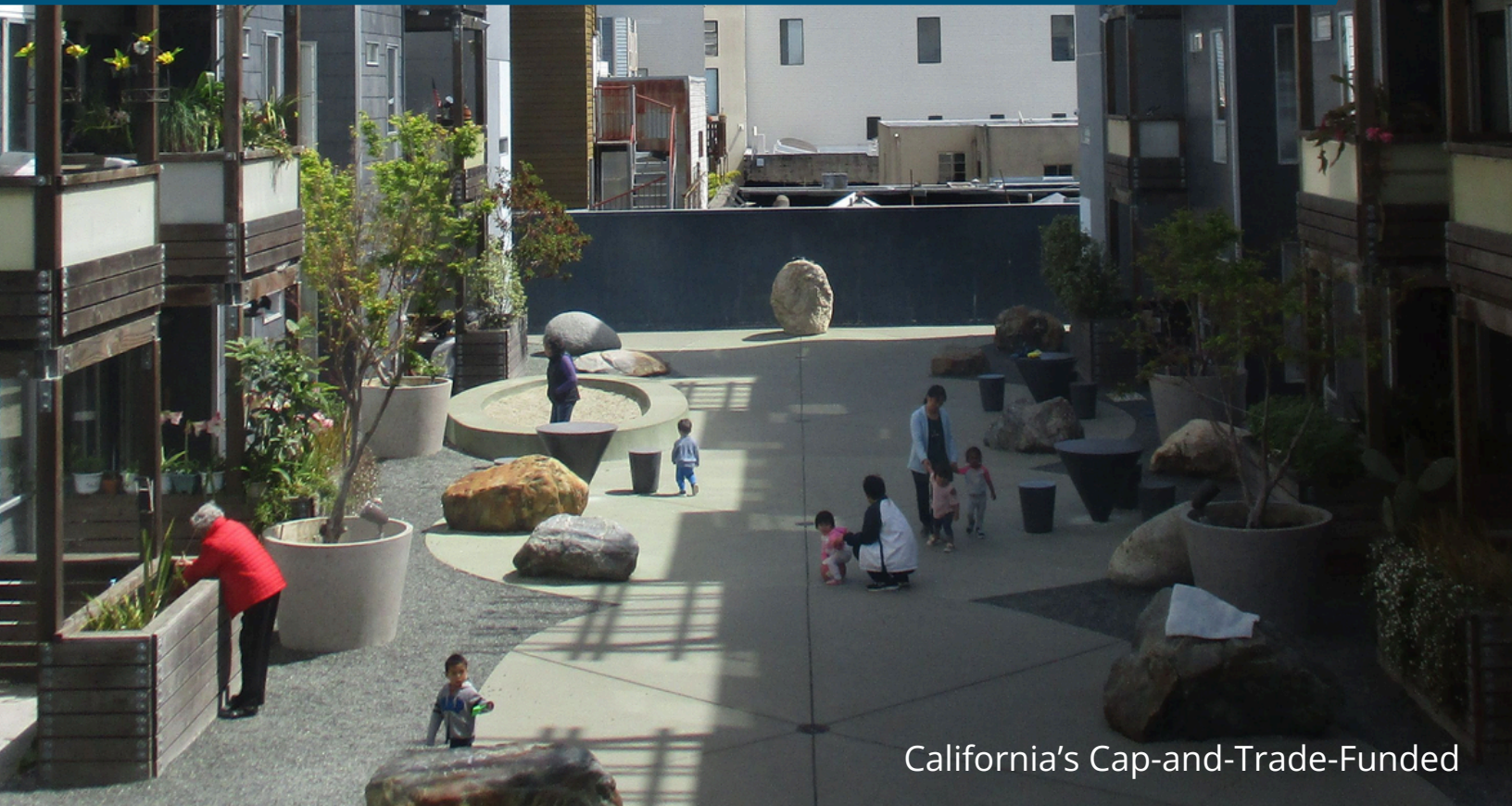


Low-Income Weatherization Program (LIWP)
Multifamily Impact Report

2025

Creating Climate Safe Homes & Saving Renters Money for 10 Years



California's Cap-and-Trade-Funded



CALIFORNIA HOUSING PARTNERSHIP

www.chpc.net

The state created the California Housing Partnership (the Partnership) in 1988 as a private nonprofit organization with a public mission: to help create and preserve affordable and sustainable homes for low-income Californians by providing expert financial and policy assistance to nonprofit and public partners. Since 2010, we have collaborated with over 200 nonprofit affordable housing organizations statewide to enhance access to climate, energy, and water resources for affordable housing properties and their residents. The Partnership has led outreach, education, and financial technical assistance to participants in the Low-Income Weatherization Program for Multifamily Properties since its launch in 2016. Over the past five years, we expanded our portfolio of state and regional clean energy programs. In 2024, we helped to enroll properties across our programs that will benefit over 21,000 households once those projects are completed. We also provided education and training to 1,000 people. In 2025, the Partnership will help launch a fifth decarbonization program.

ASSOCIATION FOR ENERGY AFFORDABILITY Inc.

www.aea.us.org

The Association for Energy Affordability, Inc. is a 501(c)(3) not-for-profit organization dedicated to achieving energy efficiency in new and existing buildings in order to foster and maintain affordable and healthy housing for low-income communities. AEA representatives engage in a broad range of educational and technical services to promote this mission and develop the industry that advances and sustains it. The California Department of Community Services and Development selected the Association for Energy Affordability to implement the statewide Low-Income Weatherization Program for Multifamily Properties.

Table of Contents

4	Impact Report Overview
5	Key Program Accomplishments
6	Serving Low-Income Residents
7	Supporting Preservation of Affordable Housing
8	Deep Greenhouse Gas Reductions
9	Solar Energy Solutions for Low-Income Residents
10	Building Climate Resilience & Equity
11	Senior Housing Communities
12	Energy Enhancements for People Experiencing Homelessness
13	Funding & Advocacy
14	Methodology & Sources



Impact Report Overview

Since 2014, the California Department of Community Services and Development (CSD) has administered the **Low Income Weatherization Program (LIWP)** to provide low-income households with solar and energy upgrades to reduce greenhouse gas emissions and advance equitable building decarbonization. While LIWP serves both multifamily and single-family homes, this impact report focuses on the Multifamily component of LIWP, implemented statewide by the Association for Energy Affordability (AEA).

Senate Bill 350 recognized that low-income renters and disadvantaged communities face barriers to accessing energy efficiency, weatherization, and renewable energy investments. It emphasized the need for tailored programs to overcome these obstacles. LIWP Multifamily is the only state program designed to unlock the benefits of integrated energy and solar retrofits for both residents and owners of multifamily low-income housing in underserved communities through its flexible and comprehensive whole-building approach, coupled with advanced technical assistance.

To date, LIWP Multifamily has served 12,746 households, fostering a more equitable distribution of clean energy investments across the state. Through this distribution, the program has committed funding for significant energy upgrades to various low-income housing types.

LIWP serves the following housing types:

- Families
- Senior
- Mixed
- Supportive Housing
- Women's Shelter
- Farmworker
- People experiencing homelessness
- Veterans



LIWP Multifamily emphasizes protecting low-income households from displacement and ensuring they receive the financial benefits of the program's measures. The program's design goes above and beyond the requirements to safeguard residents and ensure they benefit financially from the LIWP measures.

California has committed \$124.89 million of California Climate Investment funds to LIWP Multifamily. Once this funding has been disbursed, the program will have served more than 24,600 households. The State of California's Clean Energy in Low Income Multifamily Buildings (CLIMB) Action Plan calls for the State to "establish stable funding for the Low Income Weatherization Program" [1]. In addition to the general fund and the California Climate Investments, it is imperative for the Legislature and Governor to continue to fund LIWP Multifamily in the 2026 housing bond (authored by Assemblymember Wicks and Senator Cabladon, respectively) as this is likely to include \$200 million in funding for the preservation of affordable housing. Now, with the influx of money from the Inflation Reduction Act (IRA) and programs like the Equitable Building Decarbonization (EBD) program, it is more important than ever to keep LIWP funded. LIWP provides comprehensive technical assistance and can fill gaps that these programs cannot cover. LIWP is perfectly situated to co-leverage these programs to reach even more households than each program can individually.

Key Program Accomplishments

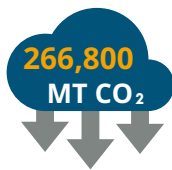
The Low-Income Weatherization Program (LIWP) Multifamily reduces greenhouse gas emissions while providing substantial benefits to underserved communities across California.



\$124.89M



85% DAC



**266,800
MT CO₂**



6.8 MW



~31,865 Residents

Key Program Accomplishments

Statewide Impact: Since 2014, LIWP Multifamily has provided energy efficiency improvements, solar thermal installations, and solar PV systems to over 12,746 homes, benefiting an estimated 31,865 residents across California. Once all scheduled projects are finalized, the program will have reached more than 24,600 low-income residences. A total of \$124.89 million has been allocated to enhance 240 properties situated in 25 counties, targeting disadvantaged communities throughout the state [2].

Low-income resident benefits: Residents of LIWP Multifamily participating properties have benefited from financial savings and sustainable energy solutions, with LIWP-funded electrification projects achieving average energy savings of 56% and 32% reductions in utility bills, and in some cases, near net-zero retrofits. To date, LIWP Multifamily has installed 6.8 MW of solar PV, resulting in an average energy bill reduction of 30%. Over 73% of this solar PV directly reduces tenant utility bills, providing long-term economic relief.

Deep GHG reductions: LIWP-funded multifamily properties have reduced overall energy usage by an average of 47%. The program has reduced GHG emissions by 266,800 metric tons of carbon through completed projects to date, equivalent to taking 63,499 vehicles off the road per year [3].

Climate resilience and equity: To date, 85% of program funds have been invested in disadvantaged communities, identified by the CalEnviroScreen tool. This distribution of projects supported in DAC's includes 33% in Northern California, 44% in the Central Valley, and 23% in Southern California.

Building decarbonization: LIWP Multifamily has reduced reliance on burning fossil fuels onsite in participating properties by offering high-efficiency electrification measures. 76% of LIWP Multifamily participants received heat pumps, which can electrify over 90% of heating and hot water energy use in homes. The program also provides robust technical assistance and monitoring which is especially important as newer decarbonization technologies come online.

Farmworker housing: The LIWP program administrator has committed at least \$5M of Multifamily program funds to upgrades for farmworker homes. LIWP Multifamily is expected to serve 530 farmworker households.

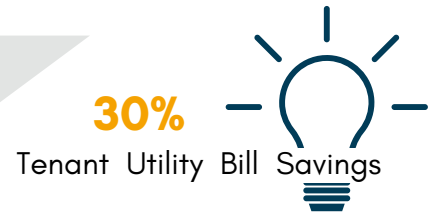
Senior housing communities: The LIWP Multifamily program has committed \$10,347,093 to projects specifically designed for housing elderly populations aged 55 and above, ensuring they benefit from enhanced energy efficiency and reduced utility costs.

Housing for people experiencing homelessness: The LIWP program has committed \$2M of Multifamily program funds to upgrades for buildings serving people experiencing homelessness.

Affordable housing preservation: Many affordable housing operators face significant burdens that have strained their operating reserves. From 2023 data, operating expenses have increased at a faster rate than rental income, with both outpacing inflation—rental income rose by 9.2% year-over-year, while operating expenses jumped by 10.4% [4]. By significantly lowering these costs through solar PV and energy efficiency upgrades, property owners can rebuild reserves, address deferred maintenance, enhance resident services, and develop more affordable housing.

Serving Low-Income Residents

- Residents of LIWP participating properties save an average of 30% on their energy bills.
- 73% of solar PV installed through the program yield direct tenant bill savings.



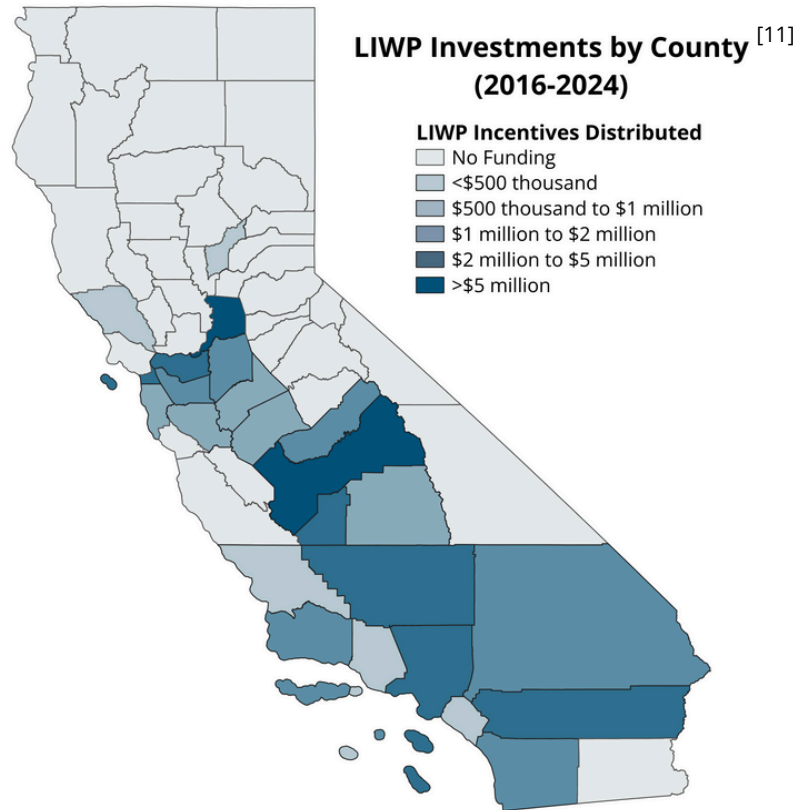
Why decarbonization for low-income and communities of color matter

Energy costs have become increasingly unaffordable across California. Utility rates nearly doubled for IOU customers between 2014 and 2023 [5]. Energy and pollution burdens disproportionately affect low-income, Black and Latinx households. The median energy burden for Black and Latinx households are 43% and 20% higher, respectively, than the energy burden experienced by white households [6]. Research reveals that over 23% of the state’s Latinx population, and over 18% of the state’s Black population live in one of the 10% most polluted communities [7]. Fortunately disconnection rates for all customers have fallen to under 1% even with the expiration of the COVID-19 disconnection moratorium [8].

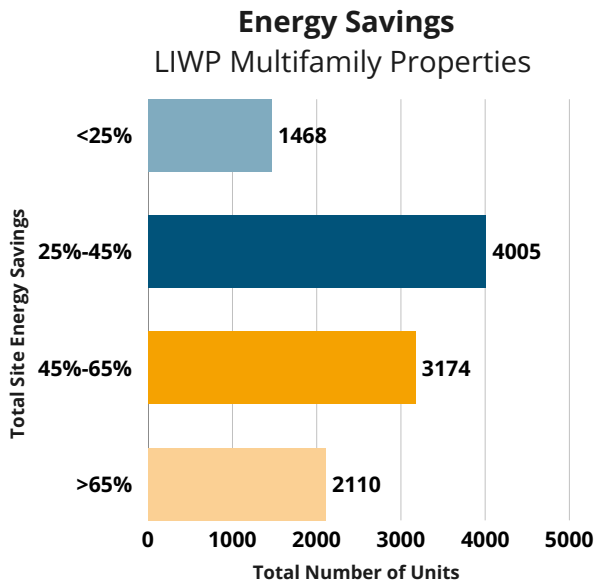
Recent reporting from KQED highlighted that high energy costs are worsening California’s ongoing housing crisis [9]. Renters struggling with energy insecurity face a higher risk of eviction due to unpaid utility bills. Energy insecure households spend \$0.26 more per square foot on energy than those without energy insecurity [10]. This increased expense is due to factors affecting energy efficiency, such as air leaks, poor insulation, and outdated appliances. The Low-Income Weatherization Program (LIWP) can help reduce household energy costs by retrofitting housing units to be more efficient.

How LIWP Multifamily achieves this goal

LIWP Multifamily overcomes the challenges of split incentives between property owners and tenants to provide key financial benefits to low-income households with energy insecurity. Further, many LIWP Multifamily measures improve health and safety. Replacing aging combustion appliances reduces the risk of carbon monoxide poisoning. Duct sealing measures reduce allergens and improve indoor air quality. Lighting upgrades can improve safety through better visibility in common areas and exterior spaces. Additionally, LIWP Multifamily decarbonization measures help to reduce overall pollution burden in disadvantaged communities.



Supporting Preservation of Affordable Housing



Total Number of Projects: 120

Barriers to affordable housing preservation

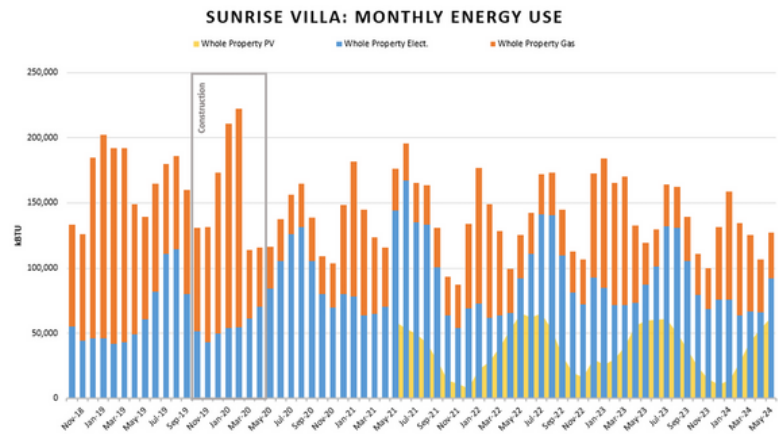
California is in a housing crisis, and existing affordable homes are at risk of being lost [12]. To finance energy upgrades when preserving affordable homes, property owners must navigate structural barriers, including complex ownership and financing arrangements, lack of access to capital, limited reserves and staff capacity and tight development and resyndication timelines.

- LIWP Multifamily properties have averaged 47% in energy savings.
- 100% of LIWP Multifamily participants installed water-saving measures.

How LIWP overcomes barriers to participation

- **Enables capital investments that reduce operating expenses:** LIWP incentives make whole-building energy upgrades that would otherwise be cost-prohibitive possible. The long-term utility cost savings provide owners with the flexibility to address other pressing operating expenses, including increased insurance costs.
- **Reduces staff capacity barriers:** LIWP makes it easier for owners to thoroughly evaluate the energy efficiency and solar opportunities at their properties by providing free, expert technical assistance from initial scope development through construction, installation, and verification. LIWP makes it easier for owners to co-leverage other resources and programs to maximize utility cost savings.
- **Project phasing helps owners maintain cash flow:** Owners have the flexibility to divide the LIWP scope into two phases. Once each phase is completed and then verified by LIWP, incentive payments are issued.

Sunrise Villa Monthly Energy Results



4th year post-LIWP energy and cost impact with solar:

- Whole property kBtu impact: saved 878,379 kBtu
- Owner saved 96,287 kBtu
- Aggregate tenant saved 782,110 kBtu (17,775 kBtu per unit per year)
- Whole property cost impact: saved \$34,006
- Owner saved \$11,661
- \$507 per unit per year average tenant savings \$507

Deep Greenhouse Gas Reductions

- LIWP-funded electrification projects produced average energy savings of 56% and 32% energy utility bill savings, some achieving near net-zero retrofits [13].
- 83% of LIWP-funded properties received energy efficient heat pumps, which can electrify over 90% of heating and hot water energy use in homes.

The need for building decarbonization

In 2018, California Governor Brown issued an executive order requiring the state to be carbon neutral by 2045, accelerating the state’s existing goal to cut emissions 80 percent below 1990 levels by 2050. To meet this goal, California must rapidly reduce emissions from the building sector, which accounts for 25% of total greenhouse gas (GHG) emissions, second only to transportation as the leading source of climate pollution [14]. Transitioning California’s low-income multifamily housing from fossil fuels requires ambitious, tailored strategies. As decarbonization gains momentum as a key tool to cut GHG emissions in buildings, equitable implementation is essential to ensure historically underserved communities benefit and are not left behind.

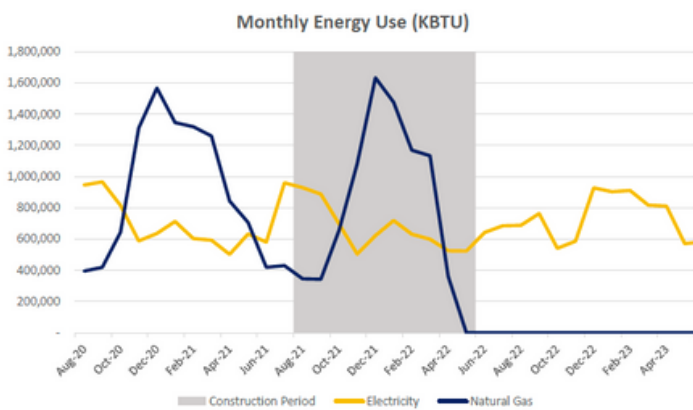
How LIWP achieves this policy goal

• **Maximizing GHG emissions reductions:** The scope of LIWP projects is thorough and holistic, integrating energy efficiency and solar (thermal and PV) upgrades that maximize both GHG reductions and energy cost savings. Since utility-based energy efficiency programs primarily serve commercial and industrial customers, LIWP Multifamily provides a critical avenue for multifamily customers to carry out whole-building deep energy retrofits.

• **Proving electrification is possible in affordable housing:**

Properties that have participated in LIWP-Multifamily have demonstrated that electrifying existing affordable housing can be achieved through access to comprehensive technical assistance and sufficient incentives. 83% of LIWP projects that received energy-efficient heat pump technology included fuel substitution, switching out natural gas for electricity.

Sacramento Manor Senior Apartments Monthly Energy Use



Greenhouse Gas Savings

Annual GHG	Metric Tons CO2
Pre- LIWP	1354.42
Post- LIWP	816.97
GHG Savings	537.45
	40%

Annual Energy Use Comparison

Electricity	kWh	Cost	Rate
Pre- LIWP	2,502,497	\$280,562	\$0.13
Post- LIWP	2,593,567	\$323,084	\$0.16
Electricity Savings	-91,070	-\$42,523	-\$0.03
	-4%	-15%	-27%

Natural Gas	Therms	Cost	Rate
Pre- LIWP	106,597	\$200,119	\$1.84
Post- LIWP	-	\$0	\$2.00
Natural Gas Savings	106,597	\$200,119	-\$0.16
	100%	100%	-9%

Total Annual Energy Use	kBTU*	Cost
Energy Use Pre- LIWP	19,198,216	\$480,681
Energy Use Post- LIWP	8,849,251	\$323,084
Total Energy Savings	10,348,965	\$157,597
	54%	33%

Whole property adjusted bill impact*: **\$214,373**

Solar Energy Solutions for Low-Income Residents

- A total of 6.8 MW of solar PV has been installed across the entire program to date.
- \$1.8M has been distributed for PV in municipal utility service territories.



LIWP Multifamily's unique role in the market

while supporting co-leveraging: Since launching, LIWP played a crucial role in providing optional incentives to install solar photovoltaic (PV) systems as part of energy retrofits. Furthermore, LIWP's comprehensive program design allows enrolled projects to benefit from energy efficiency and electrification upgrades while having the option to opt in to install solar, providing affordable housing providers with a convenient one-stop-shop program. No other solar incentive program addresses the multiple needs of low-income multifamily housing as does LIWP.

Flexibility tailored for multifamily housing: LIWP accommodates a wide variety of multifamily building types across investor-owned and public-owned utilities. LIWP solar incentives are available to transitional housing, adaptive reuse buildings, master-metered properties, properties in municipal utility territories, and various eligibility documentation pathways.

Filling the gap where SOMAH is not available:

LIWP encourages co-leveraging with other programs, including the Solar on Multifamily Affordable Housing (SOMAH) Program, the largest multifamily rebate program in California. LIWP energy efficiency incentives can be co-leveraged with SOMAH to further increase savings for the common areas and residents' meters. Recently, Senate Bill 355 (SB 355) was passed and enacted to further support the pairing of LIWP and SOMAH projects by expanding SOMAH's income thresholds to match LIWP's requirement of having at least 66% of units at or below 80% of the AMI.

Optimizing savings by combining LIWP and SOMAH incentives:

When eligible, co-leveraging LIWP and SOMAH allows LIWP to stretch program dollars further, ensuring more projects can benefit from energy efficiency and electrification upgrades. With its higher incentives, SOMAH can be used to help cover the cost of solar while LIWP funding can be directed toward more energy efficiency and electrification upgrades. In instance, where roof space is limited, LIWP might be a better fit because it allows for common area-only systems, unlike SOMAH, which only will cover systems offering 51% or more of the credits to tenants.

Barriers to LIWP solar projects requiring advocacy support:

Ongoing changes in solar tariffs have implications for current and future LIWP projects, unlike SOMAH, which has a program-specific solar tariff arrangement. Without access to such, solar projects under LIWP are subject to general solar tariffs, such as NEM 3.0, that can change with regulatory decisions and may impact the perceived value of solar for multifamily affordable housing providers. To ensure that both owners and their residents have reliable options when pursuing solar, it is crucial to protect the benefits of solar by either allowing LIWP projects to access and utilize protected tariffs such as SOMAH's solar tariff or through the creation of a unique solar tariff for LIWP projects. This will ensure that LIWP projects remain unaffected by ongoing regulatory changes, safeguarding the benefits of solar PV for both affordable housing providers and their residents.

Building Climate Resilience & Equity



- 85% of LIWP-funded projects to date are located within disadvantaged communities, as identified by the CalEnviroScreen tool.
- 48% of LIWP projects are located in the Central Valley, a region disproportionately affected by poverty, pollution and frequent heat waves.
- 40% of properties served by LIWP Multifamily have received high efficiency heating/cooling equipment, and 40% have received high performance window replacements to protect residents from heat waves and cold fronts.

Why foster climate resilience and equity

2023 was the hottest on record, and trends indicate that temperatures will keep rising [15]. However, the effects of climate change extend well beyond just increased heat. Higher temperatures require more electricity for air conditioning, shifts in climate have altered growing patterns and reduced food supplies, and natural disasters have caused significant distress in parts of California. Due to systemic inequities, low-income and disadvantaged communities have faced the biggest burden in this ecological crisis and often do not have the resources needed to respond to natural disasters and rising costs [16].

How LIWP achieves this policy goal

Economic Resilience: By lowering residential energy costs for low-income households, this program increases available income for other essential needs and strengthens renters' financial security. LIWP enables affordable housing property owners to preserve below-market housing that might otherwise be lost. Properties funded by LIWP are projected to save low-income residents an average of 30% on their energy bills. These reduced utility costs help Californians better manage and respond to the growing financial energy burdens brought about by climate change.

Fostering energy resilience: LIWP's integrated energy efficiency and clean energy upgrades contribute to strengthened grid resilience in historically underserved communities by diversifying resources for energy generation and shifting and reducing peak demand.

Safeguarding residents' health: The program's mission to improve community health begins with enhancing air quality by converting more housing to all-electric, reducing reliance on natural gas, and lowering pollution in historically underserved areas. This approach addresses climate change impacts on vulnerable communities, promoting equitable living for low-income households. Weatherized housing offers better protection against extreme heat and poor air quality, improving comfort and health for low-income renters, especially children, the elderly, and differently-abled residents. LIWP Multifamily projects provide deep energy retrofits for comprehensive upgrades, safeguarding residents from climate change while including tenant protections against rent increases and displacement.

Senior Housing Communities

LIWP serves a diverse range of multifamily housing types, including properties specifically dedicated to elderly populations. Recognizing the unique needs of these residents, the program prioritizes climate resilience and equity, delivering energy efficiency and solar PV solutions that enhance savings and promote safer, more sustainable living environments. These measures help mitigate rising utility costs while improving comfort and security for vulnerable communities. By implementing energy efficiency upgrades and solar PV installations, LIWP advances statewide efforts to reduce energy burdens and foster long-term resilience for senior housing communities.

St Mary's Gardens Apartments

Oakland, CA | Senior Housing | Built in 1979 | 101 units
Leveraged Incentives: LIWP, SOMAH, BAMBE, TECH

In fall 2020, St. Mary's Gardens joined the Solar on Multifamily Affordable Housing (SOMAH) Program, receiving no-cost technical assistance and comprehensive support for project feasibility, financial structures, and energy efficiency opportunities, which led to larger upgrades throughout the property. After evaluation, St. Mary's Gardens enrolled in the Low-Income Weatherization Program (LIWP), Bay Area Multifamily Building Enhancements (BAMBE) program, and the TECH program. Funding from these programs, along with AEA's assistance, enabled the replacement of outdated equipment with more efficient systems, enhancing building safety, indoor air quality, and resident comfort. Key upgrades included electric heat pumps for space and water heating, smart thermostats, and a 106-kilowatt solar system. The combined incentives from LIWP, BAMBE, and TECH covered about 60% of construction expenses, enabling extensive electrification measures. Additionally, the solar PV system installation was fully covered by a solar services agreement (SSA), with projected utility bill savings expected to offset nearly 70% of tenants' bills through virtual net energy metering.



From comparing utility consumption of April - October of 2021 to that of 2023, the property has reduced GHG emissions by **17.65 MTCO2**.



14 acres of US forest
or



29,869 miles driven
or



4 tons of waste recycled
instead of landfill



Energy Enhancements for People Experiencing Homelessness

- In 2020, CSD committed \$2M of LIWP Multifamily funds for upgrades to buildings that serve people experiencing homelessness.
- LIWP Multifamily is expecting to provide energy efficiency and solar PV upgrades to more than 294 households with residents that have experienced homelessness.

LIWP in the Context of Homelessness Prevention

Utility payment history has been identified as a predictive factor in first time homelessness [17]. This is consistent with prior research that has shown cost of living to be the primary cause of individuals losing access to housing [18]. In 2023 UCSF conducted the largest ever study of Californian’s entering homelessness and found the vast majority lost housing due to economic reasons. A further 6% lost housing due to deteriorating building conditions, and 1% lost housing through climate change related disasters [19]. By reducing energy costs, improving building habitability, and reducing greenhouse gas emissions, the LIWP program can help mitigate these pathways into homelessness.

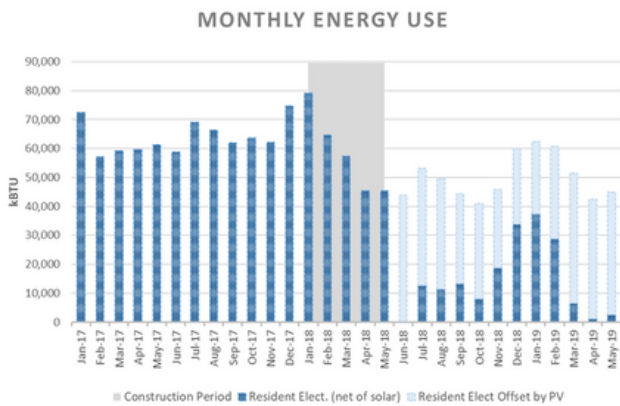
Barriers To Upgrading Housing That Serves People Experiencing Homelessness

Many regions across the state are grappling with an inability to provide decent shelter for the thousands of people experiencing homelessness. Operators of shelters and other forms of housing for unhoused individuals often have extremely limited operating funds, and typically do not have the ability to make necessary energy upgrades. Programs that provide funding for energy efficiency upgrades often overlook housing for people experiencing homelessness. In addition, homeless housing operators must navigate complex financing arrangements and contend with limited staff bandwidth.

How LIWP Overcomes These Barriers

The Low-Income Weatherization Program (LIWP) overcomes these barriers through proactive portfolio outreach, education, and engagement. It offers streamlined and flexible program eligibility guidelines and certification processes, making it easier for participants to qualify. The program features a customized incentive structure to encourage deep energy investments in targeted communities. Additionally, LIWP provides no-cost energy audits and comprehensive technical support throughout the design and construction phases.

The Allison - Supportive Housing Monthly Energy Use



\$29,500

Total annual resident cost savings

\$42

Average household monthly energy bill savings

77%

Reduction in energy use

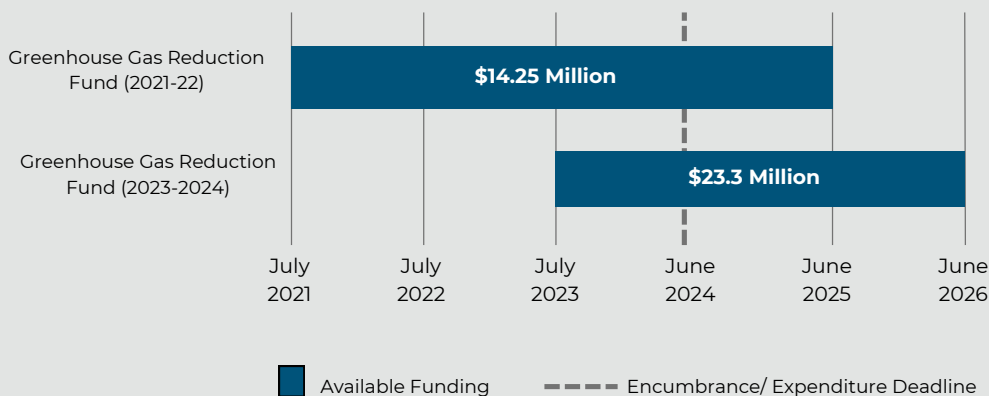
Funding & Advocacy

LIWP Multifamily has provided an exemplary model for state and local entities to implement comprehensive energy efficiency and building decarbonization retrofits along with solar energy generation that serve low-income populations and disadvantaged communities. As a result of this success, the 2021 California State Budget allocated \$65 Million in funding from the General Fund and Greenhouse Gas Reduction Fund (GGRF) for LIWP-MF, administered across multiple fiscal years, such that components of this funding is scheduled to be liquidated by July of 2025.

To ensure the ongoing success of the LIWP-MF program, the Governor and Legislature should allocate funding for it in the 2025/26 budget act, whether the general fund or through California Climate Investments. Additionally, it is imperative that the Legislature and Governor support funding for LIWP in the 2026 housing bond (authored by Assemblymember Wicks and Senator Cabladon, respectively) to ensure that low-income renters will continue to benefit from this highly successful climate program and are not disproportionately affected by rising utility rates.

In addition, as the flagship decarbonization programs for affordable housing, federal decarbonization resources should leverage LIWP-MF as much as possible. Specifically, the California Energy Commission is creating their Equitable Building Decarbonization program and will administer money from the Inflation Reduction Act (IRA) rebate programs. The IRA Greenhouse Gas Reduction Fund and the Equitable Building Decarbonization program are important in ensuring decarbonization resources go to low-income households. LIWP with its comprehensive technical assistance and flexibility is vital to co-leverage these resources. LIWP can fill gaps and provide funding for upgrades that the IRA and EBD cannot. Its technical assistance can also help with co-leveraging and planning so that housing providers can fully utilize all of the available resources to improve housing. By filling funding gaps and providing comprehensive technical assistance, less developments would leak out of the pipeline and more low-income households' lives are improved.

Through these solutions, California can use state and federal funding efficiently to help create a just transition away from fossil fuels.



Methodology & Sources

[1] California Energy Commission et al., Clean Energy in Low Income Multifamily Buildings (CLIMB) Action Plan, November 2018. The number of households served is determined by the number of tenant units receiving LIWP upgrades.

[2] Program participation, energy savings and bill savings estimates for LIWP Multifamily were reported by program implementer Association for Energy Affordability during Q3 2024. Savings estimates are projections of the 15-year lifecycle impact of LIWP Multifamily projects and/or aggregated resident and owner utility bill data when available.

[3] This estimate is based on the U.S. Environmental Protection Agency's GHG equivalencies calculator, available at <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

[4] Novogradac 2023 LIHTC and Operating Expenses Report . Multifamily & Affordable Housing Business: Rental Income, NOI, Operating Expenses of LIHTC Properties Set Record, New Report Reveals. <https://multifamilyaffordablehousing.com/novogradac-report-finds-that-income-expenses-growth-outpaced-inflation-in-2022/>

[5] The Public Advocates Office California Q3 2023 Electric Rates Report: <https://www.publicadvocates.cpuc.ca.gov/press-room/reports-and-analyses/q3-2023-electric-rates-report>

[6] American Council for an Energy-Efficient Economy (ACEEE), How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burden Across the United States, September 2020. <https://www.aceee.org/research-report/u2006>

[7] Office of Environmental Health Hazard Assessment, Analysis of Race/Ethnicity, Age, and CalEnviroScreen 4.0 Scores, October 2021. <https://oehha.ca.gov/media/downloads/calenviroscreen/document/calenviroscreen40raceanalysisif2021.pdf>

[8] California Public Utilities Commission, Report on Residential and Household Utility Service Disconnections Pursuant to Public Utilities Code Section 910.5 2018-2022 Results, April 2023. https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2023/disconnections-report-2023_pu-code-sec-910.pdf

[9] Vanessa Rancaño, KQED, Rising Utility Costs Compound California's Housing Crisis, December 19, 2023. <https://www.kqed.org/news/11970332/rising-utility-costs-compound-californias-housing-crisis>

[10] United States Energy Information Agency, U.S. energy insecure households were billed more for energy than other households, May 30, 2023. [https://www.eia.gov/todayinenergy/detail.php?id=56640&src=%E2%80%B9%20Consumption%20%20%20%20%20%20Residential%20Energy%20Consumption%20Survey%20\(RECS\)-b3](https://www.eia.gov/todayinenergy/detail.php?id=56640&src=%E2%80%B9%20Consumption%20%20%20%20%20%20Residential%20Energy%20Consumption%20Survey%20(RECS)-b3)

[11] Yasmin Givens, Research and Policy Analyst, California Housing Partnership. LIWP Investments By County 2016-2024. Created July 2024. Dataset provided from the Association for Energy Affordability, Inc.

[12] California Housing Partnership, California's Affordable Homes At-Risk, April 2024

[13] Emissions from buildings include methane, electricity generation, fuel combustion, and refrigerants.

[14] California Natural Resources Agency, Safeguarding California Plan: 2017 Update, May 2017.

[15] This statistic is according to findings from research conducted by NOAA (National Oceanic and Atmospheric Administration) and posted by NOAA National Centers for Environmental Information.

[16] California Department of Public Health: Climate Change & Health Equity Issue Brief , May 2019. https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CCHEP-General/CDPH_CC-and-Health-Equity-Issue-Brief.pdf

[17] Middleton CD, Boynton K, Lewis D, Oster AM (2023) The value of utility payment history in predicting first-time homelessness. PLoS ONE 18(10): e0292305. <https://doi.org/10.1371/journal.pone.0292305>

[18] Heston TF. The Cost of Living Index as a Primary Driver of Homelessness in the United States: A Cross-State Analysis. Cureus. 2023 Oct 13;15(10):e46975. doi: 10.7759/cureus.46975. PMID: 37841988; PMCID: PMC10574586. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10574586/>

[19] Benioff Homelessness and Housing Initiative, University of California San Francisco, Toward a New Understanding: The California Statewide Study of People Experiencing Homelessness, June 2023. <https://homelessness.ucsf.edu/our-impact/studies/california-statewide-study-people-experiencing-homelessness>

Appendix

Page 9: Solar Energy Solutions for Low-Income Residents

Program Term	LIWP	SOMAH	Co-Leverage
Energy Efficiency (EE) Incentives	Min 15% savings	N/A	-
Solar Incentives	Optional for tenant & common areas	Min 51% tenant solar & optional for common area	LIWP or SOMAH
Properties in IOU	EE	Solar	Yes
Properties in POU	EE + solar	Ineligible	No
Master-metered	EE + solar	Ineligible	No

