

Strategies for Building Decarbonization and Equity in San Francisco

PREPARED BY: EMERALD CITIES COLLABORATIVE, PODER, AND SF DEPARTMENT OF THE ENVIRONMENT

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Table of Contents

Strategy 1: Decarbonization of privately-owned housing and protection of communities of color and low-income residents	3
Potential Actions for Strategy 1	6
Strategy 2: Decarbonization of deed-restricted affordable housing, protection of communities of color and low-income residents, and preservation of affordable units	10
Potential Actions for Strategy 2	13
Strategy 3: Plan for the equitable decarbonization of energy distribution infrastructure	15
Potential Actions for Strategy 3	17
Strategy 4: Increase opportunities for disadvantaged workers and Minority, Women, and Disabled Veteran Business Enterprises (MWDVBEs) by extending workforce development programs to building decarbonization	18
Potential Actions for Strategy 4	20

Strategy 1: Decarbonization of privately-owned housing and protection of communities of color and low-income residents

Element	Buildings
Description	Develop and deliver a suite of planning, policies, programs, funding mechanisms, technical assistance, education and partnerships over the next 2-10 years that will enable a systematic, strategic and rapid transition to efficient all-electric residential buildings powered by renewable electricity. Expand measures to protect housing affordability, stable utility costs, and increase opportunities for communities of color and low-income tenants and homeowners.
What could success look like?	<ul style="list-style-type: none"> • By 2035, 40% of privately-owned housing has switched from natural gas as the primary fuel for space conditioning and water heating to using high-efficiency electric heat pumps, and 100% of housing is efficient and all-electric no later than 2045 • No evictions related to electrification, and decreased rates of all types of evictions • No electrification costs passed through to tenants who cannot afford an increase in rent • Reduced utility bills for lower income residents and communities of color, and increased access to affordable housing for low-and moderate-income residents • Increased rates of affordable housing preservation • Increased rates of lower income units upgraded for electrification, and realizing health, safety, and habitability improvements • Electrification work conducted by increased rates of disadvantaged workers and/or MWDVBEs <p>Racial and social equity successes on a societal level could be realized through reduced housing cost burden disparities by race and income, reduced homeownership disparities by race, reduced income and wealth disparities by race, and increased populations of racial groups in San Francisco that have been displaced over time. Many factors contribute to these pervasive societal problems, building decarbonization alone cannot solve them.</p>
GHG Reduction Potential	<i>To be determined in Climate Action Plan process.</i>
Estimated Cost	<i>To be determined in Climate Action Plan process.</i>

Lenses	
Racial & Social Equity	Many of the components of this strategy consider racial and social equity, through the inclusion of community-serving organizations in future policy and program development, equitable distribution of the benefits of building decarbonization, and measures to protect housing affordability and prevent displacement of communities of color and low-income residents. Refer to Potential Actions for more information.
Just Transition	This strategy can support the equitable transition away from an extractive economy and the economic recovery following COVID-19 by building capacity for workers and MWDVBEs to train for and access building decarbonization work. Refer to Strategy 4 for more information.
Health	<i>To be determined in Climate Action Plan process.</i>
Resilience	Many existing buildings in San Francisco do not have air conditioning, and heat pumps can provide cooling for residents who are vulnerable in the event of a heat wave. Better insulated and sealed buildings are also safer and healthier for their inhabitants during extreme heat and poor air quality events. It is likely that the return of service time for electricity is faster than for natural gas following an earthquake or other catastrophic event (days compared to weeks). Public safety power shut offs are a concern, especially for populations who are medically dependent on electricity. Combining electrified buildings with on-site renewable energy generation and/or storage systems can reduce the impacts of electrical outages. Buildings and infrastructure that use natural gas might be prone to explosions, but both power supplies can cause or exacerbate urban fires. More information is needed from the Fire Department and technical experts to better understand electrification-driven changes in fire risk. In addition to the resilience benefits realized from physical changes to buildings, there is an opportunity to further advance community resilience by distributing culturally competent information about hazard and emergency preparedness and response, including available services. When building improvements are targeted to certain populations, these resilience benefits can advance racial and social equity. But only if existing residents are not displaced.

Indicators: What metrics will measure success? What data and information are needed for the metrics? Are these data and information readily available?

Action Metrics	<i>To be determined in Climate Action Plan process.</i>
Equity Metrics	<i>To be determined in Climate Action Plan process.</i>

Ownership: Who are the primary lead and critical partners? What support and funding are critical?

Owner	<i>To be determined in Climate Action Plan process.</i>
Key Staff	<i>To be determined in Climate Action Plan process.</i>
Potential Partners for Strategy 1	<p>Affinity real estate associations (incl. National Hispanic Organization of Real Estate, NAREB, Chinese Real Estate Association), architects and contractors experienced in building decarbonization (incl. Building Efficiency, David Baker, Mithun), minority contractors associations, Bay Area Regional Energy Network (BayREN), GRID Alternatives, Homeownership SF, Eviction Defense Collaborative and organizations providing tenant protection services, Mission Economic Development Agency (MEDA) and other community-serving organizations, and climate and environmental advocates and organizations (incl. 350, Sierra Club, Sunrise Movement)</p> <p>City and County of San Francisco (CCSF): SF Public Utilities Commission (SFPUC) CleanPowerSF, Mayor’s Office of Housing and Community Development (MOHCD), Office of Economic and Workforce Development (OEWD), SF Rent Board, SF Planning Community Equity Program and Community Stabilization Initiative</p>
Capacity	<i>To be determined in Climate Action Plan process.</i>
Existing Funding	<i>To be determined in Climate Action Plan process.</i>

Potential Actions for Strategy 1

Potential Action 1.1: Convene a Working Group to Review Impacts to Tenants

Convene a working group of tenant organizations and CCSF Departments to review the impacts of building electrification on tenants and develop strategies to increase benefits (i.e. policies that allow renters to take advantage of energy efficiency programs), with the potential for expansion to other types of building improvements.

Potential Action 1.2: Make Passthroughs More Equitable

Potential mechanisms to improve the racial and social equity of landlords passing through capital improvement costs to tenants could include:

- Increasing resources to programs that assist low-income residents with passthrough hardship applications to the Rent Board.
- Exploring policies to prevent landlords from passing through electrification costs to low-income tenants as rent increases.
- Developing resources for property owners who could not afford to make improvements to their buildings without passing through costs.
- Increasing resources to collect and analyze passthrough data.

Potential Action 1.3: Prevent Renovations of Lower Income Tenants

To avoid displacement of communities of color and low-income populations due to retrofits ("renovictions"), potential preventative measures could include:

- Increasing resources to organizations that provide tenant protective services and education to low-income residents.
- Exploring policies requiring landlords to stage and/or time retrofits and use minimally disruptive construction techniques so low-income tenants can remain in home during and after upgrades, when possible.
- Developing guidelines with markers for when renovations are completed and appropriate time period for renovations, to reduce unnecessary extensions that result in displacement.

<p><u>Potential Action 1.4:</u> Support Lower Income Owners Building Legalization</p>	<p>Reduce barriers for lower income building owners’ capacity to implement electrification through the equitable legalization of units that do not conform to existing building, fire, and planning codes. Potential mechanisms include:</p> <ul style="list-style-type: none"> • Develop/Expand technical and financial assistance for low-and moderate-income owners to legalize units and explore tying electrification incentives to legalization assistance. • Explore exemptions and/or amendments to regulations that do not compromise health or safety. • Explore piloting residential electrification projects in buildings not meeting current habitability standards, prioritizing housing issues where tenants were more impacted by COVID-19.
<p><u>Potential Action 1.5:</u> Increase Financial Assistance for Lower Income Property Owners</p>	<p>Potential opportunities to increase financial assistance for lower income property owners to electrify their homes and conduct energy retrofits include:</p> <ul style="list-style-type: none"> • Expanding outreach about existing incentives for electrification, such as CleanPowerSF, BayREN Home+/BAAQMD midstream incentives, LIWP, LIHEAP, ESAP • Identifying opportunities to create new and/or expand financial assistance including rebates, grants, tiered incentives (e.g. GoSolarSF) and no/low interest loans. • Increasing resources to organizations which offer culturally competent post-homeownership coaching and long-term financial planning to provide information about electrification. Explore the creation of a sustainable homeownership program. • Exploring protections for Below Market Rate (BMR) homeowners from large increases in Homeowners Association (HOA) dues due to a capital improvement in their building, such as electrification.
<p><u>Potential Action 1.6:</u> Develop Guidelines by Building Type</p>	<p>CCSF departments work with community-based organizations and technical experts to develop guidelines and best practices for decarbonizing various San Francisco residential architecture typologies. Potential components could include:</p> <ul style="list-style-type: none"> • Construction and installation best practices connected with experienced MWDVBE contractors. • Varying recommendations for San Francisco’s range of densities for favorable outdoor conditions for placing heat pump equipment.

	<ul style="list-style-type: none"> • Exploring how guidelines could become future building standards for zero emission buildings.
<p><u>Potential Action 1.7:</u> Update RECO with Measures for Decarbonization</p>	<p>Update Residential Energy Conservation Ordinance (RECO) to include new efficiency and/or electrification measures at time of sale. Potential elements could include working with affinity real estate associations to advance knowledge, providing new homeowners with information about MWDVBE contractors with electrification experience, rebates and other assistance to electrify their homes.</p>
<p><u>Potential Action 1.8:</u> Advocate for State-Level Changes_</p>	<p>Advocate to state agencies to expand financial resources to support the transition to efficient all-electric buildings, and update electricity rates to make electrification more cost effective and grid friendly. Potential areas of advocacy include:</p> <ul style="list-style-type: none"> • Policy changes which support electrification technology development (i.e. changes by CPUC to allow rate payer funds to pay for technologies). • Green incentives program (for instance, 7 percent like the new deal) for companies that produce necessary equipment for decarbonization and for contractors who implement electrification. • Incentive program for building owners to transition out of gas appliances before the end of life of the product (similar to car programs).
<p><u>Potential Action 1.9:</u> Research New Financing Mechanisms (Study)</p>	<p>Explore new financing mechanisms for building decarbonization and workforce development. Ideas include:</p> <ul style="list-style-type: none"> • Researching the potential for a “green fund” to pay for equity programs, building retrofits (including energy efficiency, electric car charging in parking, new appliances, heat pumps, solar panels, etc.), and affordable housing. Explore taxes or fees for entities responsible for a large portion of San Francisco’s greenhouse gas emissions to advance Just Transition principles. • Researching the potential for a “community financial reserve for decarbonization” to provide emergency need support to community housing developers and low-income homeowners. • Updating a green mortgage program • Allocating resources and funding for positions which will need to increase for the transition, such as building inspectors and positions providing technical assistance.

	<ul style="list-style-type: none"> Identifying opportunities for alignment with economic recovery from COVID-19.
<p><u>Potential Action 1.10:</u> Develop Targeted Campaigns and Educational Materials (Outreach and Education)</p>	<p>Strategically disseminate electrification information through venues with higher likelihood for technology adoption, such as:</p> <ul style="list-style-type: none"> Targeting outreach to households with aging appliances or other opportunities for electrification. Providing information on electrification upon permit application for equipment replacement. Developing a tool for residents to assess energy use and compare with decarbonized housing to estimate potential savings and technology payback periods.
<p><u>Potential Action 1.11:</u> Increase Community Awareness and Capacity (Outreach and Education)</p>	<p>Provide resources for community-based organizations to conduct education and engagement to their constituencies about the transition off of natural gas, climate justice, health and resilience benefits, and San Francisco’s climate goals and strategies. Connect community education with the delivery of a culturally competent and multilingual electrification marketing education and outreach campaign for building owners, real estate associations, tenants and blocks/neighborhoods that focuses on conservation and reducing emissions.</p>
<p><u>Potential Action 1.12:</u> Train Building Operators and Facilities Managers (Outreach and Education)</p>	<p>Develop and provide training and certifications for facilities managers and building operators on using new electrification technologies. Explore training expansion to all interested residents.</p>

Strategy 2: Decarbonization of deed-restricted affordable housing, protection of communities of color and low-income residents, and preservation of affordable units

Element	Buildings
Description	<p>Develop and deliver a suite of planning, policies, programs, funding mechanisms, technical assistance, education and partnerships over the next 2-10 years that will enable a systematic, strategic and rapid transition to efficient all-electric deed-restricted affordable housing buildings powered by renewable electricity. Expand measures to protect housing affordability, stable utility costs, and increase opportunities for communities of color and low-income populations. Enhance capacity of community housing organizations to preserve affordable units.</p>
What could success look like?	<ul style="list-style-type: none"> • By 2030, 40% of deed-restricted affordable housing units have switched from natural gas as the primary fuel for space conditioning and water heating to using high-efficiency electric heat pumps, and 100% of housing is efficient and all-electric no later than 2045. • Tenants realize health, safety, habitability, and/or affordability improvements, such as a reduction in utility bills or expanded onsite services. • Increased rates of affordable housing preservation. • Electrification work conducted by increased rates of disadvantaged workers and/or MWDVBEs.
GHG Reduction Potential	<i>To be determined in Climate Action Plan process.</i>
Estimated Cost	<i>To be determined in Climate Action Plan process.</i>

Lenses

Racial & Social Equity	See description in Strategy 1.
Just Transition	See description in Strategy 1.
Health	<i>To be determined in Climate Action Plan process.</i>
Resilience	See description in Strategy 1.

Indicators: What metrics will measure success? What data and information are needed for the metrics? Are these data and information readily available?

Action Metrics	<i>To be determined in Climate Action Plan process.</i>
Equity Metrics	<i>To be determined in Climate Action Plan process.</i>

Ownership: Who are the primary lead and critical partners? What support and funding are critical?

Owner	<i>To be determined in Climate Action Plan process.</i>
Key Staff	<i>To be determined in Climate Action Plan process.</i>
Potential Partners for Strategy 2	MOHCD, OEWD; BayREN, California Housing Partnership (CHPC), Council of Community Housing Organizations (CCHO), GRID Alternatives, MEDA, Mission Housing Development Corp, Tenderloin Neighborhood Development Corp (TNDC), and other affordable housing developers and community housing providers; climate and environmental advocates and organizations (incl. 350, Sierra Club, Sunrise Movement)
Capacity	<i>To be determined in Climate Action Plan process.</i>
Existing Funding	<i>To be determined in Climate Action Plan process.</i>

Potential Actions for Strategy 2

Potential Action 2.1: Convene a Working Group to Share Knowledge Among Early Electrification Adopters

Convene a working group (CCSF Departments, affordable housing and tenant organizations) and structure to share data and lessons learned among affordable housing organizations piloting decarbonization (and other sustainability measures) in their properties. Share best practices in financing, technical considerations, and realizing health (and other) benefits for tenants.

Potential Action 2.2: Develop Technical Guidelines for Decarbonization of Affordable Housing

CCSF Departments work with community and subject matter experts to develop guidelines for decarbonization retrofits, technical considerations could include:

- Identifying intervention points in a building's lifecycle which can help owners pay for upgrades (especially in common areas), targeting older buildings which are already in need of panel upgrades and/or end of life equipment replacement.
- Identifying high-impact technical interventions (e.g. targeting central systems where the owner stands to see cost reductions and/or can take performance risk).
- Strategies to address priority health and safety needs in buildings.
- Guidance on project management and administrative components of retrofits.
- Exploring how guidelines could become criteria for future funding opportunities.
- Considerations for capacity differences among community housing organizations, such as flexible implementation timelines, especially if electrification is mandated.

Potential Action 2.3:
Develop Financial
Guidelines for
Decarbonization of
Affordable Housing

CCSF departments work with community and subject matter experts to develop guidelines for financing the decarbonization of various types of affordable housing buildings. Considerations could include:

- Evaluating local affordable housing providers' access to emerging decarbonization program offerings (e.g. BUILD, TECH, BayREN).
- Clarifying use of Low Income Housing Tax Credits (LIHTC) and other affordable housing financing mechanisms for electrification and other sustainable building components (PV installation, battery storage, and non-gas appliances). If necessary, advocate to state affordable housing funding agencies to include specific electrification/decarbonization measures to qualify for housing tax credits.
- Developing additional financial resources, incentives, and grants to affordable housing organizations to fund electrification, energy efficiency, renewable generation, and health and habitability upgrades.
- Layering incentives and rebates for electrification retrofit during recapitalization.
- Considerations for both master metered and individually metered buildings, and all-electric vs gas initial and operating costs.
- Offsetting tenant utilities with PV.
- Redesign of utility allowance structure to benefit both affordable housing owners and tenants.
- Exploring the creation of a central repository or "ombudsman" technical expert as a resource for affordable housing development staff to navigate different funding sources and programs.

Potential Action 2.4:
Build Tenant
Awareness and
Capacity
(Outreach and
Education)

Develop and deliver community-driven education with an organizing component for tenants that includes information about the transition off of natural gas, climate justice, health and resilience benefits, and San Francisco's climate goals and strategies.

Potential Action 2.5:
 Train Building
 Operators and
 Facilities Managers
 (Outreach and
 Education)

Develop and provide training and certifications for facilities managers and building operators on using new electrification technologies.

Strategy 3: Plan for the equitable decarbonization of energy distribution infrastructure

Element	Energy Supply
Description	For effective and rapid decarbonization of buildings and transportation, changes to energy distribution infrastructure are needed. In the next 5 years, San Francisco will develop a phased process to decommission gas distribution infrastructure while fortifying and increasing electrical distribution capacity.
What could success look like?	<ul style="list-style-type: none"> • Intervention points identified in the energy distribution system that will accelerate building and vehicle electrification over time. • Strategies identified to maximize benefits for low-income neighborhoods/districts and communities of color. • Strategies identified to increase opportunities for disadvantaged workers and Minority, Women, and Disabled Veteran Business Enterprises (MWDVBEs).
GHG Reduction Potential	<i>To be determined in Climate Action Plan process.</i>
Estimated Cost	<i>To be determined in Climate Action Plan process.</i>

Lenses

Racial & Social Equity	<i>To be determined in Climate Action Plan process.</i>
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Just Transition	<i>To be determined in Climate Action Plan process.</i>
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Health	<i>To be determined in Climate Action Plan process.</i>
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Resilience	<i>To be determined in Climate Action Plan process.</i>
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Indicators: What metrics will measure success? What data and information are needed for the metrics? Are these data and information readily available?

Action Metrics	<i>To be determined in Climate Action Plan process.</i>
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Equity Metrics	<i>To be determined in Climate Action Plan process.</i>
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Ownership: Who are the primary lead and critical partners? What support and funding are critical?

Owner	<i>To be determined in Climate Action Plan process.</i>
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Key Staff	<i>To be determined in Climate Action Plan process.</i>
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Potential Partners for Strategy 3	PG&E, SFPUC, CPUC, California Independent System Operator (CAISO), Greenlining Institute, GRID alternatives, Gridworks, Local Clean Energy Alliance, climate and environmental advocates and organizations (incl. 350, Sierra Club, Sunrise Movement)
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Capacity	<i>To be determined in Climate Action Plan process.</i>
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Existing Funding	<i>To be determined in Climate Action Plan process.</i>
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Potential Actions for Strategy 3

Potential Action 3.1: Plan for an Equitable Decommission of Gas Infrastructure

City to work with PG&E, utility justice organizations, workers, and other community stakeholders to plan an equitable decommission of natural gas infrastructure. Potential elements include:

- Development of timeline for transition of infrastructure, to estimate when the issue of people being left behind will be realized and develop measures to mitigate financial burdens to low-income and communities of color.
- Assessments (financial, technical feasibility) of repairing aging gas infrastructure in comparison with electrification.
- Processes to integrate infrastructure assessments/mapping with long-range planning for future development.
- Processes to proactively upgrade electrical panels so that buildings are 100% electric-ready in advance of technology burnout.
- Evaluation of building, fire, and planning codes.
- Incorporation of lessons learned from institutions using district energy systems and microgrids.
- Coordination with workforce development.
- Identification of potential locations for pilot projects.

Potential Action 3.2: Assess Municipal Opportunities for Electrification

Assess CCSF Capital Plans for opportunities for electrification, including energy storage systems for critical facilities, and integrate utility infrastructure age and electrification potential with plans for future development.

Potential Action 3.3: Research the Redesign of Electricity Rates (Study)

Research the potential redesign of electricity rates to be more affordable to income-constrained households. Ensure that Hetch Hetchy customers have access benefits offered by CleanPowerSF (or access to benefits that are similar).

Potential Action 3.4: Increase Community Awareness and Capacity (Outreach and Education)

Provide resources for community-based organizations to conduct community education and engagement to their constituencies about grid and electrical panel upgrades, the transition off of natural gas, climate justice, health and resilience benefits, and San Francisco's climate goals and strategies.

Strategy 4: Increase opportunities for disadvantaged workers and Minority, Women, and Disabled Veteran Business Enterprises (MWDVBEs) by extending workforce development programs to building decarbonization

Element	Buildings
Description	Building decarbonization and the transition away from an extractive economy cannot be realized without workers. There is an opportunity to increase diversity of the green building workforce and advance racial and social equity if workforce development measures are intentionally designed to do so.
What could success look like?	<ul style="list-style-type: none"> Workers impacted by transition off of natural gas and/or other disadvantaged workers retrained/trained and employed. Increased share of electrification work for disadvantaged workers and MWDVBEs. Low-road workers advanced to high-road environment with improved path to financial security. Improved onsite job safety and health. <p>Societal success would be reduced unemployment rates for people of color, low-income populations, and people with barriers to employment, and reduced income and wealth disparities by race. Many factors contribute to these pervasive issues, and workforce development alone cannot solve them.</p>
GHG Reduction Potential	<i>To be determined in Climate Action Plan process.</i>
Estimated Cost	<i>To be determined in Climate Action Plan process.</i>

Lenses	
Racial & Social Equity	<i>To be determined in Climate Action Plan process.</i>
Just Transition	<i>To be determined in Climate Action Plan process.</i>

Health	<i>To be determined in Climate Action Plan process.</i>
Resilience	<i>To be determined in Climate Action Plan process.</i>

Indicators: What metrics will measure success? What data and information are needed for the metrics? Are these data and information readily available?

Action Metrics	<i>To be determined in Climate Action Plan process.</i>
Equity Metrics	<i>To be determined in Climate Action Plan process.</i>

Ownership: Who are the primary lead and critical partners? What support and funding are critical?

Owner	<i>To be determined in Climate Action Plan process.</i>
Key Staff	<i>To be determined in Climate Action Plan process.</i>
Potential Partners for Strategy 4	OEWD, CityBuild Academy, SFPUC Contractors Assistance Center, CleanPowerSF, Blue Green Alliance, Emerald Cities Collaborative, Greenlining Institute, Jobs with Justice, PG&E Workforce Education & Training, building trades unions, community workforce development organizations and training providers, contractors associations, minority contractors associations, climate and environmental advocates and organizations (incl. 350, Sierra Club, Sunrise Movement)
Capacity	<i>To be determined in Climate Action Plan process.</i>
Existing Funding	<i>To be determined in Climate Action Plan process.</i>

Potential Actions for Strategy 4

Potential Action 4.1: Plan for a Just Transition and Economic Recovery

CCSF to work with labor experts, community-based workforce organizations, construction contractors, developers, utilities and other stakeholders to develop a long-term plan for a just transition away from an extractive economy, and identify shorter-term opportunities to support the economic recovery following COVID-19 including:

- Market research to estimate job gain and loss through electrification policies to scale training and re-training.
- Strategies to mitigate job loss (i.e. comprehensive sustainable building upgrades can address some job loss as changes to water systems provide jobs for pipefitters).
- Prioritized engagement with and strategies for workers with barriers to employment.
- Strategies and funding mechanisms to reduce barriers to access to green building for contractors and workers (i.e. financing, administrative support, operations management, access to technology and tools, childcare needs).
- Funding mechanisms for worker transition assistance
- Expansion beyond building decarbonization to include other sectors with high GHG emissions.
- Prioritized training and hiring of disadvantaged workers who were unemployed due to COVID-19.

Potential Action 4.2: Develop Decarbonization Training Curriculum

CCSF works with labor experts, building trades apprenticeship programs, community-based workforce development providers, building organizations, manufacturers, small and minority contractors associations, and other stakeholders to develop decarbonization training focused on building capacity for MWDVBE contractors and their workers. Considerations include:

- Training specific to appliance installation, construction, buildings operations, and facilities management.
- Focus on upskilling low-road workers and contractors.
- Consultation with community organizations to understand diverse needs of their constituents and ensure cultural competency.
- Eventual expansion of training beyond buildings to include grid infrastructure, microgrids, battery storage units, distributed energy resources (DERs).

Potential Action 4.3:
Establish
Qualifications for
Electrification Work

CCSF and stakeholders develop wage and skill standards for building electrification and energy efficiency work, and associated qualifications and/or certification programs. Qualifications could be tied to electrification rebates and other financial incentives, and CCSF maintains and distributes a list of pre-qualified highly rated contractors as a resource for building owners.

Potential Action 4.4:
Develop Mechanisms
to Advance Equitable
Access to
Electrification Jobs

Advance racial and social equity by increasing opportunities for MWDVBE contractors and disadvantaged workers. Potential mechanisms include:

- Board of Supervisors resolution supporting upskilling/high-road job opportunities with equity outcomes.
- Expansion and/or modifications to existing local hiring requirements.
- Require bond-funded projects hire apprentices from disadvantaged communities through a community workforce agreement.
- Targeted hire and inclusive procurement program for MWDVBE contractors on city-funded building decarbonization projects.
- Evaluate opportunities and develop goals/targets for equity in project labor agreements.
- Tie permit fast tracking to wage and labor standards.
- Workforce compliance monitoring and assistance to ensure new hires can continue to benefit from electrification job opportunities.
- Expand incentives for contractors who employ workers from workforce development programs.
- Inclusion of workforce development for building electrification in COVID-19-related economic recovery planning.

Potential Action 4.5:
Create a Clean
Energy Buildings Hub
(Outreach and
Education)

CCSF to establish a Clean Energy Buildings Hub to support, connect, and train workers, contractors, building owners, facilities managers, technology vendors, and other interested parties. The Hub could serve as a one-stop shop for electrification/fuel switching, energy efficiency, water efficiency, solar, and EV's), and other resources that are culturally competent, multi-lingual, and accessible to all San Francisco residents. Potential elements could include:

- Referral service for single trade contractors to partner on jobs and provide cross-trade training.
- Regional collaboration on building standards, such as reach codes that vary by jurisdiction.
- Information about local and state DER and EE programs providing financial and other support to low-income and marginalized communities.
- Collaboration between manufacturers and general contractors to identify opportunities to reduce the rising costs of construction, develop a group purchasing program and a group contracting program.
- Opportunities for group purchasing of electrification technologies for residents/neighbors, CCSF partnership with high quality manufacturers for subsidies and bulk purchasing.