California Department of
Community Services & Development

Low-Income Weatherization Program (LIWP)

Impact Report

February 2020

Cap and Trade Dollars at Work

Introduction

The California Department of Community Services and Development (CSD) administers the **Low-Income Weatherization Program (LIWP)** to provide low-income households with energy efficiency upgrades and rooftop and community solar to reduce greenhouse gas emissions. LIWP, part of California Climate Investments, has received appropriations totaling **$212 million** from the Greenhouse Gas Reduction Fund since 2014. Supported by advocates for environmental justice, sustainable communities, and healthy homes, among others, LIWP plays an important role in ensuring that all Californians have the opportunity to benefit from the State's Climate Investments.

LIWP funds energy efficiency upgrades and solar for both low-income single-family households and multi-family affordable housing. Complementing the primary goal of greenhouse gas emission reduction, LIWP provides important co-benefits, such as reducing household energy bills, improving public health, creating jobs and job training opportunities, and stimulating economic activity in low-income communities.

LIWP improves household conditions while reducing living expenses for residents – strengthening their economic security – and contributes to the health of communities through improved air quality. LIWP also helps lower operating costs for affordable housing, helping to preserve valuable below-market housing for low-income families.

LIWP helps make vulnerable communities more resilient to the effects of climate change, making it more affordable for low-income households to keep their homes cool and comfortable at a lower cost – including through energy efficient air conditioning or improved insulation – and protecting children and seniors from the health impacts of higher temperatures. With many low-income Californians already struggling to make ends meet and spending more of their income on housing expenses than ever before, LIWP can help by lowering utility bills to free up limited disposable income for other critical expenses.

Local job trainees installing solar panels Willowbrook Neighborhood, Los Angeles CA

LIWP is the only program of its kind in California that focuses exclusively on serving low-income households with renewable solar energy and energy efficiency upgrades at no cost. Moreover, LIWP's benefits are targeted towards vulnerable Californians such as farmworkers and people experiencing homelessness.

This Impact Report outlines the history and successes of the following **LIWP** components:

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Multi-Family Energy Efficiency & Renewables

The LIWP Multi-Family Energy Efficiency & Renewables program component serves multi-family properties occupied by low-income households throughout California. LIWP Multi-Family conducts energy audits and modeling to identify feasible energy efficiency and solar photovoltaics (PV) upgrades for installation at qualifying multi-family buildings, with assistance and incentive payments available to property owners for agreed-upon scopes of work. The Association for Energy Affordability (AEA) serves as the statewide administrator.

These projects reduce residential energy demand and greenhouse gas emissions. To date, **participating multi-family properties have reduced overall energy usage by an average of 40 percent**, reducing operating costs and helping to preserve affordable housing.

LIWP's Multi-Family component encourages and incentivizes property owners to provide key financial benefits to their low-income tenants who are often challenged by energy insecurity. Residents of participating properties are **saving an average of 30 percent on their energy bills.** Eighty percent of the solar PV installed with program incentives is producing direct bill savings for tenants.

CSD has committed $5 million of allocated funding to serve properties housing agricultural workers, and an additional $2 million to properties serving as homeless shelters or transitional housing.

At current funding levels, this program component is scheduled to conclude in June 2022.

ALLOCATION

$63.9 Million

93 Multi-Family Properties

Comprised of over 9,200 units have received technical assistance and incentives for energy efficiency upgrades or are in the reservation process. **An additional 16 properties (1,582 units)** are projected to be served with remaining uncommitted funds. Over 180 additional properties are wait-listed and may be served should additional funding be appropriated and allocated to the program.

PROGRAM IMPACTS

167,460 Metric Tons of CO_2e Reduced = **36,400 Cars Off the Road** OR **7,691,000 Trees Planted**

Multi-Family Energy Efficiency & Renewables

CASE STUDY

Casas de la Viña Solar Carport Project
Madera

Diana Guzman
Resident, Casas de la Viña

"I'm saving up to $70 a month on my bills; I'm only paying $25 for PG&E. That makes a huge difference."

-Diana Guzman

A widow and single mother of two young children, Diana Guzman struggled to find safe, affordable housing until she moved into **Casas de la Viña**, a property in the Central Valley owned by Self-Help Enterprises.

Self-Help Enterprises was able to install a deep energy efficiency and renewable energy retrofit, including the **installation of more than 181 kilowatts of solar panels generating 95 percent of the complex's energy needs onsite** to offset resident energy bills.

The project also installed efficient new heat pump heating and cooling systems, heat pump water heaters, energy efficient windows, LED lighting, refrigerators and plumbing fixtures.

The property expects to **achieve zero net energy**, generating as much energy as it consumes. Following these upgrades, Diana and other residents have benefited from significant utility bill savings. In Diana's case, those savings are going towards necessities like clothes and school supplies for her boys.

Multi-Family Energy Efficiency & Renewables

CASE STUDY

The Allison Apartments Ribbon Ceremony San Diego

The Allison Apartments Rooftop Solar PV

"We're fortunate... that our property reduces its carbon footprint with solar panels as well as our smart phone-controlled water heaters, which are very cool! I know I can speak for all of the residents here for how grateful and humble I am for the renovation that has taken place."

- Resident, The Allison

When the operator of affordable housing in San Diego that focuses on **individuals who have experienced homelessness and mental health issues** sought to renovate an aging supportive housing property, "The Allison," they turned to LIWP to fund a rooftop solar PV system and energy efficiency improvements. Apartments were completely renovated and energy conserving refrigerators, LED lighting, and heat pump water heaters were installed. Installation of the 87-kilowatt rooftop solar PV system provided **a workforce development opportunity to ten trainees**, nine of whom subsequently found employment in the solar industry.

The improvements are projected to reduce energy usage across the property by 35 percent, with tenant energy bills expected to decrease dramatically, and **reduce GHG emissions by an estimated 75 metric tons of carbon dioxide equivalent (CO_2e) per year over the life of the project.**

LIWP funding has not only helped The Allison's low-income tenants devote more of their financial resources towards necessities other than energy bills, but will also help ensure that The Allison continues to provide critical supportive housing for many years to help those who have struggled with homelessness live stable, healthy lives.

"We're even more proud of The Allison apartments than we were before... This property is now highly energy efficient: we've got enhanced community spaces, enhanced apartment interiors, and we're ready to serve this community and our tenants for decades to come."

- Jon Walters, Housing Innovation Partners

Farmworker Housing Component:
Single-Family Energy Efficiency & Solar PV

In 2019, CSD launched a new LIWP program component focused on single-family farmworker housing. Farmworkers are one of the most vulnerable groups in the state because of seasonal employment and low wages. **Farmworker families often pay a larger share of their annual income on home energy and often cut back on other critical needs to pay their energy bills.**

This program component serves farmworker households in Imperial, Fresno, Kern, Madera, Merced, Monterey, Riverside, San Joaquin, Santa Barbara, Stanislaus, Tulare, and Ventura counties with home upgrades such as efficient heating and cooling systems; climate resilience measures including insulation and efficient windows; appliances and lighting; and solar PV. At least one household member must be an agricultural employee and the household must meet the program's income guidelines to qualify.

LIWP's new Farmworker Housing Component is increasing the energy efficiency of homes owned or rented by farmworker families; reducing energy bills and greenhouse gas emissions; providing access to solar energy; and providing health and safety improvements and repairs to homes. All services are being provided at no cost to eligible low-income farmworker households.

CSD selected La Cooperativa Campesina de California as the Administrator for this program. A team of partner organizations is coordinating outreach, enrollment, and services.

At current funding levels, the Farmworker Housing Component will conclude in December 2020.

ALLOCATION

$10.7 Million

750 Estimated Households to be Served

Many farmworker families have already benefited from LIWP services. Maria Rojas' family in Fresno was able to qualify for a variety of measures, including solar PV, that have resulted in significant savings for her family.

"Our home had unreliable air-conditioning and heating that did not support our household needs in both the hot summers and cold winters. Our appliances were not energy efficient, which also meant that our energy costs were high. On top of that, our windows were terrible. I can't wait to experience the difference the solar panels and new appliances make in our comfort in the home as well as our monthly costs."

- Maria Rojas, LIWP Participant, Fresno

CASE STUDY

Completed Single-Family
Energy Efficiency & Solar PV Components

2015 - 2019 SINGLE-FAMILY ENERGY EFFICIENCY & SOLAR PV

ALLOCATION:
$70 MILLION

HOUSEHOLDS SERVED:
15,724

NO-COST SOLAR PV SYSTEMS:
1,486

Single-Family Energy Efficiency and Solar PV Services were principally delivered by Regional Administrators who integrated energy efficiency and solar PV services. Single-family energy efficiency services were also previously provided through CSD's network of local energy service providers serving designated disadvantaged communities.

This program component concluded in 2019.

2015 - 2018 SINGLE-FAMILY SOLAR PV

ALLOCATION:
$51 MILLION

NO-COST SOLAR PV SYSTEMS:
3,160

Single-Family Solar PV services were also delivered as a standalone program component. GRID Alternatives served as the statewide administrator and the Fresno Economic Opportunity Commission coordinated a Solar PV Pilot with a consortium of local energy service providers.

This program component concluded in 2018.

CASE STUDY

"We received a solar panel system complete with 10 panels and it works perfectly. This month's electric bill is incredibly low at $10."

-Guadalupe Valenzuela, LIWP Participant, Calexico

PROGRAM IMPACTS

198,600,000 Kilowatt Hours Saved = **33,000 Homes Powered Annually**

14,600,000 Therms Saved = **44,000 Homes Heated Annually**

227,100,000 Kilowatt Hours Generated by Solar = **38,000 Homes Powered Annually**

= **$2,498 Average Lifetime Savings Per Customer**

= **$9,200 Average Lifetime Savings Per Customer**

Community Solar Pilot

The LIWP Community Solar Pilot was designed to make the benefits of solar energy more available to eligible low-income households, lower residents' energy burden, and provide co-benefits to communities, including economic stimulus and workforce development. In a community solar project, a larger-scale solar PV array project is developed by a utility or third-party owner and portions of the project's power or generation are sold to or benefit multiple dispersed households and buildings. Along with the goal of expanding access to solar energy, community solar projects can also create local jobs and spur local investment.

CSD announced awards to two Community Solar Pilot projects in November 2018 following a competitive procurement. These community solar projects will provide benefits to low-income households and test prototype delivery models. Each community solar project will provide solar installation training and meet specific local hiring and prevailing wage requirements.

The projects are scheduled to be operational and delivering benefits by June 2021.

ALLOCATION

$4.43 Million

350-450 Estimated Households to be Served

Low-income families and individuals will benefit from these projects for many years to come.

SANTA ROSA BAND OF CHAUILLA INDIANS EMPOWERING COMMUNITIES

GRID Alternatives Inland Empire is installing a 994 kilowatt ground mounted solar array in Riverside County in partnership with the Santa Rosa Band of Cahuilla Indians and the Anza Electric Cooperative, Inc (AEC). **The community solar system will be sited on Santa Rosa Tribal lands in Riverside County, an area designated as a low-income community, and will benefit approximately 38 homes on tribal land and 150-250 other low-income households served by AEC.**

AEC will assign credits to subscribers on their monthly bills that will reduce household usage costs by up to 50 percent - a benefit that could provide up to **$5.4 million in savings** to participants over the life of the project.

"The Santa Rosa Band of Cahuilla Indians is proud to partner with Anza Electric Cooperative and GRID Alternatives to provide clean energy to not only Tribal Members, but also other surrounding mountain community members.

We are thankful for the opportunity to facilitate this project by using our tribal lands in a sustainable way."

-Steven Estrada, Tribal Chairman
Santa Rosa Band of Cahuilla Indians

Community Solar Pilot

PORT OF RICHMOND COMMUNITY SOLAR PROJECT

GRID Alternatives Bay Area is installing a 989 kilowatt solar array in partnership with the City of Richmond in Contra Costa County. Sited at the Port of Richmond, **the community solar system will demonstrate how solar can play a key role in decarbonizing California's ports.**

The project will benefit approximately 155 low-income households in Richmond's disadvantaged communities. 80 to 95 percent of subscribers are anticipated to be residents of low-income housing properties who will receive direct financial benefits equal to 75 percent of typical renter electricity costs. The community solar project is expected to generate $81,000 per year in revenue for twenty years for local low-income households from a feed-in-tariff offered by Marin Clean Energy.

"This is a perfect example of how cities can leverage land use authority and community choice energy programs to spur local clean energy development. There is a rich history of shipbuilding and manufacturing at the Port of Richmond during the WWII era, now we're using that same innovative spirit to build renewable energy systems that offset residents' energy costs."

- Tom Butt, Mayor of Richmond

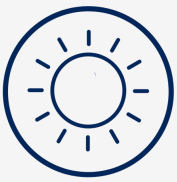
PROGRAM IMPACTS

18,377 Metric Tons of CO2e Reduced = **3,995 Cars Off the Road** **OR** **843,000 Trees Planted**

Household & Community Benefits

In addition to Greenhouse Gas emission reduction and energy bill savings for residents, LIWP delivers additional benefits to households and communities, including:

CLIMATE RESILIENCE



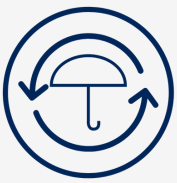
Low-income and vulnerable communities can be disproportionately affected by climate change and often have the fewest resources to respond and adapt. For example, California's Central Valley is a region burdened by poverty, pollution, and increasingly frequent heat waves. More than half of LIWP's multi-family projects are located in this region, and many projects have included high efficiency heating/cooling equipment and high-performance window replacements to better protect residents from the impact of heat waves and rising temperatures. LIWP's Farmworker Housing component offers resilience measures including attic insulation, new efficient windows, and cool roof treatments for mobile homes. Installing solar PV also allows households to reduce costs associated with running air conditioners during the hottest months.

By diversifying resources for energy generation and shifting and reducing peak demand, LIWP's integrated solar PV and energy efficiency upgrades also help to strengthen the resilience of the electrical power distribution grid in communities served.

PRESERVING AFFORDABLE HOUSING

Utility bills comprise, on average, approximately 18 percent of operating expenses for multi-family affordable housing properties. Installing solar PV and energy efficiency upgrades can drastically reduce operating costs, and on average properties have realized energy savings of 40%. LIWP incentives make possible whole-building energy upgrades that would otherwise be cost-prohibitive. These upgrades allow property owners to replenish their cash reserves and can enable them to address deferred maintenance, increase resident services, and develop more affordable housing.

SUPPORTING WRAP-AROUND AND HOMELESS SERVICES



The Farmworker Housing Component is being coordinated with other assistance programs to enhance the economic and social impacts of LIWP services and achieve efficiencies in program administration. In LIWP's Multi-Family Program, $2 million has also been set aside for upgrades to properties serving as homeless shelters or transitional housing.

SAVING WATER

LIWP projects (including 100 percent of multi-family upgrades) often reduce water usage through the installation of more efficient water appliances or measures in residences or properties, including dishwashers, clothes washers, and new faucets and showerheads.

Household & Community Benefits

IMPROVING HEALTH AND SAFETY

Many LIWP measures improve the health and safety, comfort, and indoor air quality for residents, including appliance upgrades or repairs, and home repairs such as addressing dry rot. At the Casas de la Viña apartments in Madera, ductwork for all residents was professionally cleaned and sealed, removing allergens that can cause respiratory issues or exacerbate asthma. The upgraded HVAC system provides cleaner, healthier indoor air along with improved comfort and bill savings to the farmworker residents. Pollutants and asthma triggers such as NOx and other combustion by-products can be reduced by replacing combustion appliances like furnaces and water heaters. The Casas de la Viña residents received new in-unit energy efficient electric heat pumps to provide their hot water. Lighting upgrades can also improve safety through better visibility in exterior spaces or common areas in multi-family buildings.

CREATING JOBS AND SKILLS FOR THE "GREEN ECONOMY"

LIWP provides opportunities for job creation, job training and related economic benefits. LIWP providers have partnered with local Workforce Investment Boards; directly hired workers from disadvantaged and low-income communities; and given preference to subcontractors from the communities served.

GRID Alternatives Bay Area has piloted a new type of training which gives job seekers an opportunity to gain skills before hiring commences for the Richmond Port Community Solar Project construction, which is scheduled for 2020. GRID partnered with the veterans' organization Swords to Plowshares to provide five days of intensive training for five veteran participants. Participants were also able to attend a private GRID job fair. Following an initial introduction at the job fair, one participant secured a position as a solar site auditor with a Sacramento area company, where he will be responsible for creating site plans.

DECARBONIZING BUILDINGS

LIWP offers high-efficiency electrification measures that reduce reliance on burning fossil fuels onsite in participating properties. For example, energy efficient heat pump technology can electrify over 90% of heating and hot water energy use in homes. LIWP's Farmworker Housing and Multi-Family Program components can facilitate fuel substitution or "fuel switching" at properties, replacing certain combustion appliances with electric options and solar PV.

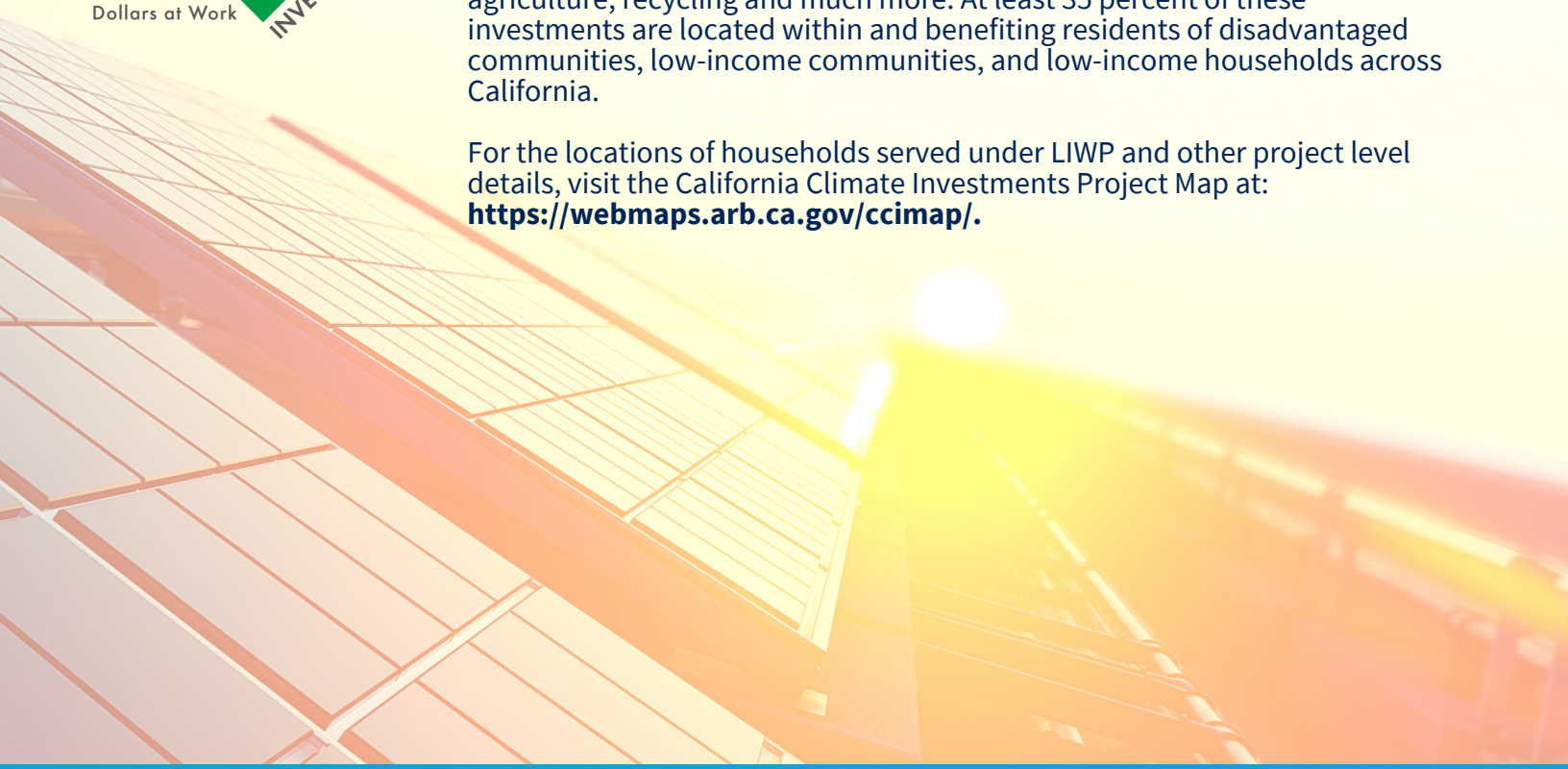
For more information on LIWP, contact LIWP@csd.ca.gov or go to CSD's website: https://www.csd.ca.gov/Pages/Low-Income-Weatherization-Program.aspx

California Climate Investments website: www.caclimateinvestments.ca.gov

The Department of Community Services and Development (CSD) has been serving low-income communities in California for more than 50 years. 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 economic security, meet their home energy needs, and reduce their utility costs through energy efficiency upgrades and access to clean renewable energy.

LIWP is part of **California Climate Investments**, a statewide program that puts billions of Cap-and-Trade dollars from the Greenhouse Gas Reduction Fund (GGRF) 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 located within and benefiting residents of disadvantaged communities, low-income communities, and low-income households across California.

For the locations of households served under LIWP and other project level details, visit the California Climate Investments Project Map at: **https://webmaps.arb.ca.gov/ccimap/.**



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