Majority	2020
Los Angeles	South Pasadena	General Tax	Utility Tax: extend the Utility User Tax at its current rate of 7.5% for all utilities	Various City Services	U	75.83	24.17	Pass	Majority	2020
Sonoma	Cloverdale	General Tax	Utility Tax: extending the 3% utility users tax generating an estimated \$445,000 per year	General Government	R	53.43	46.57	Fail	Two-thirds	2020

APPENDIX D: OVERVIEW OF HAZARDS AND CLIMATE RESILIENCE PLAN

The [Hazards and Climate Resilience Plan \(HCR\)](#) is a comprehensive document that fulfills San Francisco’s federal hazard mitigation planning obligations under the Stafford Act and Disaster Management Act and its state climate adaptation planning obligations under Senate Bill 379.²³² The goal of the HCR is to:

“make San Francisco resilient to immediate and long-term threats of climate change and natural hazards through actions to mitigate risks, adapt built and natural assets, and build a more equitable and sustainable city.”²³³

The HCR addresses hazard mitigation, climate adaptation, and resilience planning; it is designed to “coordinate[] with and support[]” the CAP, which addresses greenhouse gas emission reduction.²³⁴ The HCR and the CAP share common goals including promoting equity, health, and livability in San Francisco,²³⁵ and many of their respective strategies, while distinct, include complementary actions and serve complementary goals.

As a result, while the resilience and adaptation actions contemplated in the HCR are separate from those in the CAP and outside the scope of this analysis—and this analysis does not include funding and financing strategies for HCR actions—overlapping and multi-benefit opportunities that achieve both CAP and HCR strategies should be prioritized for both efficiency of investment and coherence across City plans.

STRATEGIES AND ACTIONS

The HCR includes over 90 resilience strategies across three domains (infrastructure, buildings, and communities) addressing geological, weather-related, combustion-related, and biological and toxic hazards. While each of these hazard categories bear some relation to climate change, certain hazards—such as flooding, extreme heat, and air quality events—are most central to climate resilience planning. Among these, high-priority and high-profile climate resilience strategies include:

- Diversifying water supply options under SFPUC’s Water Supply Improvement Program²³⁶
- Implementing floodproofing and elevation projects for properties at risk of stormwater flooding citywide²³⁷
- Adapting Ocean Beach and shoreline parks to address sea level rise and flooding²³⁸
- Creating public cooling facilities and hubs²³⁹
- Developing sewage treatment and resilient electricity systems at SFO²⁴⁰
- Hardening the municipal fiber optic network²⁴¹
- Reinforcing harbor infrastructure²⁴²

The following strategies have the potential for significant overlap or synergy with CAP strategies:

- Meeting housing production goals²⁴³
- Improving power distribution infrastructure to support new development and increase resilience²⁴⁴
- Implementing an SFMTA asset management and repair strategy and fixed guideway (rail and overhead wire) resilience strategy²⁴⁵

- Installing solar and storage systems at critical facilities²⁴⁶
- Expanding the StreetTreeSF Climate Resilient Tree Planting Initiative and increasing tree canopy and shade structures in parks²⁴⁷
- Strengthening citywide efforts to conserve biodiversity including implementation of the San Francisco Biodiversity Policy²⁴⁸
- Increasing privately-owned building weatherization rates and supporting building electrification and upgrades²⁴⁹
- Amending the capital improvement program for transportation facilities to consider hazard mitigation opportunities²⁵⁰
- Implementing SFMTA's traffic signal upgrade and resilience strategy²⁵¹
- Conducting a citywide, multi-hazard vulnerability assessment for Muni²⁵²
- Implementing SFMTA's parking strategy to ensure parking structures are seismically sound²⁵³

APPENDIX E: CAP-RELEVANT CITY POLICIES AND AGENCIES, RESOURCES, AND BIBLIOGRAPHY

OVERVIEW OF CAP-RELEVANT CITY POLICIES

Climate Action Goals

City Ordinance formally adopting emission reduction goals of 61% (sector-based) and 40% (consumption-based) below 1990 levels by 2030, net-zero sector-based emissions including 90% emission reduction by 2040, and 80% consumption-based emission reduction by 2050; and directing the Department of the Environment to prepare the CAP to achieve these goals.²⁵⁴

All-Electric Construction Policy

City Ordinance barring issuance of permits for new mixed-fuel buildings after June 2021, with exceptions for infeasibility and commercial food service.²⁵⁵

Transportation Demand Management Program

City Ordinance requiring all large developments to include and enforce a plan for investment in transportation demand and vehicle miles traveled-reducing measures, such as parking modifications, transit passes, and bicycle infrastructure.²⁵⁶

Healthy Air and Clean Transportation Program

City Ordinance promoting zero-emission transportation through commercial building bicycle access requirements, City department planning for transit-first workplace policies, replacement of City fleet vehicles with zero-emission models, and associated planning measures.²⁵⁷

Food Service Waste/Plastic Bag Reduction

City Ordinances banning sale of non-compostable or non-recyclable and Styrofoam food service implements and requiring only compostable, recyclable, or paper bags at retail checkout (with bag fee imposed).²⁵⁸

Mandatory Composting and Recycling Programs

City Ordinance requiring all residents and commercial establishments to separate recyclables, compostables, and trash, and requiring waste haulers to provide appropriate bins, with audits of haulers' waste separation practices.²⁵⁹

Energy Performance Auditing

City Ordinance requiring energy audits for all large nonresidential buildings and disclosure of building energy performance for all large residential and nonresidential buildings.²⁶⁰

Renewable Energy Requirements for Nonresidential Buildings

City Ordinance requiring large nonresidential buildings to obtain 100% of their electricity from on-site or offsite GHG-free sources (phased in from 2022 for 500,000+ sf to 2030 for 50,000-250,000 sf).²⁶¹

EV Charging Requirements for Commercial Parking

City Ordinance requiring Level 2 EV charging at at least 10% of all spaces in commercial parking lots with over 100 spaces (or lower numbers of DC Fast chargers) or equivalent EV charging services.²⁶²

Transit-First Policy

City Charter provision requiring the General Plan and all departments to implement principles including establishing public and active transportation as an “attractive alternative” to private automobiles; encouraging use of public right of way for non-automobile purposes; directing public improvements toward public transit; and otherwise promoting public and active transportation through City programs and investments.²⁶³

Biodiversity Policy

Commission on the Environment Policy adopting five biodiversity-related goals including ecosystem restoration and maintenance, equitable access, and climate resilience; and Board Resolution adopting same policy and directing relevant City departments to support and implement it.²⁶⁴

Zero Waste Policy

Board Resolution establishing a goal of 75% waste diversion by 2010 and directing the Department of the Environment to set a zero-waste goal after the 50% goal is met; Mayor’s Declaration of 2030 goals of 15% municipal solid waste reduction and 50% landfill and incineration disposal reduction.²⁶⁵

OVERVIEW OF CAP-RELEVANT CITY AGENCIES

Department of the Environment

- Authority and role: Regularly produce an assessment of the City’s environmental condition and manage the environmental programs, duties and functions assigned to it by the Mayor or by ordinance, including climate action planning, zero waste policies, toxic and health policies, and more.²⁶⁶
- Relevant strategies: ES/BO/TLU/H/RPC/HE

Airport Commission

- Authority and role: Construction, management, supervision, maintenance, extension, operation, use and control of all property of SFO Airport and exclusive authority to plan and issue revenue bonds for airport-related purposes (subject to Board of Supervisors approval).²⁶⁷ Fix, change and adjust rates and charges for the furnishing of services, including the furnishing of utility services.²⁶⁸
- Relevant strategies: BO/TLU/RPC/HE

Board of Supervisors

- Authority and role: All rights and powers of a City and County which are not vested in another officer or entity by the Charter.²⁶⁹ Includes core legislative authority.
- Relevant strategies: ES/BO/TLU/H/RPC/HE

Department of Building Inspection

- Authority and role: Overseeing the effective, efficient, fair and safe enforcement of the City and County’s Building, Housing, Plumbing, Electrical, and Mechanical Codes, along with Disability Access Regulations.
- Relevant strategies: BO/H

City Attorney

- Authority and role: Represent the City and County in legal proceedings with respect to which it has an interest; provide advice or written opinion to any officer, department head or board, commission or other unit of government of the City and County; approve all surety bonds, contracts, and ordinances; and examine and approve title to all real property to be acquired by the City and County.²⁷⁰
- Relevant strategies: ES/BO/TLU/H/RPC/HE

CleanPowerSF

- Authority and role: Procurement of wholesale electricity for SF retail customers; short- and long-term energy resource planning; development of local distributed generation and demand management programs; rate setting for customers.²⁷¹ CleanPowerSF is a program of the San Francisco Public Utilities Commission.
- Relevant strategies: ES/BO

Controller

- Authority and role: Timely accounting, disbursement or other disposition of monies of the City and County in accordance with sound financial practices applicable to municipalities and counties. The Controller has the power and duties of a county auditor is responsible for monitoring the level and effectiveness of services rendered by the City to its residents. All disbursements of funds in the custody of the Treasurer must be authorized by the Controller.²⁷²
- Relevant strategies: ES/BO/TLU/H/RPC/HE

County Transportation Authority

- Authority and role: Long-range planning for City transportation, funding and implementation for select infrastructure projects; oversight of Measure K transportation investment program; oversight of Treasure Island mobility; and City Congestion Management Agency responsibilities.
- Relevant strategies: TLU

Office on Disability

- Authority and role: Assist City departments in making all programs, services, benefits, activities, and facilities owned, operated, or funded by the City accessible to and usable by individuals with disabilities, as may be required by the Americans with Disabilities Act and other disability rights laws and disability access regulations and codes.²⁷³
- Relevant strategies: BO/TLU/H/RPC/HE

Office of Economic and Workforce Development

- Authority and role: Strategic coordination for the City's workforce system, including implementing job training programs aimed at providing residents with access to today's jobs; managing major public-private development projects to maximize long-term public benefits, including affordable housing, jobs and economic development, and open space; facilitating the revitalization of commercial corridors in economically disadvantaged neighborhoods.
- Relevant strategies: ES/BO/TLU/H/RPC/HE

Mayor's Office

- Authority and role: General administration and oversight of all departments and governmental units; coordination of all intergovernmental activities; introduction of the annual proposed budget or multi-year budget; veto of ordinances.²⁷⁴
- Relevant strategies: ES/BO/TLU/H/RPC/HE

Municipal Transportation Agency

- Authority and role: Acquisition, construction, management, supervision, maintenance, extension, operation, use, and control of all public transit assets; enter into arrangements for use with any other public entity owning or having jurisdiction over rights-of-way, tracks, structures, subways, tunnels, stations; fix the fares charged by the Municipal Railway, rates for off-street and on-street parking, and all other, rates, fees, fines, penalties and charges; adopt regulations that control the flow and direction of motor vehicle, bicycle and pedestrian traffic; apply for, accept, and expend state, federal, or other public or private grant funds; incur debt for Agency purposes and to issue or cause to be issued bonds, notes, certificates of indebtedness, commercial paper, financing leases, certificates of participation or any other debt instruments (with Board concurrence).²⁷⁵
- Relevant strategies: TLU

Planning Department/Planning Commission

- Authority and role: Development and approval of the City's General Plan; review and approval of City-led development, public housing, and subdivision proposals; issuance of all permits and approvals under the Planning Code; enforcement of the Planning Code; proposal of zoning amendments.²⁷⁶
- Relevant strategies: BO/TLU/H

Public Utilities Commission

- Authority and role: Construction, management, supervision, maintenance, extension, expansion, operation, use and control of all water, clean water and clean power supplies and distribution utilities of the City. Operate CleanPowerSF and Hetch Hetchy Power, San Francisco's public power services responsible for procurement of wholesale electricity for SF retail customers; short- and long-term energy resource planning; development of local distributed generation and demand management programs.²⁷⁷ Issue revenue bonds, including notes, commercial paper, or other forms of indebtedness, when authorized by ordinance approved by a two-thirds vote of the Board of Supervisors, for the purpose of reconstructing, replacing, expanding, repairing, or improving water facilities, clean water facilities, power facilities, or combinations of water, clean water, and power facilities.²⁷⁸ Establish rates, fees and charges at levels sufficient to improve or maintain financial condition and bond ratings, meet requirements and covenants under all bond resolutions and indentures, and provide sufficient resources for continued financial health.²⁷⁹
- Relevant strategies: ES/BO/TLU/H

Department of Public Works

- Authority and role: To design, build, and improve the City's infrastructure and public right of way.²⁸⁰ Administer all capital improvement and construction projects, except projects solely under the Airport, Port, Public Utilities, or Recreation and Park Commissions or SFMTA.²⁸¹
- Relevant strategies: ES/TLU/HE

Office of Racial Equity

- Authority and role: Advance Racial Equity and repair harm done by government policy decisions that have created, upheld, or exacerbated Racial Disparities in the City through policy analysis and development, data collection and analysis, and support and accountability for City departments.²⁸²
- Relevant strategies: ES/BO/TLU/H/RPC/HE

Department of Recreation and Parks

- Authority and role: Manage and direct all parks, playgrounds, recreation centers and all other recreation facilities, avenues and grounds under the Commission's control; issue permits for the use of all property under the Commission's control; construct new parks, playgrounds, recreation centers, recreation facilities, squares and grounds, and to erect and maintain buildings and structures on parks, playgrounds, square, avenues and grounds.²⁸³
- Relevant strategies: HE

Office of Resilience and Capital Planning

- Authority and role: Review and prioritize Capital Plan and Capital Budget requests; project and coordinate funding sources and uses; produce the Capital Plan and the Capital Budget; coordinate interagency capital initiatives; and offer strategic guidance to City executives and elected officials on resilience- and capital-related matters.²⁸⁴
- Relevant strategies: ES/BO/TLU/H/RPC/HE

CLIMATE ACTION FUNDING/FINANCING PLANS

Funding and Financing Climate Action in San Francisco (Arup Consulting, 2021)

Overview of City revenue sources and mechanisms available to fund (utility tax, property tax, sales tax, sales tax, food tax, carbon/CAP tax, development opportunities, community facilities district, special assessment district, enhanced infrastructure financing district, grants, congestion pricing) and finance (general obligation bond, revenue bond, green bond, certificates of participation, energy loans) CAP implementation.

Priorities for Sonoma County's Wildfire Settlement Vegetation Management Funds (CLEE, 2021)

Spending/investment plan for \$25 million vegetation management fund including direct spend on immediate action; governance and coordination; education and outreach; data and mapping; workforce development; and long-term financing. Long-term options include seeding a revolving fund, creating a Community Facilities District, creating a zone of benefit within the County Service Area, issuing resilience bonds, and instituting sales or parcel taxes.

Proposed Funding Pathways for Adaptation to Climate Change in California (RLF, 2021)

Overview of innovative funding mechanisms for climate change adaptation largely focused on solutions to physical risks (such as wildfire, extreme heat, and sea level rise) and state policy reforms that fall outside the scope of the CAP. Proposes creation of a new "resilience financing district" that combines existing powers of Geologic Hazard Abatement Districts, Community Facilities Districts, Enhanced Infrastructure Financing Districts, and Fire Suppression Districts.

Six Innovative Ways to Fund Climate Action and Equity in US Cities (World Resources Institute, 2021)

Discussion of tax options to fund climate action, as well as climate and resilience bond approaches.

[Taking the SDGs seriously: Malmö’s model for budget integration](#) (Brookings, 2021)

Full integration of SDGs into the budget process, and conversion of budget from an annual document to a four-year document, converted the budget into the City’s primary sustainable development action plan.

[Berkeley Existing Buildings Electrification Strategy](#) (City of Berkeley, 2021)

Comprehensive strategy for city-scale building electrification by 2045, including some discussion of financing needs and a framework for equitable implementation.

[Funding and Financing Climate Action Plans](#) (Urban Sustainability Directors’ Network, 2019)

Analysis of CAP funding and financing options with a focus on cross-departmental collaboration and multi-benefit project development to unlock financial innovation.

[Finance Guide for Resilient by Design Bay Area Challenge](#) (NHA Advisors, 2018)

Comprehensive analysis of financing strategies available for bay area resilience investment.

[Fortifying San Francisco’s Great Seawall: Strategies for Funding the Seawall Resiliency Project](#) (SF Office of Resilience and Capital Planning, 2017)

Overview of funding strategies seawall resiliency including general obligation bond, CFD, tax increment revenue, sales taxes, and other secondary and supplementary strategies.

RESEARCH REPORTS AND ANALYSES

[Missing the Housing for the Trees: Equity in Urban Climate Planning](#) (Journal of Planning and Education Research, 2022)

Analysis of 170 California climate action plans finding limited integration of equity-focused policies and heavy reliance on open space and greening initiatives.

[Putting San Diego on the High Road to a Carbon-Neutral Economy: Social Policies and Capital Investments to Ensure a Just Transition for Workers](#) (Inclusive Economics, 2022)

Overview of workforce development strategies to ensure job quality, access, and training through county climate action plan investments.

[Adaptive Reuse Challenges and Opportunities in California](#) (University of California Berkeley, Turner Center for Housing Innovation, 2021)

Reuse of land zoned for retail and office for residential purposes presents an opportunity to revitalize vacant buildings, repurpose existing commercial real estate, and address some of the significant challenges that local jurisdictions face with the rising cost of housing.

[Climate-Related Risks Faced by Low- and Moderate-Income Communities and Communities of Color: Survey Results](#) (Federal Reserve Bank of San Francisco, 2021)

Survey of lower-income community residents finding high awareness of climate risk and lack of housing and lack of savings as major exacerbating factors.

Los Angeles Building Decarbonization: Tenant Impact and Recommendations (Strategic Actions for a Just Economy, 2021)

Analysis of risks to tenants from building decarbonization costs and policy recommendations including banning pass-through of costs and limitation on large landlord receipt of public subsidies.

Los Angeles Building Decarbonization: Community Concerns, Employment Impacts, Opportunities (Inclusive Economics, 2021)

Analysis of employment implications and opportunities of building decarbonization plans in Los Angeles with policy and investment recommendations to ensure job promotion and equity.

More than Fines and Fees: Incorporating Equity into City Revenue Strategies (Urban Institute, 2021)

Review of strategies to incorporate equity in tax revenue programs (e.g., community advisory board for Seattle soda tax and local option cannabis taxes in Massachusetts), and nontax revenue programs (e.g., in-kind exactions for land development and transfer of city-owned land to address past inequities) and discussion of equity-informed revenue strategies (nascent, emerging, mature).

A New Era of Racial Equity in Community Development Finance (Urban Institute, 2021)

Analysis of strategies to develop flexible, long-term financing for development in underserved communities with a focus on climate change.

Performance Audit of the City's Climate Action Plan (City of San Diego, Office of the City Auditor, 2021)

Includes discussion of methods for improving CAP implementation through fiscal planning mechanisms.

Policy Analysis Report on Decarbonizing Residential Buildings by Eliminating Natural Gas Usage (San Francisco Budget and Legislative Analyst's Office, 2021)

Analysis of estimated cost of electrifying all residential housing units in San Francisco (between \$3.45 and \$5.87 billion) and overview of potential strategies to fund the effort including utility users tax, resident rebates, cap-and-trade funds, and a city building emission limit.

A Program for Economic Recovery and Clean Energy Transition in California (Political Economy Research Institute, 2021)

Analysis of job creation and just transition potential in a clean energy transition in California, with a focus on oil-and-gas intensive counties.

Seeding Capital: Policy Solutions to Accelerate Investment in Nature-based Climate Action (CLEE, 2021)

Analysis of potential revenue opportunities for nature-based climate mitigation and resilience investment.

Sustaining Clean Mobility Equity Programs: Equitable Funding for Equitable Mobility (Greenlining Institute, 2021)

Analysis of equitable mobility funding strategies including road charges, congestion pricing, low-emission zones, and transportation network company taxes, including recommendations for discounts and other mechanisms to ensure equitable fee structures.

Affordable Housing Funding, Production, and Preservation (SF Planning Department, 2020)

Overview of affordable housing programs, funding streams, funding and production data, and potential new revenue opportunities.

California’s Infrastructure Challenges (Urban Institute, 2020)

Overview of state and local infrastructure funding streams and mechanisms including discussion of approval requirements for local tax and fee programs.

The California Roadmap (CLEE, 2020)

Overview of ESG investing and climate risk-related programs and opportunities in California’s investment landscape, with recommendations for local bond issuances and state infrastructure investment.

California’s State and Local Revenue System (Urban Institute, 2020)

Overview of state and local revenue generation system in California, including Proposition 13’s impact on commercial property taxation and state reliance on income tax proceeds for revenue.

The Case for a Social Housing Development Authority (NYU Urban Democracy Lab, 2020)

Proposal for a new federal authority to acquire distressed housing assets, improve and maintain them, and transfer them to the social housing sector.

The Challenge of Equity in California’s Municipal Climate Action Plans (UC Santa Cruz, 2020)

Analysis of 2004-2016 CAPs finding limited correlation between equity needs and equity priorities.

Climate Equity & Community Engagement in Building Electrification (PODER and Emerald Cities Coalition, 2020)

Toolkit for community engagement in building decarbonization planning, including case study of San Francisco residential building decarbonization and equity initiative.

Greenlined Economy Guidebook: Transforming Community Development, Transforming our Economy (Greenlining Institute, 2020)

Analysis of community-centered economic development and investment strategies across all local sectors, including six standards for equitable community investment (race conscious solutions; multi-sector approaches; intentional rather than trickle down benefits; community capacity; community-driven at every stage; paths towards wealth-building).

Insuring Extreme Heat Risks (CLEE, 2020)

Overview of extreme heat impacts, short- and long-term mitigation strategies, and local action plans; recommendations for insurance and risk transfer mechanisms to mitigate heat risk.

Putting California on the High Road: A Jobs and Climate Action Plan for 2030 (California Workforce Development Board, June 2020)

Comprehensive analysis of labor/workforce policies to accompany climate programs in California, including recommendations for demand-side policy levers, supply-side policy levers, and just transition.

Building Community Wealth through Community Resilience (Federal Reserve Bank of San Francisco, October 2019)

Review of community wealth-building resilience strategies including resident-owned property and community-owned utilities, including efforts of PODER in San Francisco.

Culture, Collaboration, and Capital: Leveraging Procurement for Economic Equity (City Accelerator, 2019)

Overview of history and need for equity policy in public procurement and contracting with analysis of strategies such as breaking up large contracts, streamlining bidding processes, and shifting away from low-bid procurement to draw more small, minority-owned businesses.

California Building Decarbonization Workforce Needs and Recommendations (UCLA Luskin Institute, 2019)

Analysis of labor impacts of 100 percent building electrification policy in California finding potential increase of approximately 60,000-100,000 jobs.

Hunting for Money: U.S. Cities Need a System for Financing Climate Resilience and Adaptation (Federal Reserve Bank of San Francisco, October 2019)

Overview of climate-related challenges to city funding and financing strategies as well as innovations across public, private, philanthropic, and CFI approaches.

Pricing Roads, Advancing Equity (TransForm, 2019)

Analysis of road pricing strategies, current examples, and potential mechanisms to address and advance transportation equity goals.

The View from the Top of Arnstein's Ladder: Participatory Budgeting and the Promise of Community Control (Journal of the American Planning Association, 2019)

Case study analysis of Fresno participatory budgeting process finding benefits from substantial budget and binding final vote but an initial failure to delegate decision-making power, a compressed timeline, complex project eligibility restrictions limited its potential, and limited participation from those not previously involved in municipal politics.

Integrating SDGs into national budgetary processes (Hege and Brimont, 2018)

Identifies four methods for incorporating SDGs into budget documents and processes, and note areas for improvement of this emerging practice.

Paying for Climate Adaptation in California: A Primer for Practitioners (RLF and AECOM, October 2018)

Overview of funding and financing strategies available for climate adaptation and resilience projects in California with recommendations for policymakers to improve access to funds and decision-making.

Road Pricing in London, Stockholm and Singapore: A Way Forward for New York City (Tri-State Transportation Campaign, 2018)

Overview of congestion pricing programs in three global cities with analysis of mechanisms, exemptions/discounts, and revenues generated.

Pursuing Equity and Justice in a Changing Climate: Assessing Equity in Local Climate and Sustainability Plans in U.S. Cities (Journal of Planning Education and Research, 2015)

Analysis of equity trends in climate action plans and case study review of Boston, Portland, and Philadelphia examples.

Best Practices for Feebate Program Design (ICCT, 2010)

Overview of vehicle emissions feebate programs to incentivize purchase of lower-emitting vehicles.

Resilience Playbook (Greenbelt Alliance)

Guide to resilience and adaptation planning in the Bay Area with focus on wildfire, flood and drought, housing, nature-based solutions, including an equity-specific toolkit.

REFERENCES

All webpages last visited July 1, 2022. Some may be paywall- or subscription-restricted.

- 1 All GO bonds must fund capital improvements that are deemed to be a public necessity—a condition that clearly holds for investments to accelerate building decarbonization, given the scale of financial need to achieve City decarbonization goals and the associated public health benefits. In general, GO bonds that fund private activities or privately-owned infrastructure are taxable rather than tax-exempt, subject to a number of exceptions including for development of affordable multifamily housing and facilities owned by qualified 501(c)(3) organizations. To the extent that the proceeds of a bond issuance are invested in privately owned infrastructure such as building decarbonization investments in private dwellings, the bonds may not be tax-exempt—an important but not prohibitive distinction that would reduce the attractiveness of the bonds for investors but not affect recipients of funds.
- 2 SF Bus. and Tax Reg. Code Art. 28. Since Proposition C arrived on the November 2018 ballot by voter initiative rather than Board of Supervisors legislation, the Court of Appeal held that under Proposition 13 it only required a simple majority vote for passage (rather than two-thirds), meaning its 61% approval was sufficient for enactment. See *City and County of San Francisco v. All Persons Interested in Matter of Proposition C*, 51 Cal. App.5th 703 (2020).
- 3 SF Environment Code § 902. In addition to setting the City’s emission reduction targets and directing the Department of the Environment to develop the CAP, the Code directs a number of City agencies—including the Planning Department, Department of Public Health, Department of Building Inspection, Department of Public Works, SFMTA, SFPUC, Office of Resilience and Capital Planning, and Purchasing Department to take specific actions in advancement of CAP development and implementation. SF Environment Code §§ 904-905.
- 4 San Francisco Department of the Environment, *2021 Climate Action Plan Update* (SF CAP), p. 16, available at https://sfenvironment.org/sites/default/files/cap_fulldocument_wappendix_web_220124.pdf.
- 5 SF CAP, p. 139 (Appendix A, p. 3); see also US Development Network, “What is a CBEI?” (webpage), available at <https://sustainableconsumption.usdn.org/climate/cbei-guidebook/cbei-basics> (“A consumption-based emissions inventory (CBEI) is a calculation of all of the greenhouse gas emissions associated with producing, transporting, using, and disposing of products and services consumed by a particular community or entity in a given time period (typically a year). A CBEI is a way to tally up a comprehensive emissions ‘footprint’ of a community.”).
- 6 SF CAP, p. 38.
- 7 SF CAP, pp. 28-31, 45-49.
- 8 SF CAP, pp. 15-17, 19.
- 9 SF CAP, p. 18
- 10 SF CAP, p. 15.
- 11 SF CAP, pp. 34-35.
- 12 SF CAP, p. 35. “[E]missions from Residential buildings totaled 1.05 million mtCO_{2e}, comprising 23% of San Francisco’s emissions.... Residential sector emissions are generated from fossil fuels used to heat households, provide hot water, dry clothes, and cook. They result primarily from burning natural gas (96%), followed by electricity use (2%), and other fuel consumption (2%).... In 2019, emissions from the Commercial buildings sector totaled 831,000 mtCO_{2e}, accounting for 18% of San Francisco’s emissions.... Like Residential buildings, this decrease was mainly due to a combination of cleaner electricity supply, improved energy codes, and city-wide energy efficiency programs. Commercial natural gas use was responsible for the largest share of emissions (85%), followed by steam (8%), and electricity (7%).”
- 13 For more information visit <https://nationalbpscoalition.org/>.
- 14 See City of Berkeley, *Existing Buildings Electrification Strategy* (November 2021), available at <https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Existing-Buildings-Electrification-Strategy.pdf>.

- 15 This proposed bill would require the Metropolitan Transportation Commission to develop and adopt a Connected Network Plan, develop a comprehensive, standardized regional transit mapping and wayfinding system, develop an implementation and maintenance strategy and funding plan, and establish open data standards.
- 16 SF CAP, p. 53; letter from Mayor London N. Breed and City Attorney Dennis Herrera to Pacific Gas & Electric (September 6, 2019), *supra*.
- 17 For more information, see <https://www.publicpowersf.org/>.
- 18 SF CAP, p. 102.
- 19 San Francisco Urban Forest Plan (Fall 2014), pp. 32-33, available at https://sfplanning.s3.amazonaws.com/default/files/plans-and-programs/planning-for-the-city/urban-forest-plan/Urban_Forest_Plan_Final-092314WEB.pdf.
- 20 SF CAP, p. 94
- 21 *Id.*
- 22 SF CAP, p. 95. See also: ABAG Regional Housing Needs Allocation (RHNA) Plan, <https://abag.ca.gov/our-work/housing/rhna-regional-housing-needs-allocation>
- 23 SF CAP, pp. 94-97.
- 24 San Francisco Housing Accelerator Fund, “By the Numbers” (webpage), available at <https://www.sfhaf.org/statistics/>.
- 25 See generally Jackleyn Hwang and Bina P. Shrimali, Federal Reserve Bank of San Francisco, “Constrained Choices: Gentrification, Housing Affordability, and Residential Instability in the San Francisco Bay Area,” (April 15, 2021), available at <https://www.frbsf.org/community-development/publications/community-development-research-briefs/2021/april/gentrification-housing-san-francisco-bay-area/>.
- 26 See, e.g., San Francisco Climate Action Plan, *Appendix G: Funding and Financing Climate Action in San Francisco*, p. 1; see also CLEE, *Seeding Capital: Policy Solutions to Accelerate Investment in Nature-Based Climate Action* (June 2021), p. 8, available at <https://www.law.berkeley.edu/wp-content/uploads/2021/05/Seeding-Capital-June-2021.pdf>; Resources Legacy Fund and AECOM, *Paying for Climate Adaptation in California: A Primer for Practitioners* (October 2018), pp. 8-9, available at <https://resourceslegacyfund.org/wp-content/uploads/2018/11/Paying-for-Climate-Adaptation-in-California.pdf>.
- 27 California Debt and Investment Advisory Committee, *California Debt Financing Guide* (Revised March 2022), pp. i-9 - i-14, available at <https://www.treasurer.ca.gov/cdiac/debtpubs/financing-guide.pdf>.
- 28 San Francisco Climate Action Plan, *Appendix G: Funding and Financing Climate Action in San Francisco*, p. 3.
- 29 City and County of San Francisco, Office of the Controller, *FY 2021-22 and 2022-23 Revenue Letter: Controller’s Discussion of the Mayor’s Proposed Budget* (June 2021), pp. 3-8, available at https://sfcontroller.org/sites/default/files/Documents/Budget/FY21-22%20and%20FY22-23%20Revenue%20Letter_FINAL.pdf.
- 30 Resources consulted for this section include San Francisco Climate Action Plan, *Appendix G: Funding and Financing Climate Action in San Francisco*; San Francisco Transit Riders, “What Revenue Sources Meet Transit Riders’ Needs?” (2021), available at <https://medium.com/@SFTRU/what-revenue-sources-meet-transit-riders-needs-a5fc4dfa86d7>; Resources Legacy Fund (RLF), *Proposed Funding Pathways for Adaptation to Climate Change in California* (2021), available at <https://resourceslegacyfund.org/publications/proposed-funding-pathways-for-adaptation-to-climate-change-in-california>; CLEE, *Seeding Capital: Policy Solutions to Accelerate Investment in Nature-Based Climate Action* (June 2021), available at <https://www.law.berkeley.edu/wp-content/uploads/2021/05/Seeding-Capital-June-2021.pdf>; CLEE, *Priorities for Sonoma County’s Wildfire Settlement Vegetation Management Funds* (March 2021), available at <https://www.law.berkeley.edu/wp-content/uploads/2021/03/Priorities-for-Sonoma-Countys-Vegetation-Management-Funds-March-2021.pdf>; NHA Advisors, *Finance Guide for Resilient by Design Bay Area Challenge* (2018), available at https://www.frbsf.org/community-development/wp-content/uploads/sites/3/16_Brooks.pdf; and Resources Legacy Fund and AECOM, *Paying for Climate Adaptation in California: A Primer for Practitioners* (October 2018), available at <https://resourceslegacyfund.org/wp-content/uploads/2018/11/Paying-for-Climate-Adaptation-in-California.pdf>, among many others.
- 31 See, e.g., CDIAC, *California Debt Financing Guide*, *supra*, pp. 1-13 - 1-21.

- 32 Cal. Const. Art. XIII § 1. In addition to Proposition 13 (1978), Proposition 218 (1996) and Proposition 26 (2010) refined limitations on taxation powers of local governments under Article XIII of the California Constitution; they are often referred to collectively as Proposition 13.
- 33 Cal. Const. Art. XIII § 2.
- 34 SF Bus. and Tax Reg. Code Art. 12-A-1.
- 35 Portland (Oregon) City Code Ch. 7.07.
- 36 Cal. Govt. Code § 27388.1, Cal. Health & Safety Code § 50470.
- 37 SF Bus. and Tax Reg. Code §§ 2901 et seq.
- 38 Proposed ordinance available at https://sfelections.sfgov.org/sites/default/files/20220207_ExciseTax.pdf.
- 39 San Francisco Budget and Legislative Analyst, “Policy Analysis Report: Residential Vacancies in San Francisco” (memo) (January 31, 2022), available at https://56a418ca-94d2-476c-9a45-f491ca4a0387.usrfiles.com/ugd/56a418_74b82803e4fb434bb1b13010828a4c01.pdf.
- 40 Oakland Municipal Code Ch. 4.56.020.
- 41 Province of British Columbia Ministry of Finance, Speculation and Vacancy Tax Technical Briefing: 2020 Tax Year (2021), pp. 6, 18, available at https://news.gov.bc.ca/files/SVT_Annual_Mayors_Consultation_Technical_Briefing_2020.pdf
- 42 Sarah Ravani, “Berkeley to consider placing a vacant-home tax on the ballot. Will it help with the housing crisis?” San Francisco Chronicle (June 13, 2022), available at <https://www.sfchronicle.com/eastbay/article/Berkeley-to-consider-placing-a-vacant-home-tax-on-17239241.php>.
- 43 See generally Richard C. Auxier et al., Urban Institute, *California’s State and Local Revenue System* (July 2020), available at https://www.urban.org/sites/default/files/publication/102584/californias-state-and-local-revenue-system_1.pdf.
- 44 See San Francisco Treasurer, “Prop F (2020): Business Tax Overhaul” (webpage), available at <https://sftreasurer.org/PropF>; San Francisco Bus. and Taxation Reg. Code Art. 12-B (repealed).
- 45 San Francisco Environment Code §§ 2000 et seq.
- 46 Cal. Const. Art. XIII, § 1(e).
- 47 San Francisco Business and Tax Regulation Code, Article 9, § 602.
- 48 SFMTA, “Residential Parking Permits (RPP)” (webpage), available at <https://www.sfmta.com/permits/residential-parking-permits-rpp>.
- 49 See, e.g., Chris Elmendorf and Darien Shanske, “How to Solve the Transit Budget Crunch: Price the Private Use of Public Streets,” SPUR (December 18, 2020), available at <https://www.spur.org/news/2020-12-18/how-solve-transit-budget-crunch-price-private-use-public-streets>; Cal. Const. Art. XIII(1)(e)(4).
- 50 Cal. Revenue & Taxation Code §§ 11160 et seq.; SF Bus. and Tax Reg. Code §§ 2301 et seq.; see SFCTA, Prop AA Vehicle Registration Fee, available at <https://www.sfcta.org/funding/prop-aa-vehicle-registration-fee>.
- 51 San Francisco Planning, “Development Impact Fees” (webpage), available at <https://sfplanning.org/project/development-impact-fees>.
- 52 San Francisco Planning, “San Francisco Citywide Development Impact Fee Register,” (December 2021), available at https://sfplanning.org/sites/default/files/forms/Impact_Fee_Schedule.pdf.
- 53 San Francisco Planning Code §§ 401-435.
- 54 For an overview of City debt programs and outstanding debt, see <https://onesanfrancisco.org/the-plan-2022/capital-sources-debt-programs>.
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284 For more information see <https://onesanfrancisco.org/about-us>.



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