Low-Income Weatherization Program Guidelines

- MULTI-FAMILY (MF) ENERGY EFFICIENCY AND RENEWABLES

Department of Community Services & Development

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DEPARTMENT OF COMMUNITY SERVICES AND DEVELOPMENT
LOW-INCOME WEATHERIZATION PROGRAM
PROGRAM GUIDELINES

Multi-Family Energy Efficiency and Renewables

Preface

This amended version of the Program Guidelines provides updated information reflecting program developments since the release of the initial Guidelines in 2015 and subsequent amendment. Elements of CSD's Multi-Family Energy Efficiency and Renewables Program have been adapted and program allocations amended during program implementation and as a result of outreach to and feedback from the affordable housing community and property owners.

I. Introduction

The California Department of Community Services and Development (CSD) developed the following Program Guidelines for the implementation of its Low-Income Weatherization Program (LIWP) for multi-family (MF) buildings. The LIWP-MF Program is an integral part of the California Climate Investments that are funded by State Cap-and-Trade auction proceeds. With program oversight and direction provided by the California Air Resources Board (CARB), CSD and a network of LIWP Providers will offer services to reduce greenhouse gas (GHG) emissions and provide important co-benefits to qualifying low-income households in designated disadvantaged communities, as identified by the California Environmental Protection Agency (CalEPA), and low-income households in other communities.

California Climate Investments is a statewide program that puts billions of Cap-and-Trade dollars to work reducing GHG emissions, strengthening the economy and improving public health and the environment—particularly in disadvantaged communities. The Cap-and-Trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution. California Climate Investment projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling and much more. At least 35 percent of these investments are made in disadvantaged and low-income communities or low-income households. For more information, visit www.caclimateinvestments.ca.gov.

The Guidelines describe how and where CSD will implement the LIWP-MF Program. Though CSD's state budget appropriations for LIWP include funding for the single-family and other programs, these Guidelines do not include other program components. CSD has separate Program Guidelines for the single-family and other LIWP programs that are available on CSD's website at www.csd.ca.gov.

II. Guidelines Scope

The purpose of these Guidelines is to define CSD's LIWP-MF Program. The purpose of LIWP-MF is to provide technical assistance and project monitoring and inspection for the installation of energy efficiency measures and solar photovoltaics in multi-family dwellings of qualifying properties to reduce energy use and GHG emissions and disburse incentives to property owners upon satisfactory completion of scopes of work. In addition, LIWP-MF will provide other co-

benefits to the state such as reducing air pollution, helping achieve air quality standards, reducing energy costs and water usage, stimulating the economy, and creating jobs.

In 2012, the Legislature passed, and Governor Brown signed into law, three related bills—Assembly Bill (AB) 1532 (Perez, Chapter 807), SB 535 (De Leon, Chapter 830), and SB 1018 (Budget and Fiscal Review Committee, Chapter 39). Among other things, these bills mandated a portion of the funds from the California Climate Investments Program be invested to benefit disadvantaged communities. Every three years, the California Department of Finance (DOF) submits a plan to the Legislature, identifying priority investments that will help achieve greenhouse gas reduction goals. Each fiscal year, the Legislature appropriates monies for California Climate Investments in accordance with the 3-year investment plan. Plans applying to LIWP-MF are the "*Cap and Trade Auction Proceeds Investment Plan: Fiscal Years 2013-14 through 2015-16*"; the "*Cap and Trade Auction Proceeds Second Investment Plan: Fiscal Years 2016-17 through 2018-19"; and the "Cap and Trade Auction Proceeds Third Investment Plan: Fiscal Years 2019-20 through 2021-22."*

In the State Fiscal Year (SFY) 2014/15 budget, a total of $832M was appropriated from the California Climate Investments Program to 12 state agencies, including $75M to CSD for the implementation of LIWP. CSD received additional appropriations of $78.8M in SFY 2015/16, $20M in SFY 2016/17, $18 M in SFY 2017/18, $10 M in SFY 2018/19, and $10 M in SFY 2019/20. An allocation of $63.9 million has been made to the MF Program to date. As work progresses on LIWP, CSD may adjust allocation categories to best meet the goals of the program.

III. Program Description and Overview

a. CSD's History and Programs

CSD has been serving low-income communities for 50 years. Originally known as the "State Office of Economic Opportunity," the office was created as a result of the federal Economic Opportunity Act of 1964.

A state department under the California Health and Human Services Agency, CSD partners with a network of private, non-profit and local government organizations, dedicated to reducing poverty by helping low-income individuals and families achieve and maintain self-sufficiency, meet their home energy needs, and reduce their utility costs through energy efficiency upgrades and access to clean renewable energy.

CSD administers the following federal programs that are intended to reduce poverty and improve the lives of low-income Californians:

- U.S. Department of Health & Human Services Community Services Block Grant (CSBG)
- U.S. Department of Health & Human Services Low-Income Home Energy Assistance Program (LIHEAP)
- U.S. Department of Energy Weatherization Assistance Program (DOE WAP)

Beginning in SFY 2014/2015, CSD received funding to administer state programs intended to reduce greenhouse gas emissions and reduce utility costs for low-income Californians. Funds were initially allocated to the following programs:

- LIWP Single-Family Energy Efficiency, Small Multi-Family Energy Efficiency and Single-Family Solar Photovoltaics Programs, subsequently redesigned as the LIWP Single-Family Energy Efficiency and Solar Photovoltaics Program with allocations from the SFY 2015/16 appropriation, and as the Farmworker Housing Component with SFY 2017/18 and 2018/19 allocations

- LIWP Large Multi-Family Energy Efficiency and Renewables Program, subsequently renamed as the LIWP Multi-Family Energy Efficiency and Renewables Program

b. LIWP Multi-Family Service Provider:

CSD has procured a service provider to administer the LIWP-MF Program. All assessed MF buildings will be evaluated for both energy efficiency and solar photovoltaic measure opportunities.

The service provider implementing the MF Program is referred to as the MF Service Provider in this document.

The selected MF Service Provider is the Association for Energy Affordability (AEA). Contact details are as follows:

5900 Hollis Street, Suite R2, Emeryville, CA 94608
Phone: 510.256.5892
Email: LIWPinfo@aea.us.org

IV. Service Territories and Priority Populations

a. Disadvantaged and Low-Income Communities and Households

SB 535 (De Leon, Chapter 830) required that at least 25 percent of funds from the California Climate Investments Program be invested to benefit disadvantaged communities and at least 10 percent be invested within disadvantaged communities. AB 1550 (Gomez, Chapter 369, Statutes of 2016), increased the percent of California Climate Investment funds for projects located in disadvantaged communities from 10 to 25 percent and added a focus on investments in low-income communities and households. These communities and households are collectively referred to as priority populations.

The California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA) developed CalEnviroScreen and the California Secretary of Environmental Protection uses CalEnviroScreen to identify the most burdened 25 percent of census tracts as "disadvantaged communities" for the purpose of California Climate Investments.

CalEnviroScreen uses a variety of indicators divided into two broad categories: "pollution indicators," which includes exposures as well as environmental effects, and "population indicators," which includes sensitive populations and socioeconomic factors. Each census tract in the state is assigned a value for each of the indicators relative to all other census tracts. The census tract indicator scores are totaled to determine an overall CalEnviroScreen Score - the higher the score, the greater the impact. More information on CalEnviroScreen is available at:

https://oehha.ca.gov/calenviroscreen

An online mapping application that includes an address look-up tool is available at:

https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm

In addition to increasing investment requirements for disadvantaged communities, AB 1550 requires that 5 percent of funds from the California Climate Investments Program be allocated to projects located within and benefiting individuals living in low income communities or benefiting low-income households statewide, and that 5 percent be allocated to projects located within and benefiting individuals living in low income communities, or benefiting low-income households, that are within a half mile of a disadvantaged community.

CalEnviroScreen 3.0 has now replaced version 2.0. For the program component covered by these Program Guidelines, services funded by the SFY 2014/15 and SFY 2015/16 allocations were limited to disadvantaged communities as determined under CalEnviroScreen 2.0. For the SFY 2016/17 allocation, the service area transitioned to disadvantaged communities as determined under CalEnviroScreen 3.0, which also applies to subsequent allocations. A portion of the SFY 2017/18 allocation is also set aside to serve eligible properties within a half mile of these disadvantaged communities, and properties housing low-income farmworkers in these and other communities. Portions of the SFY 2019/20 allocation are dedicated to eligible properties in disadvantaged communities; eligible properties within a half mile of these disadvantaged communities; and properties serving as homeless shelters or transitional housing. Table 1 below summarizes these program requirements.

To determine if a multi-family property is eligible for services, property owners may contact AEA at LIWPinfo@aea.us.org.

Table 1: Summary of SFY Funding Allocations and Program Requirements

Fiscal Year	Allocation (millions)	Allocated to Disadvantaged Communities (millions)*	Allocated to Low-Income Properties and Households within ½ mile of Disadvantaged Communities (millions)*	Allocated to Low-Income Properties and Households anywhere in the State (millions)*	CalEnviroScreen Version
2014/15	$17.9	$17.9	0	0	2.0
2015/16	$6.1	$6.1	0	0	2.0
2016/17	$19	$19	0	0	2.0/3.0
2017/18	$7.1**	Up to $6.1	$1	0	3.0
2018/19	$4.3	$4.3	0	0	3.0
2019/20	$9.5***	$5	$0.5	$4	3.0
TOTALS	$63.9	$58.4	$1.5	$4	

* Includes administrative costs associated with direct program costs for implemented projects in these areas.

** From the SFY 2017/18 allocation of $7.1 million, $5 million is dedicated to services for properties housing farmworkers, inclusive of administrative costs. Eligibility for low-income properties housing farmworkers outside of disadvantaged communities will be considered on a case-by-case basis.

*** From the SFY 2019/20 allocation of $9.5 million, $2 million is dedicated to services for properties serving as homeless shelters or transitional housing, inclusive of administrative costs.

Since all LIWP investments need to benefit priority populations, all service providers need to ensure that their projects are implemented in accordance with the priority population criteria in CARB's Funding Guidelines[1].

b. Farmworker Housing Component

AB 109 (Chapter 249, Statutes of 2017) provided funding for LIWP for SFY 2017/18, and required CSD to focus funding on low-income multifamily, solar and farmworker programs. In response to this legislative mandate, an amount of at least $5 million from the SFY 17/18 allocation of $7.1 million to this program component is to be dedicated to providing services for properties housing farmworkers, inclusive of the administrative, consultation services, and direct program costs associated with these dedicated services.

For a property to receive farmworker-specific incentives, the property owner must confirm that at least 50% of the units are available to, and occupied by, farmworkers and their households, including retired and/or disabled farm labor. For verification purposes, the following definitions from the California Labor Code[2] will be applied:

Farmworker or "Agricultural Employee"

One engaged in agriculture, as such term is defined [below]. However, nothing in this subdivision shall be construed to include any person other than those employees excluded from the coverage of the National Labor Relations Act, as amended, as agricultural employees, pursuant to Section 2(3) of the Labor Management Relations Act (Section 152(3), Title 29, United States Code), and Section 3(f) of the Fair Labor Standards Act (Section 203(f), Title 29, United States Code).

"Agriculture" includes the following:

[F]arming in all its branches, and, among other things, [which] includes the cultivation and tillage of the soil, dairying, the production, cultivation, growing, and harvesting of any agricultural or horticultural commodities (including commodities defined as agricultural commodities in Section 1141j(g) of Title 12 of the United States Code), the raising of livestock, bees, furbearing animals, or poultry, and any practices (including any forestry or lumbering operations) performed by a farmer or on a farm as an incident to or in conjunction with such farming operations, including preparation for market and delivery to storage or to market or to carriers for transportation to market.

Further, nothing in this part shall apply, or be construed to apply, to any employee who performs work to be done at the site of the construction, alteration, painting, or repair of a building, structure, or other work (as these terms have been construed under Section 8(e) of the Labor Management Relations Act, 29 U.S.C. Sec. 158(e)) or logging or timber-clearing operations in initial preparation of land for farming, or who does land leveling or only land surveying for any of the above.

As used in this subdivision, "land leveling" shall include only major land moving operations changing the contour of the land, but shall not include annual or seasonal tillage or preparation of land for cultivation.

[1] Priority population criteria are contained in CARB's "Funding Guidelines for Agencies that Administer California Climate Investments", dated August 2018, available at: https://ww2.arb.ca.gov/resources/documents/cci-funding-guidelines-administering-agencies

[2] Definition of Agriculture and Agricultural Employee, Agricultural Labor Relations, Cal. Labor Code 1140.4(a)-(b)

Eligibility pathways for property owners include submission of Farmworker Housing Regulatory Agreements or self-certification after verification of tenant eligibility.

c. Homeless Shelters and Transitional Housing

An amount of at least $2 million from the SFY 19/20 allocation of $9.5 million to this program component is to be dedicated to providing services for homeless shelters and properties providing transitional housing, inclusive of the administrative, consultation services, and direct program costs associated with these dedicated services, and in accordance with guidance issued by CSD.

V. LIWP Goals

a. Goal #1: Maximize GHG Reductions

The reduction of GHG emissions is the primary goal of LIWP. AB 32 - also known as the California Global Warming Solutions Act of 2006 - mandates the return of state GHG emissions to 1990 levels by the year 2020. AB 32 established California as a global leader on reducing greenhouse gases and prescribes a comprehensive and long-term approach to addressing climate change in a way that aims to improve the environment and natural resources while maintaining a robust economy.

CSD modeled its MF Program to improve the energy efficiency of MF buildings and achieve GHG emission reductions. Each building is comprehensively assessed and evaluated both visually and through the use of diagnostic and energy audit tools to determine a suite of GHG-reducing energy efficiency and renewable energy measures for installation in living and common areas.

Leaking gas appliances, non-functioning heating and cooling systems when temperatures dramatically rise or fall, and other health and safety issues can be deadly. Remedying health and safety issues may cause a rise in energy use and GHG production, however, the importance of protecting the health, safety and well-being of occupants requires that such safety hazards be promptly mitigated and not go unaddressed. For this reason, CSD will continue to assess and remediate health and safety issues and depend on the property owner's financial participation and the availability of leveraged funds to offset the cost of health and safety measures that do not result in GHG reductions. LIWP funds will be used for incentives for the installation of energy efficiency measures, including supporting activities, as well as for investments in renewable energy that result in energy savings and reduced GHGs. Accordingly, the financial participation of the property owner will help defray the cost of services and address health and safety concerns, thereby ensuring optimal use of program funds maximizing GHG reduction.

b. Goal #2: Maximize Co-Benefits to Disadvantaged Communities

While GHG reduction is the primary goal of the California Climate Investments, another highly important objective of CSD's LIWP-MF Program is the "co-benefits" derived from service delivery. The Investment Plan goals include:

- Maximizing economic and environmental benefits;
- Fostering job creation; and
- Direct investment toward the most disadvantaged communities and households.

Energy efficiency measures and solar photovoltaics installed with LIWP-MF incentives are well-suited to provide direct and meaningful benefits to low-income households and properties. . When energy bills are lowered, more household income is available for necessities like food, transportation, housing and medicine, as well as for discretionary spending. Reduced energy costs result in higher levels of consumer spending within communities, thereby stimulating the local economy and spurring investment and hiring. Accordingly, CSD will not only be able to determine

the GHG reduction consequent each MF project, but the annual savings realized by each household as well.

In addition to reducing energy costs, the MF Program will offer economic benefits in the form of employment, job training and supporting the ongoing presence of affordable housing stock. Local economies will also benefit from contractor expenditures for supplies and the retention of specialty contractor services.

CSD will work with the MF Service Provider to determine appropriate ways to achieve these goals. It will be the responsibility of the MF Service Provider to track and report project information to CSD in accordance with the recordkeeping and reporting guidance developed by CARB (e.g., hours trained, hours worked, individuals employed and whether employees are residents of disadvantaged communities, amount of LIWP funding used to provide job training and employment) and ensure consistency with local, state and federal law.

The MF Service Provider will utilize a variety of approaches to promote workforce development, to include:

- Partnering with the local Workforce Investment Board to offer internships/hands-on training to individuals who have received classroom or other training elsewhere;
- Promoting the hiring of workers from disadvantaged communities to fill existing vacancies or positions created as a result of LIWP;
- Encouraging employment agreements with installation contractors to hire individuals from disadvantaged communities;
- Giving priority to installation contractors from disadvantaged community areas; and,
- Fostering professional development in the trades and offering experience certificates and references for the long-term unemployed.

The MF Program offers CSD an opportunity to provide workforce development in areas where there is a shortage of skilled and semi-skilled labor. Interns working with experts in the field will receive valuable professional development experience. Workforce development partners, their sub-contractors and property owners will also be able to recruit from this skilled workforce. The emphasis will be on creating good paying jobs, a safe work environment and a skilled workforce from disadvantaged communities.

VI. Project Types

LIWP funds will be used to incentivize the installation of energy efficiency measures and renewables such as solar photovoltaics in multi-family buildings to contribute to the reduction of GHG emissions.

Under CSD's MF Program, health and safety measures (such as the repair of unsafe combustion appliances) will be evaluated and the identified concerns will be addressed with the property owner. Each owner will be responsible for the cost of health and safety measures either through direct owner investment, the leveraging of other sources of funding, or a combination of both, unless mitigation can be accomplished by the installation of new, more energy efficient equipment that results in GHG reductions.

a. Project Types

The LIWP-MF Provider will serve multi-family buildings that will be assessed for, and may be eligible to receive, incentives for the installation of energy efficiency measures based on the annual reduction in Metric Tons of Carbon Dioxide equivalent ($MTCO_2e$) achieved, as well as incentives for solar photovoltaic systems based on system size and leveraged dollars.

b. MF Technical Assistance

The MF Service Provider's technical assistance on scopes of work will emphasize measures that are expected to yield significant GHG reductions and energy savings.

Factors that affect the evaluation of measures include:

- Existing levels of insulation and type of building envelope.
- Condition of existing mechanical systems, appliances and other systems that use energy on a whole building basis.
- The number of occupants in the MF dwelling, its common area energy burden, and the apartments' energy use patterns.
- Estimates of energy savings and GHG reduction returns.
- Demonstration of benefits to tenants.

c. Solar Photovoltaics

Multi-family buildings will be assessed independently by the MF Service Provider to determine the potential for the installation of solar photovoltaic systems.

Factors that will be evaluated include, but are not limited to:

- Suitable orientation of building.
- Available and adequate unshaded roof space.
- Roof condition.
- Access and layout of existing mechanical equipment.
- Property electrical metering structure and access to meters.
- Estimates of energy savings and GHG reduction returns.
- Compatibility with available rebate programs.
- Demonstration of benefits to tenants.

VII. Allocation of Dollars

LIWP funding of $63.9 million has been allocated to LIWP-MF. This does not include the funding leveraged from other potential sources.

Project applications will be evaluated on their merits, and the MF Service Provider will attempt to target MF buildings with the greatest energy waste. As part of the initial assessment, a building's energy usage data will be analyzed to develop a scope of work that will prioritize the efficiency and renewable measures with the greatest potential for GHG reductions. Property owners must be prepared to install upgrades that achieve at least 15% energy savings above current property conditions. If other funding sources are being leveraged for the upgrades, a higher level of energy savings is required to be achieved, based on the level of funding.

The percentage of the total project cost that the LIWP incentive will cover will vary from project to project depending on variables including the age of the property and existing systems, feasibility of measure installation, and financial resources of the property owner. Based on an initial analysis of a sample set of projects, it is estimated incentives will fund an average of 70 percent of energy efficiency project costs, and up to 80 percent of solar PV costs.

The incentives will be reserved on a first-come-first-served basis with agreed upon completion times. When sufficient interested projects are identified to be program eligible, projects may be prioritized based on the intensity of existing building energy use and the associated potential for energy and GHG savings, project construction timelines, and overall project feasibility, including construction and financing details. Funds may become unavailable without notice. It is the intent

of the Program to honor incentives for any project that signs an Incentive Reservation and Participation Agreement form and is in compliance with all other program requirements.

CSD and the MF Service Provider will take appropriate measures to structure contracts and participation agreements to ensure anti-displacement and affordability provisions are considered.

VIII. LIWP MF Design

CSD's MF Service Provider's services include procurement assistance, site assessment, energy modeling and customized work scope development, construction management assistance, and post-construction quality assurance, verification, and training support, along with energy education and training to tenants and property owners. Services will only be available to properties enrolled in the program for energy efficiency upgrades and solar installations funded in part by LIWP MF incentives.

In summary, the following steps apply to property owner participation in the LIWP-MF Program:

- Property owner completes an interest form. An online interest form is available at: www.camultifamilyenergyefficiency.org.
- The MF Service Provider will screen properties for eligibility and review properties' energy use intensity with a benchmarking and analysis tool.
- The MF Service Provider will contact qualified property owners to discuss property needs and existing conditions, financing sources, timeline and potential upgrade opportunities.
- Qualified property owners receive free technical support, with the MF Service Provider performing preliminary savings and financial analysis and recommending potential upgrade scope.
- Property owner completes the Intent to Proceed form and submits a good faith deposit
- An energy audit is scheduled at the property. It is anticipated the MF Service Provider's Technical Analysts will perform all energy audits but a technical assistance subcontractor may be utilized if additional capacity is needed.
- The property owner completes an Incentive Reservation and Participation Agreement Form. The MF Service Provider and property owner refine the scope of work and funding package, with incentives reserved for the property based on the final agreed upon scope of work and GHG reduction to be achieved.
- The property owner and their contractor(s) install the upgrades and provide the LIWP MF Service Provider with a construction schedule so 50% and 100% construction completion inspections can be performed. All contractors must follow the MF Service Provider's requirements to maintain good Program standing. Information is available at: https://camultifamilyenergyefficiency.org/contractors.
- Once post-installation site visit inspections are completed by the MF Service Provider and measures are verified and appropriate testing performed, and the owner and their contractor(s) have submitted necessary documentation to the MF Service Provider, the good faith deposit will be returned and the incentives will be issued.

The MF Service Provider will incorporate industry best practices, along with operations and maintenance improvements, to develop plans for carbon-effective energy retrofits that maximize energy savings. The MF Service Provider will help the property owner determine the best value and mix of measures for the property. The options will include energy efficiency retrofits, general improvements and innovations that will provide significant GHG reductions.

Preliminary screening methodologies will identify maximized energy and programmatic efficiencies, including benchmarking assistance and outreach to low-income properties. All

outreach to property owners will be coordinated by the MF Service Provider, or its agents, for project intake.

The MF Service Provider will perform whole building energy audits or analysis to assess the installation of eligible energy efficiency measures. Each property shall have a whole building performance target based upon energy modeling software that documents the building's existing conditions, prospective efficiency upgrades and expected post-retrofit conditions. If similar buildings exist within a complex, a reasonable representative sample of buildings will be sufficient to meet this requirement for the complex. Based upon the audit analysis, the MF Service Provider will develop a proposed scope of work. Examples of possible measures are outlined in Exhibit A. Where other funding sources exist, the property owner will be encouraged to utilize these resources to the extent possible to leverage with LIWP incentives and any property owner project co-investment. The MF Service Provider will serve as a single point of contact for the coordination of leveraged rebates and incentives.

For each multi-family project, the MF Service Provider will assist in developing the project scope of work and measure installation specifications. Bulk purchasing resources and installation contractor bidding support may be provided to assist the property owner with cost controls and to optimize project cost effectiveness. The MF Service Provider will provide technical support, as needed by property owner, for the procurement of appropriate installation contractors to complete the work. Training opportunities will be provided for installation contractors to ensure they understand energy efficiency installation best practices and program requirements.

The MF Service Provider will ensure the application of relevant state and federal standards, policies, laws and local ordinances, and will assist CSD and multi-family property representatives in understanding and implementing relevant new standards and technologies. Any installation contractors hired must possess all required licenses and certifications to perform the applicable installation work.

Additionally, the MF Service Provider will also provide construction oversight at all critical phases and perform quality assurance testing and verification that measures were installed correctly so that the projected energy savings will be realized. Post-installation site visits, including inspections of common areas and a representative sample of apartments and combustion safety testing, will be completed prior to issuing incentive payments to property owners. The MF Service Provider will generate periodic reports to CSD and closeout reports for each MF project served under the LIWP-MF Program. The project report for each property will identify the GHG reductions, energy savings (common area and in unit), and measures installed. Furthermore, ongoing "utility use" monitoring will be provided for the duration of the contract term. A project close-out report will be provided to the property owner and technical assistance regarding installed measures offered to the property operation staff.

IX. Quantification of Benefits and Co-Benefits

a. Approach and Method for Quantifying GHG Reduction

CSD has worked with CARB and industry stakeholders to establish GHG reduction methodologies that provide guidance on data collection and describe how GHG reductions will be quantified for LIWP-MF projects. Quantification Methodologies are available at:

https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials

In order to generate consistent data for LIWP-MF, CSD will perform all calculations to quantify energy savings and GHG emission reductions. CSD will determine energy savings and the

associated GHG reduction estimates using data reported to CSD by the MF Service Provider during program implementation.

For example, the MF Service Provider is required each month to electronically report completed measures and measure information to CSD with status updates on GHG reduction goals for each project. Reported measure details combined with historical energy consumption data (either actual or estimated) will form the basis for determining per-building energy and GHG savings.

Section XI contains a preliminary list of data reporting expectations. Energy savings and GHG reduction estimation approaches are identified below.

b. Determining Energy Savings

The methodology for quantifying energy savings for LIWP measures may include a "deemed savings approach," which uses energy industry standards and data to calculate saving averages for commonly-installed measures, or an energy model approach using actual utility billing data (to the extent available) to quantify energy efficiency over a defined period of time (e.g. the preceding twelve months and twelve months post project completion), or a combination of both. CSD and CARB may utilize both approaches due to the challenges in obtaining actual utility billing data, the highly mobile nature of many low-income households, and variances which impact residential energy consumption such as changes in the climate, household composition, and consumer behavior.

For energy efficiency measures, the deemed savings approach relies on the Database for Energy Efficient Resources (DEER). DEER is a California Energy Commission (CEC) and California Public Utilities Commission (CPUC) sponsored database available at http://deeresources.com.

DEER is designed to provide well-documented estimates of energy and peak demand savings values, measure costs, and effective useful life (EUL). When individual measures are not available in DEER, other industry standard resources may be utilized, as outlined in CARB's Low-Income Weatherization Program Quantification Methodology. Home energy audit software approved by the California Energy Commission, or approved by Energy Upgrade California, is used by CSD's service providers to estimate energy savings for various energy efficiency measures available under LIWP.

For Solar Water Heaters (SWH), the California Solar Initiative's (CSI) solar thermal calculator is the methodology used for estimating annual energy savings. The CSI solar thermal calculator is an online calculation tool that provides an estimate of the energy displacement for SWH systems based upon performance of the SWH system, location, and system design. CSI solar thermal calculator inputs are outlined in CARB's Quantification Methodology for CSD.

For Solar PV, the National Renewable Energy Laboratory's (NREL) PVWatts calculator is the methodology used to estimate electricity savings from LIWP solar PV installations. NREL's PVWatts Calculator is a web application that estimates the electricity production of a grid-connected roof or ground-mounted photovoltaic system based on inputs outlined in CARB's Quantification Methodology for CSD.

Utility billing data would be used if an energy audit tool required billing data to establish a baseline and predict future energy savings. Utility bills could also potentially be used for verifying the energy savings estimates.

c. Determining GHG Emissions Reductions from Energy Savings

CSD will calculate lifetime GHG reductions from electricity savings from energy efficiency measures by multiplying deemed savings by the relevant emission factor in the Quantification Methodology for electricity or gas [3] and the EUL of the measure.

For SWH systems, lifetime GHG reductions are calculated from the annual estimated energy savings from the CSI solar thermal calculator (kWh or therms) multiplied by the relevant emission factor and the length of the manufacturer's warranty, factoring in an annual rate of system degradation of 0.5 percent per year.

For Solar PV, lifetime GHG reductions are calculated from the PVWatts calculator's estimate of annual kWh generated, multiplied by the emission factor for electricity and the length of the manufacturer's warranty, factoring in an annual rate of system degradation.

d. Approach and Method for Quantifying Workforce Development

The participating MF Service Provider and project installation contractors will provide opportunities for employment, job-training and professional development benefits. The methods the MF Program uses will vary based on the demographics and needs of local communities associated with the participating upgrade projects.

CSD will work with the MF Service Provider to identify target goals and the best options for workforce development in connection with GHG reduction activities, in each phase of the multi-family program. Once the goals and best options are determined, the MF Service Provider will be required to report full-time jobs created, training hours provided and other information necessary to document benefits to disadvantaged communities. Because it is a new program for CSD, the LIWP-MF Program has no baseline of existing workforce in this program sub-component.

e. Approach and Method for Quantifying Household Savings

To estimate individual household and building's energy cost savings (dollars saved on energy bills on an annual basis), CSD will multiply anticipated energy savings by the blended utility rates to arrive at an estimated, annual dollar savings per apartment and per building.

f. Approach and Method for Quantifying Other Co-Benefits

CSD and the MF Service Provider will produce a narrative description of any additional co-benefits to tenants identified in project implementation (e.g. energy efficiency education).

X. Household Eligibility for Multi-Family Dwellings

Owners of buildings that meet the eligibility requirements outlined in this section and specifically the income qualifications described in subsection (c) can apply for services by contacting the MF Service Provider. Contact details can be found at:

https://camultifamilyenergyefficiency.org

Buildings may be prioritized for services based on low-income qualification and level of energy usage.

Eligibility Requirements:

a. All LIWP-MF projects must reduce GHG emissions and reduce energy consumption.

[3] Electricity emission factors are updated by CARB for the purposes of California Climate Investments GHG Quantification Methodologies.

b. Income Qualification: Buildings may qualify for MF services and incentives provided that at least 66% of the dwelling units in a building are occupied by households with incomes at or below 80% of Area Median Income (AMI).

XI. Monitoring

The MF Service Provider will be accountable for providing monitoring compliance of all projects. CSD will conduct various compliance monitoring reviews such as, but not limited to, in-house and on-site compliance monitoring to ensure the MF Service Provider adheres to the program requirements and contractual obligations. Failure of the MF Service Provider and/or Property Owner to adhere to contractual obligations may result in a loss of funding, cost disallowance and/or other enforcement action.

XII. Reporting and Auditing

Reporting and recordkeeping requirements will be the responsibility of both CSD and the MF Service Provider. All reports must be consistent with the quantification methodologies and reporting guidance[4] developed by CARB and the requirements established by CSD in these Guidelines. The level and duration of reporting and record retention will vary depending upon project type and will be specified in the MF Service Provider contract. At a minimum, the MF Service Provider will be required to report to CSD basic project information for all properties receiving incentives during the funding or contract term and maintain records for three years after contract close.

The MF Service Provider will also be required to report to CSD project information that demonstrates the energy and GHG savings achieved, priority population benefits, other implementation metrics, and other quantification data determined by CSD and CARB.

Project level information would include, but is not limited to project location, project type, building characteristics, specific measures installed per project, diagnostics performed, historical building energy usage, estimated and actual energy savings, estimated project savings calculation method, and solar photovoltaic system design and specifications.

To support the program's priority population and California Climate Investments goals, the MF Service Provider will track and report additional aggregate information, including but not limited to, LIWP dollars benefiting priority populations, whether installation contractors and their employees are residents within a disadvantaged community, the number of personnel trained, and the amount of LIWP funding used for job training or employment.

CSD may also impose other reporting requirements that will track and manage progress toward goals, and to report, as necessary, to other agencies and organizations that seek updates on the progress of California Climate Investments spending.

For project auditing, the state shall have the right to inspect the work and associated records at any and all reasonable times as part of LIWP-MF oversight. This right shall extend to any subcontracts, and the MF Service Provider shall include provisions ensuring such access in all its contracts or subcontracts.

[4] Detailed reporting requirements are contained in CARB's Funding Guidelines, dated August 2018, available at: https://ww2.arb.ca.gov/resources/documents/cci-funding-guidelines-administering-agencies

XIII. LIWP Future

The LIWP–MF Program is a new sub-program component. It is the only whole building program that includes incentives for energy efficiency measures and solar photovoltaics, allows "in-unit" and common area measures, and is available to both affordable housing and market rate properties housing low-income residents.

Its key highlights include: working to benefit priority populations, requiring that all projects reduce GHG emissions, and leveraging funding sources.

As LIWP-MF is implemented, CSD may find cause to modify the program design to make program implementation more effective and efficient. Such changes could include adjustments in oversight, quality assurance and verification inspections, measures to be installed, reporting requirements, processes for stakeholder engagement and collaboration with advisory forums, etc. If such changes are necessary, and CSD determines those changes to be substantive, CSD will modify these Program Guidelines. Changes to these Program Guidelines will be posted on CSD's website at www.csd.ca.gov. To receive notification of any changes to the LIWP-MF Program, including changes to these Guidelines, sign up on the following page to receive LIWP-MF updates via email: http://www.csd.ca.gov/Pages/Contact-Us.aspx.

EXHIBIT A: LIST OF LIWP-MF MEASURES

Possible LIWP-MF measures include, but are not limited to:

Measure: Measure Name	**Measure Type**
High Efficiency Clothes Washer - In-Unit	Appliances
High Efficiency Clothes Washer - Common	Appliances
High Efficiency Laundry Dryer - In-Unit	Appliances
High Efficiency Laundry Dryer - Common	Appliances
ENERGY STAR® Dishwasher	Appliances
ENERGY STAR® Refrigerator	Appliances
Vending Machine Controller	Appliances
Floor Insulation	Building Envelope
Wall Insulation	Building Envelope
Title 24 Compliant Windows	Building Envelope
Window Shading	Building Envelope
Cool Roof	Building Envelope
Air Sealing	Building Envelope
Unit Lighting	Lighting
Common Area Lighting	Lighting
Exterior Lighting	Lighting
Pool/Spa Heater	Pool
Pool Cover	Pool
Variable Speed Pool Pump	Pool
In-Unit FAU (with or without split A/C)	Space Heating & Cooling
Rooftop FAU (with or without A/C)	Space Heating & Cooling
Terminal A/C or HP	Space Heating & Cooling
Ductless Heat Pump	Space Heating & Cooling
Central Hydronic Boiler	Space Heating & Cooling
Central Steam Boiler/Burner	Space Heating & Cooling
Hydronic/Steam/Chilled Water Pipe Insulation	Space Heating & Cooling
Refrigerant Charge Verification	Space Heating & Cooling
Central Cooling Equipment	Space Heating & Cooling
Variable Speed Pumps and Fans	Space Heating & Cooling
Attic Insulation	Building Envelope
Steam/Hydronic Distribution Upgrades (Balancing, TRV, etc.)	Space Heating & Cooling
Central HVAC Control Upgrade (WWSD, Outdoor Reset)	Space Heating & Cooling

Duct Sealing/Insulation	Space Heating & Cooling
Residential Water Heater	Water Heating
Central Water Heater	Water Heating
Recirculation Pump Temperature Controls	Water Heating
Recirculation Pump Demand Controls	Water Heating
DHW Pipe Insulation	Water Heating
Low Flow Aerators and/or Showerheads	Water Heating
Solar PV System	Solar
Solar Thermal (Central)	Solar
Solar Thermal (In-Unit)	Solar
Energy Education	Education[5]
Other	Other[6]

[5] Energy education is only eligible for LIWP funding if it is a component of a larger project that achieves quantifiable GHG reductions.

[6] Other measures must achieve quantifiable GHG reductions, in accordance with CARB's quantification methodology for CSD.