



# **Preservation Next California Academy**

**Sustainability and Health  
Considerations for Small to  
Medium Multifamily  
Preservation**

**February 2, 2023**

# Today's Agenda

## **3** PRESERVATION NEXT OVERVIEW

## **9** OPENING REMARKS – KAISER PERMANENTE

- John Vu, Vice President of Strategy, Community Health at Kaiser Permanente

## **11** SUSTAINABILITY & PRESERVATION: PRIORITIES AND RESOURCES

- Michael Claproth, Program Director, Enterprise

## **25** ADVANCING HEALTHY HOMES: HEALTH ACTION PLANS

- Mary Ayala, Senior Program Director, Enterprise

## **30** LOCAL HIGHLIGHT: INCORPORATING SUSTAINABILITY AND HEALTH IN PRESERVATION PROJECTS

- Abby Corso, Chief Strategy Officer, Elevate
- Dave Hodgins, Executive Director, Los Angeles Better Building Challenge
- Betsy McGovern-Garcia, Director of Real Estate Development, Self-Help Enterprises

## **53** PREVIEWING THE NEXT SESSION: NAVIGATING REHABILITATION OF SMMF PROPERTIES

# A Special Thank You to the Funders of Preservation Next

**MacKenzie Scott**



**KAISER  
PERMANENTE®**



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 **Enterprise®**

# Preservation Next Overview

Preserving Affordability in Small to Medium Multifamily Properties and Protecting Residents from Displacement

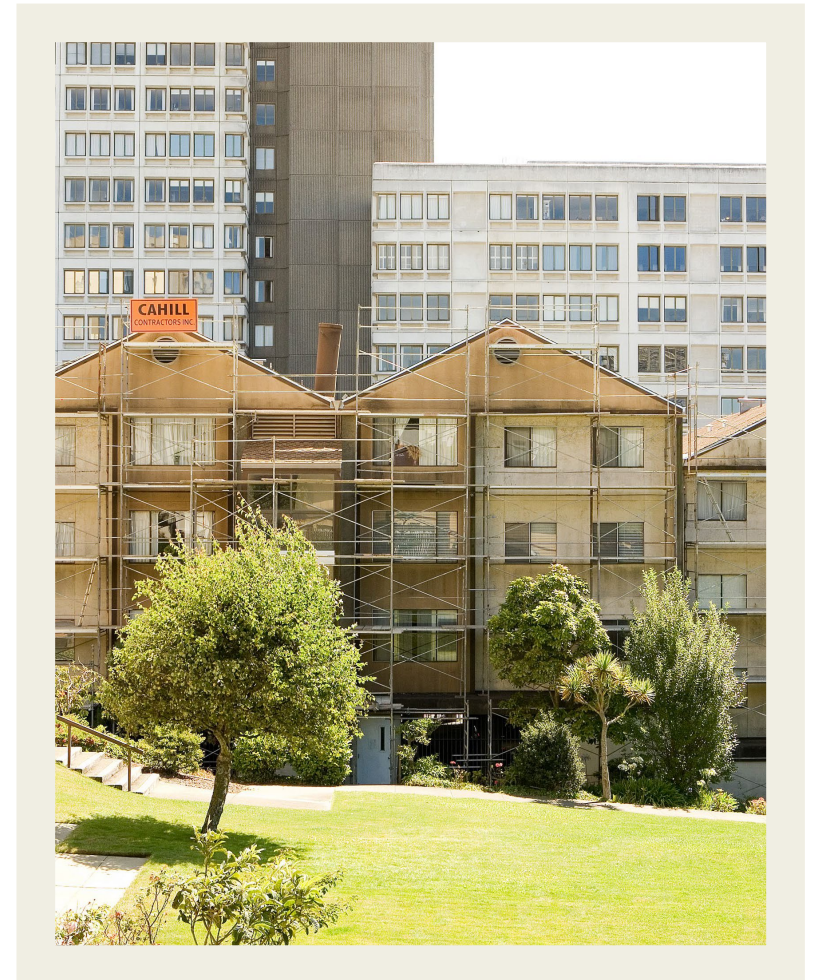
## Solutions at the intersection of renter and owner stability to promote an eviction prevention-first approach

Through **Preservation Next**, Enterprise is committed to preserving affordable small to medium multifamily homes and ensuring that residents have access to safe, healthy, and resilient places to live.

To truly preserve these homes and protect affordability for residents now and into the future, we must:

- Protect existing affordability where it currently exists.
- Provide housing stability and prevent displacement of existing residents and families.
- Invest in healthy, sustainable, and resilient homes.
- Foster responsible stewardship by mission-aligned owners.

Small and medium sized properties provide a crucial foundation for affordable housing in this country: 80 percent of homes in these buildings are available to people who earn less than 80 percent of the area median income



# Preservation Next Toolkit

[Click here to access the Toolkit](#)

1. **Issue Briefs:** Guidance and resources for key aspects of the preservation development process
2. **Green Building, Resilience, and Health:** Read about core components and policies that contribute to a strong preservation enabling environment
3. **Case Studies:** Learn about successful and creative approaches for small to medium multifamily preservation in different housing markets
4. **Financial Modeling Tool:** Access a back of the envelop tool to help you understand the viability of your development.

## Key Considerations for Integrating Green Building in SMMF Preservation

In planning for green building practices in preserving SMMF properties, keep in mind the following considerations.

|   |   |
|---|---|
| Required expertise                              | ▼ |
| Funding for energy efficiency                   | ▼ |
| Awareness of scaling and non-scaling costs      | ▼ |
| Property operation and maintenance implications | ▼ |

TOOLS

## Financial Modeling Tool

Keep Reading



### Download the Tool:

↓

**DOWNLOAD**  
**Preservation Next Financial Model**  
100kb Microsoft Excel File

## PRESERVATION NEXT

# Meet Our Preservation Next Team

## National Staff



### Sara Haas

**ENTERPRISE, SENIOR DIRECTOR, SOUTHEAST**

At Enterprise, Sara leads affordable housing preservation programming in Miami and Atlanta, the Keep Safe Florida Resilience program, and the National Preservation Next program. Prior to joining Enterprise, Sara developed and managed national AmeriCorps VISTA programs at Habitat for Humanity International and Points of Light. Sara lives in Atlanta with her husband Stew, son Eli and dog Dolly Parton.



### Meaghan Vlkovic

**ENTERPRISE, VP AND MARKET LEADER, SOUTHEAST**

Meaghan leads Enterprise's programmatic work in the Southeast region, focused on providing an array of resources to affordable housing and community development partners. This includes capacity building assistance for proactive preservation and production of housing, and helping communities plan for future development, such as transit-oriented development opportunities.



### Jessie Wang

**ENTERPRISE, PRESERVATION FELLOW,  
PRESERVATION NEXT**

At Enterprise, Jessie supports program development and delivery for the National Preservation Next program. Prior to joining Enterprise, Jessie conducted applied research and technical assistance to assist a variety of community-based organizations and affordable housing advocates in Chicago, where she resides.

## PRESERVATION NEXT

# Meet Our Preservation Next Team

Northern and Southern California Market Staff



### Ruby Harris

**SENIOR DIRECTOR OF CAPITAL SOLUTIONS AND PARTNERSHIPS, SOUTHERN CA**

At Enterprise, Ruby is a thought partner with CBOs and tasked with creating new capital pathways to increase affordable housing. Ruby joins Enterprise with 22 years of experience in the community development field. Her experience ranges from nonprofit management, program and product design, public policy, and lending to grant-making. Notably, Ruby launched the Small Sites Program for the City and County of San Francisco, a \$100M endeavor to preserve NOAH properties.



### Caroline McCormack

**DIRECTOR OF PRESERVATION, NORTHERN CA**

Caroline oversees the Northern CA office's work to advance preservation policies, capital, and tools. Before Enterprise, Caroline was the Program Manager for the San Francisco Mayor's Office of Housing's acquisition and anti-displacement financing programs, including the \$170M Small & Big Sites Program and the \$260M Preservation and Seismic Safety Program. In addition, Caroline was one of the lead underwriters implementing the City's portfolio preservation strategy for its 23,000 existing affordable homes.



### Elizabeth Richards

**SENIOR PROGRAM DIRECTOR, SOUTHERN CA**

Elizabeth Richards is Senior Program Director for Enterprise Community Partners in Southern California, managing the Local Rental Owners Collaborative initiative in partnership with the Chan Zuckerberg Initiative. Elizabeth's twenty-year career in affordable housing began in Chicago with a focus on supportive housing, policy, and finance. She's been with Enterprise for ten+ years and has worked nationally across Enterprise markets.



### Geeta Rao

**SENIOR DIRECTOR, NORTHERN CA**

At Enterprise, Geeta oversees the Northern CA office's programmatic work and operations. She brings 20 years of experience in affordable housing and community development: program design and implementation, policy development, technical assistance, and legislative advocacy. Geeta serves on the leadership team of Bay Area Housing for All (BAHA), an effort to place a \$10-20 billion housing measure on the 2024 ballot for the San Francisco Bay Area, and led Enterprise's co-sponsorship efforts of AB 1487, which created the Bay Area Housing Finance Authority (BAHFA).

**Join Us!**

# California Preservation Academy Sessions

**November 2022 –  
June 2023**

| <b>Dates</b>      | <b>Sessions</b>   |
|-------------------|---|
| November 3, 2022  | Preservation Academy Kickoff  |
| November 17, 2022 | Preservation Deals: Organizational Sustainability and Business Planning |
| December 1, 2022  | Acquisition, Property Identification, and Evaluation of SMMF Properties |
| January 12, 2023  | Financing SMMF Preservation   |
| February 2, 2023  | Sustainability and Health Considerations for SMMF Preservation          |
| February 23, 2023 | Navigating Rehabilitation of SMMF Properties                            |
| March 16, 2023    | Preservation Development Models   |
| April 6, 2023     | Community Land Trusts and Preservation: Deep Dive Special Session       |
| April 27, 2023    | Policy and Its Impacts on Preservation                                  |
| May 18, 2023      | Property and Asset Management   |
| June 8, 2023      | Housing Stability and Eviction Prevention                               |

# Remarks from Kaiser Permanente

Advancing Health Outcomes through Affordable Housing Preservation



## John Vu

**VICE PRESIDENT OF STRATEGY, COMMUNITY HEALTH,  
KAISER PERMANENTE**

John is the national vice president of strategy for Community Health at Kaiser Permanente responsible for the development and implementation of key strategies to ensure Kaiser Permanente's commitment to improving the health of communities, focused on upstream determinants of health. John has been with Kaiser Permanente for over 20 years, having previously been a director in national strategic planning. He has been a Fellow in America's Health Insurance Plan's Executive Leadership Program and was named a DiversityMBA Top 100 Under 50 Diverse Executive Leader in 2013. He graduated from executive leadership programs at Harvard Business School and the Kellogg School of Management at Northwestern University.



### **Michael Claproth – Program Director, Southern California, Enterprise**

Michael is the program director for Enterprise Southern California's Sustainable Connected Communities program. At Enterprise, Michael manages local sustainability efforts including advocating for equitable building decarbonization policies in Los Angeles, connecting affordable housing partners to resources for clean energy retrofits, and managing Enterprise's Community Powered Resilience program focused on disaster mitigation and preparedness. Michael facilitates the Los Angeles CDC Neighborhood Exchange, providing capacity building support and technical assistance to affordable housing partners who serve low-income residents and communities of color across the LA region.



### **Mary Ayala – Senior Program Director, Enterprise**

Mary is a senior program director at Enterprise Community Partners. At Enterprise, Mary manages programming for the Health Action Plan framework to encourage its use and dissemination, including its inclusion in the Housing for Health Fund and Enterprise Green Communities Criteria. In 2022, Mary launched the Thome Aging Well Program and now supports its growth to help older adults age with dignity in their homes and communities. Mary facilitates innovative partnerships and models to address health through housing in community development, healthcare, and public health in a resident-centered way.

# Why Enterprise?

**We are leading  
on climate  
resilience in the  
affordable  
housing sector.**

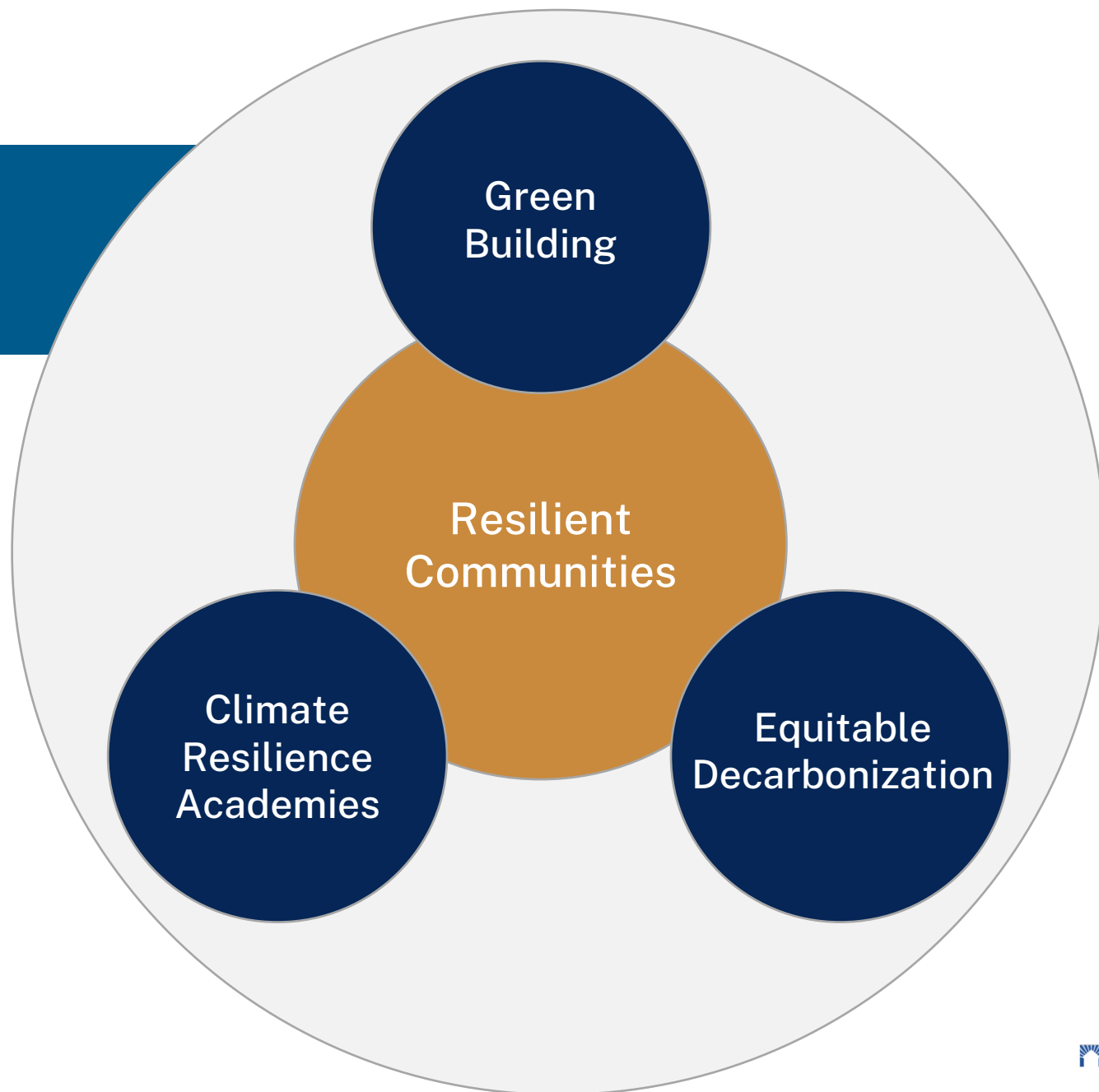
- 15+ year record of helping developers assess risk and adapt buildings to withstand climate threats.
- A full platform of capital, policy expertise and technical knowledge to support communities vulnerable to climate risk.
- Disaster-response strategy informed by residents, housing providers, public officials, and other experts.

# The Challenge

- Due to its age, physical conditions and maintenance needs, most of the country's affordable housing stock cannot withstand our changing climate.
- Every building on the planet must be net-zero-carbon by 2050 to avoid irreversible loss of ecosystems and crisis for vulnerable people.
- The pace, and expense, of disasters has increased dramatically.
- Post-disaster government assistance is well-intentioned, but slow and inequitable; resources lack coordination.
- As temperatures and sea levels rise, so do the number of low-income households that are at risk.



# OUR APPROACH



# National Priorities

- GREEN COMMUNITIES National building certification program with long track record and hundreds of partners across the country. Ultimate goal of providing opportunities to green all affordable housing in the United States, through Green Communities Criteria or comparable pathways.
- RESILIENCE ACADEMIES Academies prepare affordable housing owners and operators for a changing climate and for increasingly frequent extreme weather events. Delivered to regional cohorts.
- EQUITABLE DECARB Accelerate decarbonization of affordable housing in a manner that centers community needs; co-creating an information hub and peer exchange. Aligned with market-based activities in Los Angeles, Chicago, New York City.
- FEDERAL POLICY Equitable implementation of aspects of the Inflation Reduction Act that relate to climate-smart affordable housing. Includes active engagement with agency staff and Enterprise stakeholders as programs are developed to ensure resulting programs can provide maximum benefit to residents of affordable housing, and later, that incentives are accessed by stakeholders.
  - EPA's Greenhouse Gas Reduction Fund (anticipate March 2023)
  - HUD's Green and Resilient Retrofit Program (anticipate summer 2023)
  - DOE's home efficiency rebates and incentives (anticipate January 2024)

## 5 Main Climate Hazards Affecting California:

1. Extreme heat events
2. Increasingly severe wildfires
3. More frequent and intense droughts
4. Inland flooding from increased precipitation
5. Coastal flooding/erosion from sea-level rise

These hazards, as well as events such as earthquakes and snowcap melt pose significant risk to Californians.

Figure 1

### Impacts of Climate Change on Californians

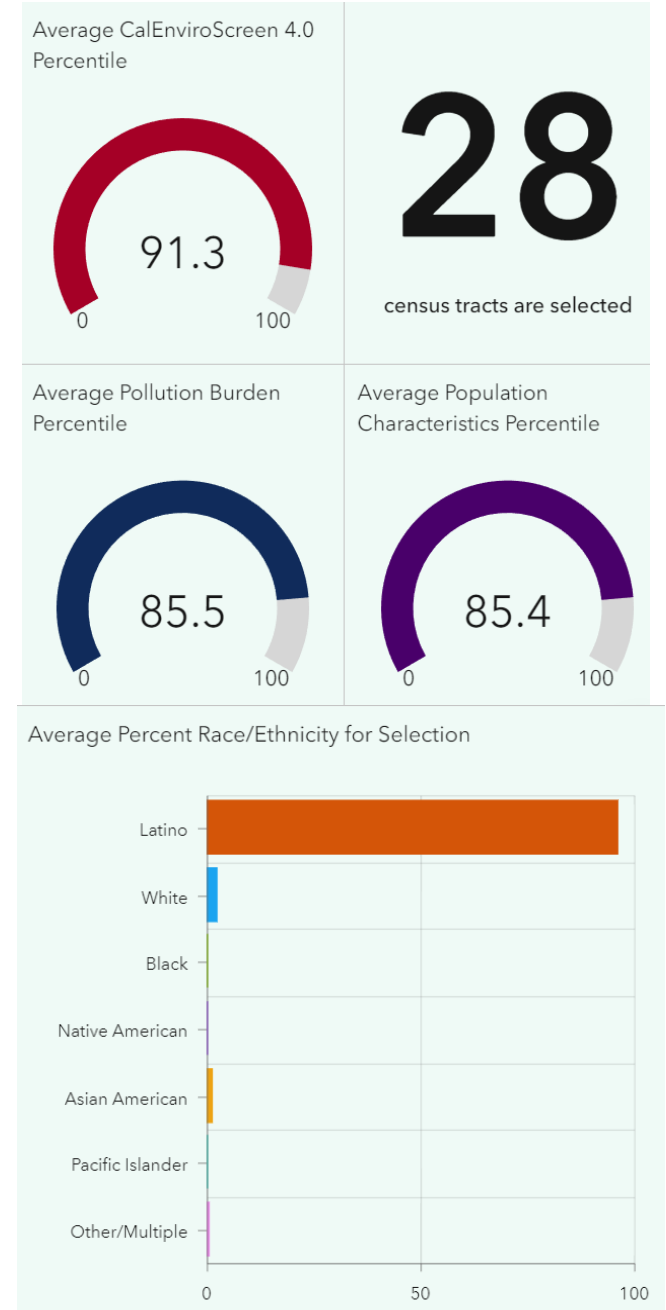
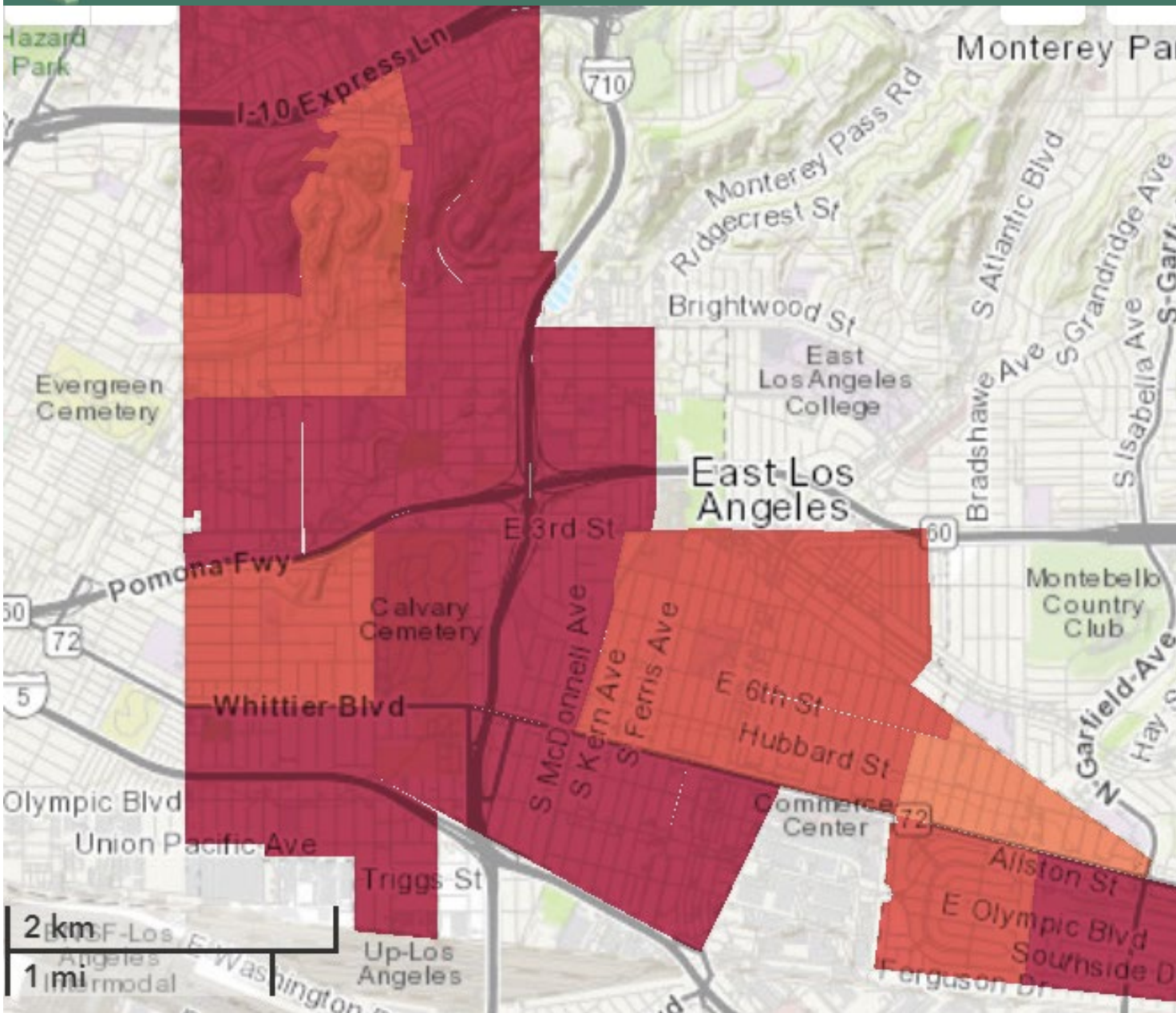


# Disproportionate Impacts of Climate Change

There is an inextricable link between climate, health, housing, and racial equity.

1. Low-income communities have less economic resources to prepare for and recover from climate hazards including heat waves, poor air quality, flooding, and other impacts.
2. Low-income and communities of color are at higher risk of climate-related health impacts including asthma, cardiovascular disease, and increased rates of mortality.
3. Many neighborhoods facing disproportionate levels of risk from climate impacts also align with those that experienced historical housing discrimination policies.
4. These disproportionate impacts are a product of the built environment and exacerbated by the unequal distribution of resources and infrastructure.

# CalEnviroScreen 4.0 Data Dashboard



# California Climate Policies and Regulations

## State and Regional Policy Trends

| STATEWIDE POLICY TRENDS   | SOUTHERN CA POLICY TRENDS  | NORTHERN CA POLICY TRENDS  |
|---|--|--|
| <ul style="list-style-type: none"><li>• 181 cities and 58 counties have developed CAPs</li><li>• 70+ cities have passed all or near all-electric building construction codes</li><li>• The CEC established electric-ready requirements for new construction and new requirements for low-rise multifamily</li><li>• AH funding programs have begun requiring increased electrification or all-electric design</li><li>• CARB has implemented a zero-emission standard for appliances beginning in 2030.</li></ul> | <ul style="list-style-type: none"><li>• The City of Los Angeles has passed a building decarbonization ordinance for new construction</li><li>• LA is in the process of developing a decarbonization ordinance for existing buildings</li><li>• South Coast AQMD released new guidance limiting NOx emissions regulating six major categories of equipment</li><li>• Other regional AQMDs are considering a similar NOx regulation that will essentially ban the sale of natural gas appliances</li></ul> | <ul style="list-style-type: none"><li>• Bay Area cities like Berkley, San Jose, and Menlo Park among the first in the nation to prohibit natural gas installations or mandate all-electric new construction</li><li>• Major cities, like Sacramento, have outlined frameworks to mandate the electrification of existing buildings</li><li>• Launched the Bay Area Healthy Homes Initiative pilot program to serve residents of single-family and multifamily buildings most impacted by traffic air pollution</li></ul> |

# Affordable Housing & Sustainability

There is a need to prepare affordable housing providers for this shift by highlighting the opportunities and ongoing challenges of sustainable affordable housing.

- Energy efficiency and renewable energy are vital both to the preservation of existing affordable housing and the long-term health of communities.
- Navigating incentive programs and accessing funds for clean energy retrofits can be challenging:
  - Only a handful of incentive funding programs available across the state
  - Misaligned energy and housing programs with arduous application processes and barriers to leveraging multiple funding sources
- AH-informed recommendations to increase access to sustainable housing funds & technology:
  - Fund flexible and tailored technical assistance, and build staff capacity through training
  - Avoid making AH projects financially infeasible by creating interim exemptions
  - Increase incentive payments to limit the upfront cost burden on housing providers

# Key Energy Retrofit Programs

| PROGRAM NAME                            | BUILDING TYPE              | PROGRAM FOCUS                                  | SERVICE AREA                       |
|---|----------------------------|--|------------------------------------|
| LIWP                                    | Existing Buildings/Rehabs  | Energy efficiency & solar PV                   | Statewide                          |
| ENERGY SAVINGS ASSISTANCE PROGRAM (ESA) | Existing Buildings/Rehabs  | Direct install, energy efficiency              | IOU Service Territories            |
| SOMAH                                   | Existing Buildings/Rehabs  | Solar PV                                       | IOU Service Territories            |
| BUILD                                   | New Construction           | Water, space heating, and cooling              | IOU Service Territories            |
| SGIP                                    | New and Existing Buildings | Battery storage, fuel cells, and wind turbines | IOU service territories            |
| CAMR                                    | Existing Buildings/Rehabs  | Energy efficiency                              | LADWP service territory            |
| MAHEP                                   | Existing/Rehabs            | Electric heat pumps and induction cooktops     | South Coast AQMD service territory |

# Los Angeles CDC Neighborhood Exchange

A place-based, capacity-building initiative working to ensure low-income residents and communities of color across Greater Los Angeles can thrive in the face of economic and environmental challenges.

Sustainability Priorities:

- Sustainable housing technical assistance
- Equitable building decarbonization advocacy
- Affordable housing building decarbonization case study development



# Community Powered Resilience

The program is designed to provide education and accessible resources on how to prepare for and mitigate the impacts of disasters while centering frontline communities.

Program Goals:

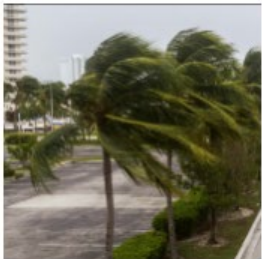
- Educate on disasters and how to mitigate their impacts.
- Center and focus on frontline communities.
- Speak to and be useful to core audiences.
- Provide accessible information.
- Empower readers to take action.



**The Regional Resilience Academies** program prepares affordable housing - and the individuals and organizations who own and operate it - for climate change and extreme weather events by:

- ❖ **Assessing portfolio and building risk**
- ❖ **Implementing strategies into building and retrofitting new and existing housing**
- ❖ **Understanding funding/financing assistance programs and how to access them**
- ❖ **Incorporating community engagement, continuity planning and equity strategies**

| Academy Highlights  | Academy Implementation  |
|---|---|
| <ul style="list-style-type: none"><li>• 150 participant organizations expected</li><li>• Funding opportunities database</li><li>• Regional hazard fact sheets</li></ul> | <ul style="list-style-type: none"><li>• 7-9 Academies to be held between 2021 and 2024</li><li>• 1:1 Technical Assistance</li><li>• Turnkey Tool-Centric Curriculum</li></ul> |
| Academy Locations   |   |
| <ul style="list-style-type: none"><li>✓ NY/NJ, Gulf Coast, Southeast</li><li>➤ 2023: West Coast, Mountain West</li><li>➤ 2024: Mid-Atlantic, Midwest</li></ul>          |   |



Identify your hazard exposure

Assess your risks

Determine your resilience strategies

Implement resilience strategies

[Portfolio Protect](#)

[Building Protect](#)

[Multifamily Strategies for Building Resilience](#)

[Business Continuity](#)

[Keep Safe Florida](#)

[Keep Safe: A Guide for Resilient Housing Design in Island Communities](#)

[Funding Resources Guide](#)

[Keep Safe Florida](#)

[2020 Enterprise Green Communities Criteria](#)

[Business Continuity](#)

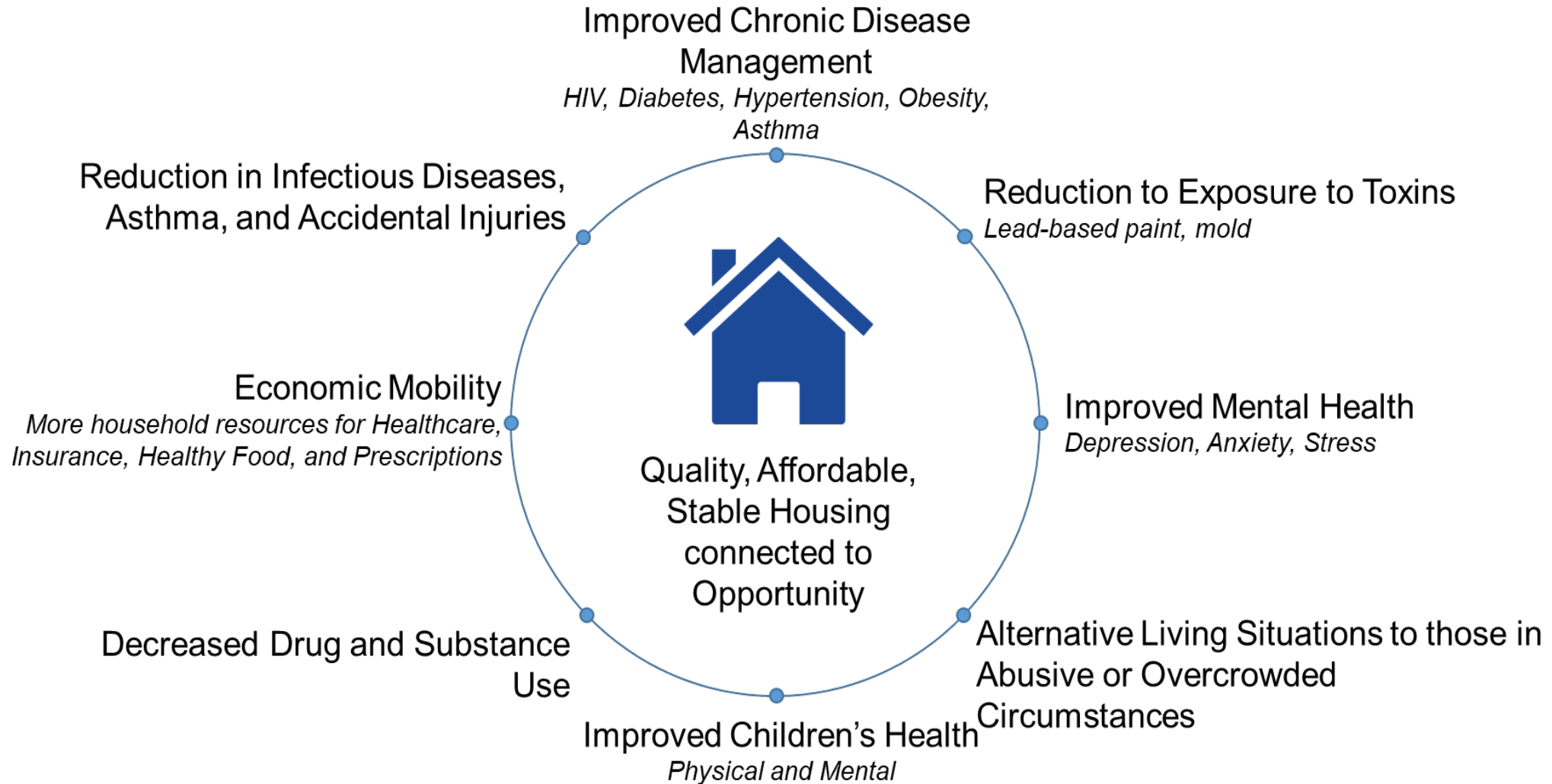
[Multifamily Strategies for Building Resilience](#)

[Keep Safe Florida](#)

# Technical Resources

[www.enterprisecommunity.org/resources/climate-risk-reduction](http://www.enterprisecommunity.org/resources/climate-risk-reduction)

# The Research Shows



# Health Action Plan

1

## DEVELOP A HEALTH ACTION PLAN



### COMMIT

to embedding health into the project life cycle, including design, construction and operation.



### PARTNER

with public health professionals who have expertise in public health and/or community health to assist with data collection, community, engagement and future monitoring of outcomes.



### COLLECT & ANALYZE

community health data by using existing data sources, new qualitative research and/or public meetings to understand how this information can influence design.



### ENGAGE

community stakeholders to prioritize health needs by outlining health issues of the resident population to maximize health outcomes and receive input on strategies for addressing health needs.



### IDENTIFY

design and intervention strategies that can be implemented within the project's design, construction or operation to address the prioritized health needs of the community.

2

## IMPLEMENT & MONITOR



### SELECT

which strategies will be implemented and identify how it will be implemented, including who is responsible for implementation.



### MONITOR

the impact of the Health Action Plan by developing a monitoring plan that includes identification of performance metrics and parties responsible for collection.

# Housing for Health Fund

The HFHF is a unique investment opportunity aligning capital to **preserve affordable housing** with development of a property-level **health action plan** and **on-going monitoring** of self-reported resident health status.

## 1 DEVELOP A HEALTH ACTION PLAN



Commit



Partner



Analyze health data



Resident engagement



Identify & Select

## 2 IMPLEMENT & MONITOR



# Example Findings from HAPs

| Health Needs                        | Example Strategy   |
|-------------------------------------|--|
| Mental & physical wellbeing         | Resident-led exercise groups   |
| Accidents & safety                  | Maintain, trim, and clean landscaping to reduce potential trip and slip hazards                    |
| Transportation                      | Offer on-site services to reduce need for transportation (e.g., increase functionality of laundry) |
| Respiratory health                  | Reduce potential for indoor allergens & irritants (utilization of green cleaning supplies)         |
| Building Relationships              | Engage residents on the refurbishing and reimagining of shared outdoor space                       |
| Neighborhood safety                 | Launch resident ambassador program   |
| Older adult wellbeing               | Incorporate aging-in-place design features   |
| Social and emotional isolation      | Strategies to decrease linguistic isolation among residents with limited English proficiency       |
| Emergency response and preparedness | Increase resident awareness and confidence in property's emergency response plans                  |

## Developer take-aways

- Builds relationship with residents and community
- Builds capacity and provides a method for understanding and prioritizing residents needs
- Opportunity to use findings for additional funding or leadership support of healthy housing strategies
- Improved health is connected to increased resident stability

# Logistics

- Timing: As early in the planning phase as possible
- Timeline: 3 – 6 months
- Costs: \$10K - 15K for the public health professional
- Common health priorities:
  - Injury & Accessibility
  - Asthma and Respiratory Health
  - Chronic Diseases: Cardiovascular Disease, Obesity, Diabetes
  - Mental Health (includes social connectivity & safety)
  - Cancer & Exposure to Toxins

## Opportunities to Integrate Health



Site



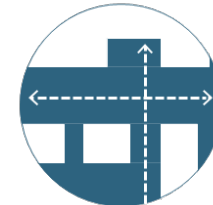
Massing



Landscape



Program



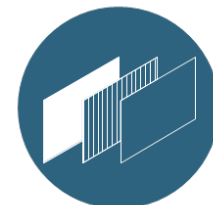
Circulation



Units



Systems



Materials



Culture

# Meet Our Guest Speakers



## **ABBY CORSO, CHIEF STRATEGY OFFICER, ELEVATE**

Abigail Corso is currently the Chief Strategy Officer at Elevate, located in Madison, Wisconsin. In this role, she oversees Elevate's strategy in developing and implementing new programs related to efficiency, solar, energy financing, and electrification focused on affordable multifamily housing. Although located in Madison, Wisconsin she works in a variety of locations including Indiana, Michigan, Missouri, California, Oregon, and Washington State.



## **DAVID HODGINS, EXECUTIVE DIRECTOR, LA BETTER BUILDINGS CHALLENGE**

With more than a decade of experience in project development, program delivery and policy implementation, David is a recognized leader in sustainable real estate. He founded sustainability services company Sustento Group in 2011, which serves as program manager for the LA Better Buildings Challenge. David has worked with a diverse set of clients and has contributed to the development of a range of industry standards and resources.



## **BETSY MCGOVERN-GARCIA, DIRECTOR OF REAL ESTATE DEVELOPMENT, SELF-HELP ENTERPRISES**

Ms. McGovern-Garcia has over 20 years of experience in affordable housing development. Since rejoining the SHE team in 2014, the organization has been successful at constructing 705 new affordable housing units and completed the acquisition and rehabilitation of 313 existing units. Under Betsy's leadership, housing projects have expanded to include a variety of sustainability elements.



**ELEVATE**

Equity through  
climate action

- Elevate seeks to create a just and equitable world in which everyone has clean and affordable heat, power, and water in their homes and communities — no matter who they are or where they live.
- Elevate develops clean energy projects with a place-based approach that ensures much needed services and value go to our most vulnerable communities and citizens.

# Electrification Scope- Meeting homeowners where they are



Energy  
Efficiency



Electrification



Renewable  
Electric Supply



Managed  
Electricity Loads

# Common Wealth Development Solar + Electrification

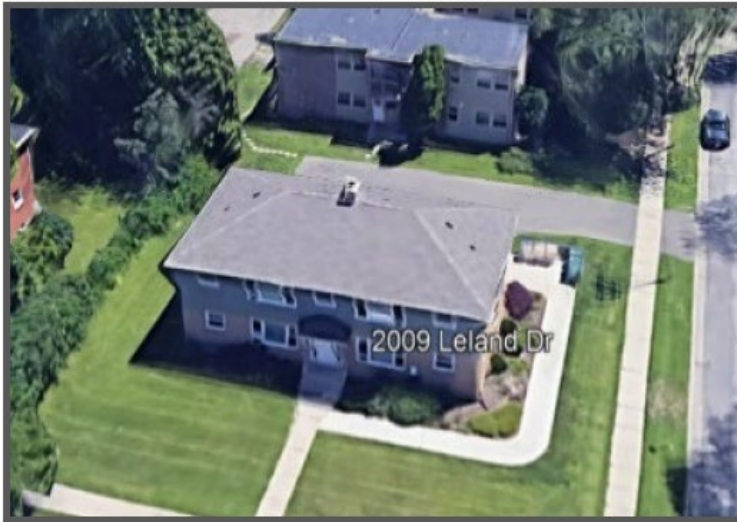


Common Wealth  
DEVELOPMENT



USDN

urban sustainability  
directors network



## Electrification system scope

- 4-unit affordable multifamily
- Air source heat pumps
- Weatherization

## Resilience Benefits

- Reduced operating costs
- \$0 heating and cooling cost for each resident
- Added cooling for each unit

## Environmental Benefits:

- Gas to electric heating conversion;  
**70%** reduction in carbon emissions;  
**4.2 tons** annually, **63 tons** over 15-year lifetime.

## Solar system scope

- 20 KW solar array offsets entire centralized heating and cooling system load

## Costs and Savings

- Turnkey costs of **\$141,900**
- **\$425** annual operating cost reduction
- **\$1,166** annual tenant energy cost reduction



ELEVATE

Equity through climate action



# Small Multifamily: Solar + Electrification Costs and Savings

| Activity                  | Description                  | Cost             |
|---------------------------|------------------------------|------------------|
| Heat Pumps                | 4- 1.5 T heat pumps          | \$43,500         |
| Electrical                | 200A→ 600A<br>Meter upgrades | \$44,200         |
| Solar                     | 20 kw rooftop system         | \$43,500         |
| Weatherization            | Insulation                   | \$2,400          |
| DHW upgrade               | High efficiency gas          | \$6,500          |
| General Construction      |                              | \$1,800          |
| <b>TOTAL Construction</b> |                              | <b>\$141,900</b> |
| Grants                    |                              | \$73,448         |
| Rebates + Tax credits     |                              | \$37,682         |

## Current Energy Profile

|                                  | Building Total    |
|----------------------------------|-------------------|
| Gas                              |                   |
| Annual therms usage              | 1,296             |
| Annual Gas expense               | \$2,030.40        |
| Electric                         |                   |
| Annual kWh usage                 | 18,600            |
| Annual Electrical expense        | \$3,952.80        |
| <b>Total current energy cost</b> | <b>\$5,983.20</b> |

## Post-Retrofit Energy Profile

|                                  | Building Total    |
|----------------------------------|-------------------|
| Gas                              |                   |
| Annual therms usage              | 200               |
| Annual Gas expense               | \$1,044.00        |
| Electric                         |                   |
| Annual kWh usage                 | 34,396            |
| Solar offset                     | (20,284)          |
| Final post-retrofit kWh          | 14,112            |
| Annual Electrical expense        | \$3,288.58        |
| <b>Total current energy cost</b> | <b>\$4,332.58</b> |

|                   |                                   |
|-------------------|-----------------------------------|
| Estimated Savings | <b>\$1,650.62</b><br><b>27.6%</b> |
|-------------------|-----------------------------------|

# Chinatown Community Development Corporation: International Hotel

1. The RENEW team conducted an energy and water assessment of Chinatown Community Development Corporation's (CCDC) entire portfolio of affordable housing properties
2. The team further analyzed the International Hotel, which provides 105 units of housing for very low-income seniors

# Recommended vs. Completed Retrofits

| Common Area       |           | In-Unit           |           |
|-------------------|-----------|-------------------|-----------|
| Recommended       | Completed | Recommended       | Completed |
| Lighting          | X         | Lighting          |           |
| Water Consumption | X         | Water Consumption |           |
| Water Heating     | X         |                   |           |
| HVAC              |           |                   |           |



# Results

## Utility Cost Savings & Sustainability

- Estimated reduction in annual utility costs: \$11,186 (6% reduction)
- Reduction in Electric Consumption: 19-20%
- Reduction in Natural Gas Consumption: 9-16%

## Economic Inclusion

- Used union contractors and union subcontractors
- The general contractor was a minority owned business, and one subcontractor was a minority owned business
- The electrical subcontractor hired an apprentice



# Contact information

Abigail Corso, P.E.

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**ELEVATE**



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@ElevateNPO



@ElevateNP



# DECARBONIZING AFFORDABLE MFR HOUSING RETROFIT.LA

PREPARED BY



**SUSTENTO GROUP**

*Future-Proofing Our Communities*



# CARBON NEUTRALITY IN EXISTING BUILDINGS

## TAKE ACTION NOW

- Progress toward goal of 22% by 2025

2020

2025

## 22% ENERGY INTENSITY REDUCTION

- “Electric-ready” buildings

2035

## 34% ENERGY INTENSITY REDUCTION

- Zero-carbon electric grid
- Create or preserve 50,000 affordable housing units, increase stability for renters

2045

## 44% ENERGY INTENSITY REDUCTION

2050

## CARBON NEUTRAL CITY

Source: <http://plan.lamayor.org>

## NATIONAL CONTEXT

### ALL-ELECTRIC

### NEW BUILDINGS

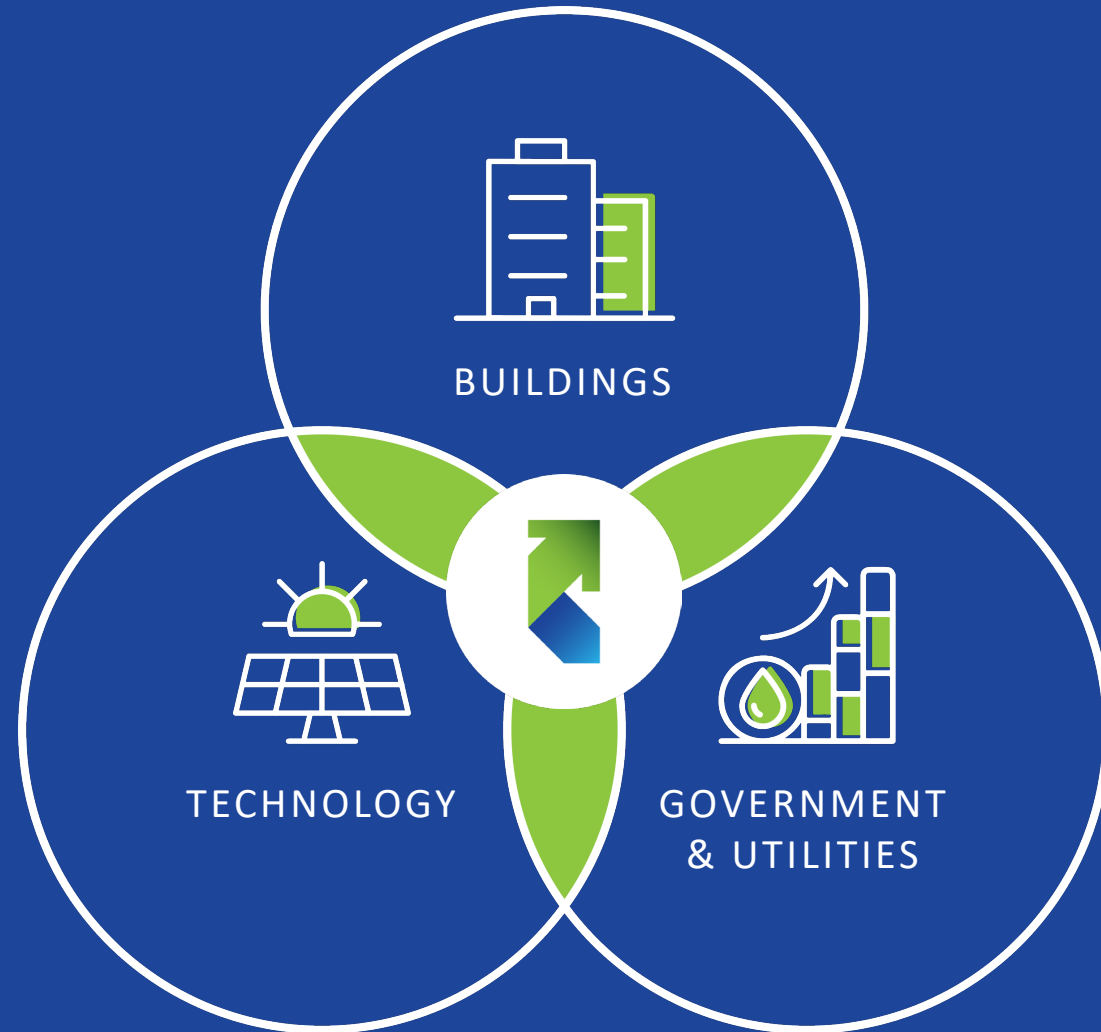
LA City Council unanimously approved an ordinance requiring all new buildings within city limits be constructed all-electric.

- Jan. 23, 2023: Ordinance Effective
- Dec. 19, 2022: Ordinance Published
- Dec. 7, 2022: Ordinance Adopted



Source:

# LABBC ROLE



# PROJECTS TO PROGRAM MODEL



# REAL PROJECTS. LEARNING IN REAL TIME.

**Building a data-driven case for investments in whole building rehab + decarbonization.**

## **WE ARE DEVELOPING:**

- A diverse portfolio of comprehensive affordable multi-family retrofits, representative of market
- Multifamily retrofit playbook
- Financial model to illustrate costs & benefits
  - Economics of decarb + rehab retrofits
  - Health & Social ROI
  - Subsidy required to meet economic & policy goals
- Feedback loop to policy-makers

## **PRIORITY SEGMENTS**



Residents most impacted by poor air quality and extreme heat



Assets eligible for multiple incentive programs.



Highly engaged local owners & operators



# \$2B - \$7B

## TO DECARBONIZE AFFORDABLE MULTIFAMILY HOUSING

SOURCE: Jones, Betony. June 15, 2021. "Los Angeles Building Decarbonization: Community Concerns, Employment Impacts, and Opportunities." Inclusive Economics, Oakland, CA



**\$9B - \$16B**

**TO DECARBONIZE NATURALLY  
OCCURRING AFFORDABLE HOUSING  
(NOAH)**

SOURCE: Jones, Betony. June 15, 2021. "Los Angeles Building Decarbonization: Community Concerns, Employment Impacts, and Opportunities." Inclusive Economics, Oakland, CA

**Business as Usual**

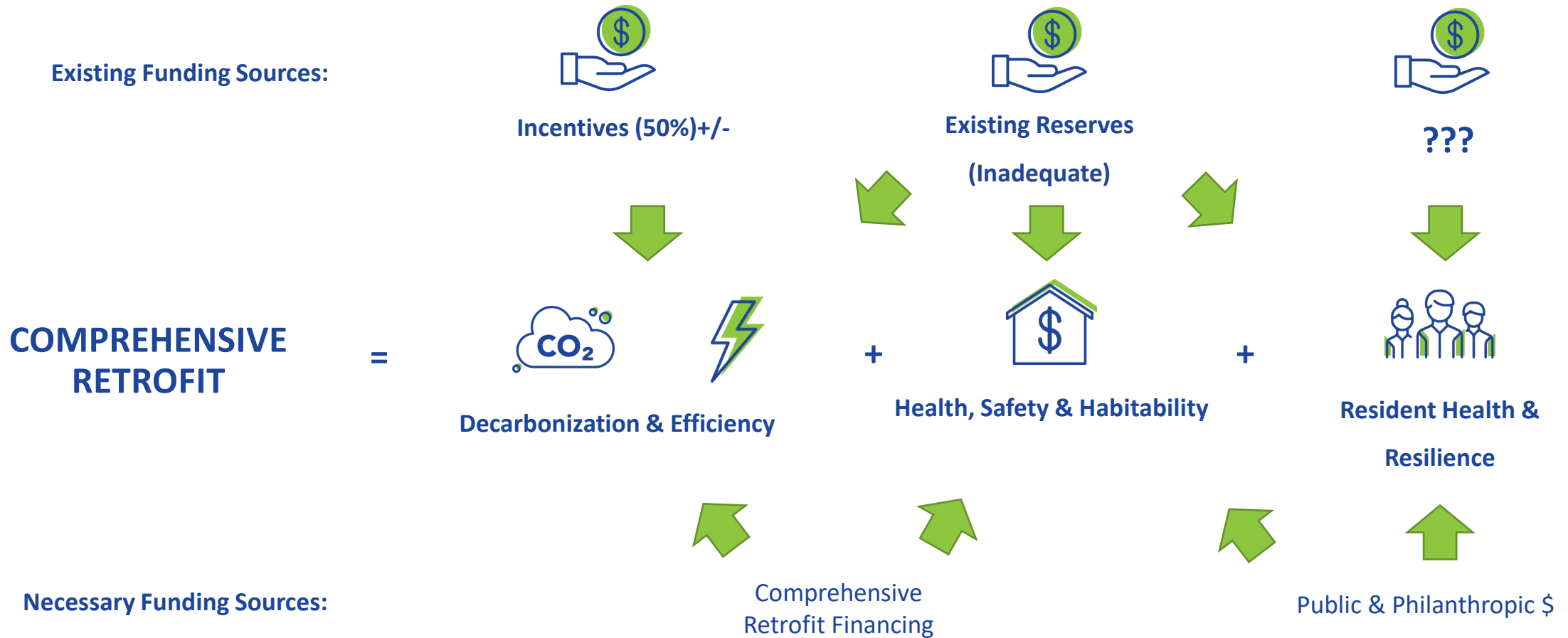
**Equitable Energy Transition**



**Upfront Cost /  
Utility Savings**

**Upfront *Investment* /  
(Utility Savings +  
GHG Savings +  
Health & Social Impact)**

# WE NEED A NEW MODEL



# BALANCING COMPETING GOALS

## What is a model that will:

- Remove upfront cost barrier for landlords
- Reduce utility burden for tenants
- Assign economic value to health & social outcomes
- Generate market demand



Heat is #1 public  
health issue



Inform subsidy  
needed



Quantify the holistic  
expense of  
electrification



Address market  
barriers

# BRIDGING GAPS

| PROJECT DEVELOPMENT PROCESS                         | OWNER /<br>MANAGER | UTILITY<br>PROGRAM | LENDER(S) | RETROFIT.LA |
|---|--------------------|--------------------|-----------|-------------|
| OWNER OUTREACH                                      | X                  |                    |           | X           |
| OWNER RECRUITMENT & GOAL SETTING                    | X                  |                    |           | X           |
| PORTFOLIO SCREENING & PILOT PROJECT SELECTION       | X                  |                    |           | X           |
| PCA TO IDENTIFY REHAB SOW                           | X                  |                    |           | X           |
| INCENTIVE PREQUALIFICATION & DECARB SOW DEVELOPMENT | X                  | X                  |           | X           |
| HEALTH & SOCIAL IMPACT PROJECTIONS                  |                    |                    |           | X           |
| FINANCIAL + ENVIRONMENTAL + HEALTH ROI              |                    |                    |           | X           |
| IDENTIFY SUBSIDY TO ACHIEVE COST-NEUTRALITY         | X                  |                    |           | X           |
| COORDINATION WITH RETROFIT & HEALTH LENDERS         |                    |                    | X         | X           |
| TA - OWNER & CONTRACTOR SUPPORT                     | X                  | X                  |           | X           |
| PRE-PROJECT HEALTH DATA COLLECTION                  | X                  |                    |           | X           |
| POST-PROJECT HEALTH & SOCIAL IMPACT ANALYSIS        | X                  |                    |           | X           |
| CASE STUDIES & COMMUNICATION                        | X                  |                    |           | X           |
| COORDINATION WITH CITY POLICY DEVELOPMENT           |                    |                    |           | X           |

# SUPPORTING THE CONVERSATION

## A financial model to support stakeholder engagement & education:

- Test available financing options against goals
- Quantify subsidy needed to prevent increased utility burden
- Project then measure “Health ROI”
- Engage health-focused capital providers
- Develop blended capital solutions to accomplish competing goals



Heat is #1 public  
health issue



Inform subsidy  
needed



Quantify the holistic  
expense of  
electrification



Address market  
barriers

## CONTACT



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# Preservation Academy Sustainability Session

## Self-Help Enterprises

February 2, 2023





# About Self-Help Enterprises...

- ✓ Established in 1965 – community-based non-profit
- ✓ Helped more than 6,400 families to build their own homes & developed over 2,236 units of rental housing at 49 properties
- ✓ Work with over 60 community services districts or small water systems; active in the emergency services & energy solutions
- ✓ Active Participant in Greenhouse Gas Reduction Fund Programs, LIWP, SOMAH, AHSC and zero-net energy development
- ✓ Value sustainability through the lens of disadvantaged community members and impacts on low-income families





# Funding Programs

- ▶ New Solar Homes Partnership (NSHP)
- ▶ Low-Income Weatherization (LIWP)
- ▶ Solar on Multifamily Affordable Housing (SOMAH)
- ▶ BUILD (California Energy Commission)
- ▶ Portfolio Reinvestment Program (PRP)
- ▶ 45L Credits
- ▶ Community Development Block Grant (CDBG)
- ▶ Permanent Local Housing Allocation (PLHA)
- ▶ USDA 515 preservation projects

# Opportunities

## **NSHP (New Solar Homes Partnership)**

- ▶ 6 projects funded and completed

## **LIWP (Low-Income Weatherization Program)**

- ▶ 12 projects funded and 11 completed
- ▶ 1 project in process, 4 projects in review

## **SOMAH (Solar on Multifamily Affordable Housing)**

- ▶ 16 projects funded and 14 completed
- ▶ 2 projects are in process



# LIWP Sample Improvements



## PROPERTY IMPROVEMENTS

### LIWP Energy Efficiency ***"Benefit the Residents!"***

- Provide new dual pane vinyl windows
- Faucet aerators & showerheads
- LED lighting installed for all units
- Ductwork sealed to 1% leakage rating,
- Replace water heaters, and upgrade property water boilers,
- Water pipe insulation, water distribution valves and recirculation pumps
- Upgrade community washing machines
- New energy efficient refrigerators
- Replace HVAC units with new energy saving seer rated units

### LIWP Solar ***"Benefit the Residents!"***

- Total system size of 899.30 DC-KW
- Owned by the property and not leased
- Provide energy for the Property and provide residents with credits on their utility bills.

# Self-Help Enterprises Solar Progression

## Early Years

2007-2017

- ▶ Common area systems (4)
- ▶ New construction (3)

**7 PV systems -> 11 years**

## Current

2018-2022

- ▶ Common area systems (2)
- ▶ New construction (6)
- ▶ Retrofit to existing properties (21)

**29 PV systems -> 5 years**

## In Process

2022-2024

- ▶ New construction (11)
- ▶ Retrofit to existing properties (8)

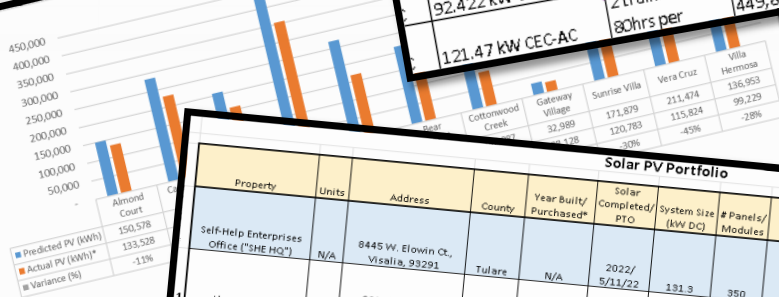
**19 PV systems in the next  
1-2 years . . . So far**

# Tracking & Data

Solar PV Portfolio - Clear

| Property         | Address                       |
|------------------|-------------------------------|
| Almond Court     | 801 Almond Ct., Wasco,        |
| Annadale Commons | 1515 E. Annadale Ave., Fresno |
| Casas de La Vina | 23784 Avenue 9, Madera,       |
| Gateway Village  | 800 Paradise Road, Modesto,   |
| Goshen Village 2 | 31114 Road 72, Goshen, 93     |
| Highland Gardens | 2423 N. Highland St.,         |
| North Park       | 601 D                         |
| Palm Terrace     |                               |

Annual PV Production - Actual



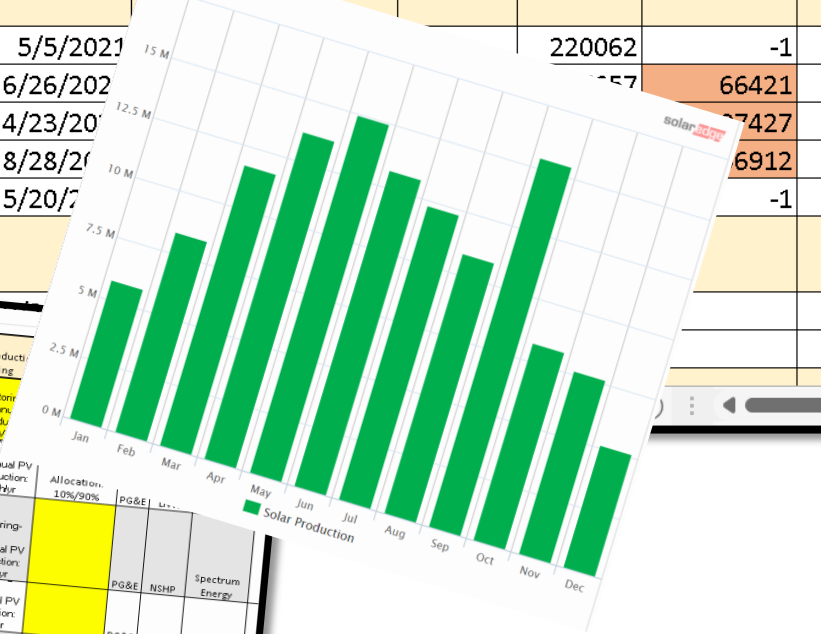
List of SOMAH properties

| Maximum Incentivized System Size | Required # of Job Trainees | Estimated Annual Production (in Application) | Aggregated Energy Usage (12 months)     | Estimated Annual Production (in Reservation) | Estimated Annual Production (at Incentive Claim) | Total Cost |
|----------------------------------|----------------------------|--|---|--|--|------------|
| 91.724 kW CEC-AC                 | 2 trainees/<br>40hrs per   | 414,600 kWh                                  | Tenant-244,257 kWh<br>Common-33,710 kWh | 186,492 kWh                                  | 142,334 kWh                                      | \$         |
| 91.727 kW CEC-AC                 | 2 trainees/<br>80hrs per   | 425,644 kWh                                  | Tenant-249,081 kWh<br>Common-26,788 kWh | 230,122 kWh                                  | 126,987 kWh                                      | \$         |
| 127.384 kW CEC-AC                | 2 trainees/<br>40hrs per   | 615,490 kWh                                  | Tenant-368,291 kWh<br>Common-23,449 kWh | 274,085 kWh                                  | 180,472 kWh                                      | \$         |
| 80.215 kW CEC-AC                 | 2 trainees/<br>40hrs per   | 364,014 kWh                                  | Tenant-271,664 kWh<br>Common-24,024 kWh | 168,356 kWh                                  | 122,258 kWh                                      | \$         |
| 83.706 kW CEC-AC                 | 2 trainees/<br>80hrs per   | 332,448 kWh                                  | Tenant-177,313 kWh<br>Common-15,300 kWh | 172,456 kWh                                  | 135,180 kWh                                      | \$         |
| 92.422 kW CEC-AC                 | 2 trainees/<br>80hrs per   | 449,885 kWh                                  | Tenant-230,659 kWh<br>Common-26,509 kWh | 234,315 kWh                                  |  | \$         |
| 121.47 kW CEC-AC                 | 2 trainees/<br>80hrs per   | 449,885 kWh                                  | Tenant-208,140 kWh<br>Common-2,103 kWh  | 207,841 kWh                                  |  | \$         |

Solar Passwords

| Property         | Website   | Username                        |
|------------------|---|---------------------------------|
| Almond Court     | <a href="https://solarnoc.datareadings.com/le">https://solarnoc.datareadings.com/le</a>                                     | almond@everydayenergy.com       |
| Annadale Commons | <a href="https://www.solarweb.com">www.solarweb.com</a>   | AndreaB@selfhelpenterprises.org |
| Bear Creek       | <a href="https://monitoring.solaredge.com/solaredge-web/p/login">https://monitoring.solaredge.com/solaredge-web/p/login</a> | mfh@selfhelpenterprises.org     |
| Biola Village    | <a href="https://monitoring.solaredge.com/solaredge-web/p/login">https://monitoring.solaredge.com/solaredge-web/p/login</a> |                                 |
| Creek            | <a href="https://monitoring.solaredge.com/solaredge-web/p/login">https://monitoring.solaredge.com/solaredge-web/p/login</a> |                                 |
| Ga               | <a href="https://monitoring.solaredge.com/solaredge-web/p/login">https://monitoring.solaredge.com/solaredge-web/p/login</a> |                                 |

| Property         | Commercial Operation Date | Performance Guarantee | Actual Production (Yrs1-2) | Under Produced? | Estimated Annual Production (Yr 1) | Actual Annual Production | %  |
|------------------|---------------------------|-----------------------|----------------------------|-----------------|------------------------------------|--------------------------|----|
| Almond Court     | 5/5/2021                  | Yes                   | 5/5/2021                   | Yes             | 220062                             |                          | -1 |
| Annadale Commons | 6/26/2020                 | Yes                   | 6/26/2020                  | Yes             | 257                                | 66421                    |    |
| Bear Creek       | 4/23/2021                 | Yes                   | 4/23/2021                  | Yes             |                                    | 27427                    |    |
| Biola Village    | 8/28/2020                 | Yes                   | 8/28/2020                  | Yes             |                                    | 6912                     |    |
| Cottonwood Creek | 5/20/2021                 | Yes                   | 5/20/2021                  | Yes             |                                    |                          | -1 |
| Sunrise Villa    |                           |                       |                            |                 |                                    |                          |    |
| Vera Cruz        |                           |                       |                            |                 |                                    |                          |    |
| Villa Hermosa    |                           |                       |                            |                 |                                    |                          |    |



Solar PV Portfolio

| Property                                   | Units | Address                                  | County | Year Built/<br>Purchased* | Solar<br>Completed/<br>PTO     | System Size<br>(kW DC) | # Panels/<br>Modules | Module Details  | Inverters  | Rooftop/ Carport       | Points of Interconnection   | Online Production<br>Tracking   |
|--|-------|--|--------|---------------------------|--------------------------------|------------------------|----------------------|---|--|------------------------|---|---|
| Self-Help Enterprises<br>Office ("SHE HQ") | N/A   | 8445 W. Elowin Ct.,<br>Visalia, 93291    | Tulare | N/A                       | 2022/<br>5/11/22               | 131.3                  | 350                  | (350) REC375TP25M72   | (1) Solar Edge 14.4 OLD<br>(2) Solar Edge 45.2k with (2) SESU OLD  | Carports               | 1 total:<br>8445 W. Elowin Ct.<br>5 total:<br>801 ALMOND CT<br>NEM2VM5H 1,2,3,8 &<br>#12comm. Bldg        | Online Monitoring<br>Expected Annual<br>System Production:<br>207,812 kWh/yr    |
| Almond Court                               | 36    | 801 Almond Ct.,<br>Wasco, 93280          | Kern   | 1996                      | 2019 12/7/19<br>res 1/7/19 com | 109.7                  | 358                  | (108) Canadian Solar CS6K-<br>275M;<br>(250) JA Solar JAP6-72-320/488 | (2) Fronius USA Primo 7.6-1 (240V)<br>(5) Fronius Primo 12.5-1 (240V)<br>(2) Fronius Primo 6.0-1 208-240<br>(240V)<br>(8) Fronius Primo 7.6-1 208-240<br>(240V)<br>(5) Fronius Primo 8.2-1 208-240<br>(240V) | Carports               | 5 total:<br>1515 E ANNADALE AVE<br>BLDG 2,4,7,9,11<br>PV NEM2VM5H<br>1529 PV NEMVMASH<br>1529 PV NEMVMASH | Online Monitoring<br>Expected Annual PV<br>System Production:<br>201,797 kWh/yr |
| Annadale Commons                           | 40    | 1515 E. Annadale Ave.,<br>Fresno, 93706  | Fresno | 2020                      | 2021/<br>5/10/21               | 138.75                 | 370                  | (370) SEG-6MA-375WVW (375W<br>each)                                   | (6) SOLAR EDGE 11400H-US (240V)<br>(3) SOLAR EDGE 10000H-US (240V)<br>(3) SOLAR EDGE 5000H-US (240V)   | 12 bldgs: Roof mounted | Done<br>1515 E ANNADALE AVE<br>BLDG 2,4,7,9,11<br>PV NEM2VM5H   | Online Monitoring<br>Expected Annual PV<br>System Production:<br>201,797 kWh/yr |
| Bear Creek                                 | 64    | 1509 N. Plainsburg Rd,<br>Planada, 95365 | Merced | 1980                      | 2021/<br>5/5/21                | 150.93                 | 387                  | HANWA Q PEAK DUOL-GS 2 390;<br>SOLAR EDGE PS05 Optimizers             | (3) Solar Edge 11400H-US (240V)<br>(3) Solar Edge 10000H-US (240V)<br>(1) Solar Edge 7600H<br>(1) Solar Edge 3800H   | Carports               | Done<br>4962 N 3rd St Office PV<br>NEMV/SOMAH   | Online Monitoring<br>Expected Annual PV<br>System Production:<br>220,062 kWh/yr |
| Biola Village                              | 44    | 4692 Third St,<br>Biola, 93606           | Fresno | 2006                      | 2022/<br>4/5/22                | 98.6                   | 263                  | (263) REC375TP25M72   | (6) SOLAR EDGE 11400H-US (240V)<br>(3) SOLAR EDGE 10000H-US (240V)<br>(3) SOLAR EDGE 5000H-US (240V)   | Carports               | Done<br>1515 E ANNADALE AVE<br>BLDG 2,4,7,9,11<br>PV NEM2VM5H   | Online Monitoring<br>Expected Annual PV<br>System Production:<br>201,797 kWh/yr |

# Benefit to Residents

- ▶ Sand Creek (completed 5/26/21):
  - SOMAH funding
  - 100% of bill credits directed to residents
  - Estimated \$50 per month energy savings per unit
  - Two paid job trainees assisted with solar installation
  - Financial security
  - Environmental benefits

In August 2021, a ribbon-cutting ceremony was held celebrating the successful installation and permission to operate the 128-kW CEC-AC solar energy system. For residents, this will provide an estimated savings of \$50 per month on their energy bills. SOMAH's third-party evaluator estimates that bill credits from SOMAH's solar energy installations typically offset residents' utility bills up to 90%.

Lesly Bucio, a resident of Sand Creek reflects that although she initially was unsure of what having solar would mean for her and her family, she is now very excited to have it.

---

*"I am a single mother with two children. I work in a warehouse packing peaches seasonally. I feel a lot better having solar and knowing the electric bill will be affordable."*

– Lesly Bucio, Sand Creek resident

---

In addition to improving financial security for families, the environmental benefits are also something residents value about having solar panels.

"My family and I think it's great to go green, help the environment, and get the savings," said Christian Vasquez, who has been living at Sand Creek for about five years with his family.

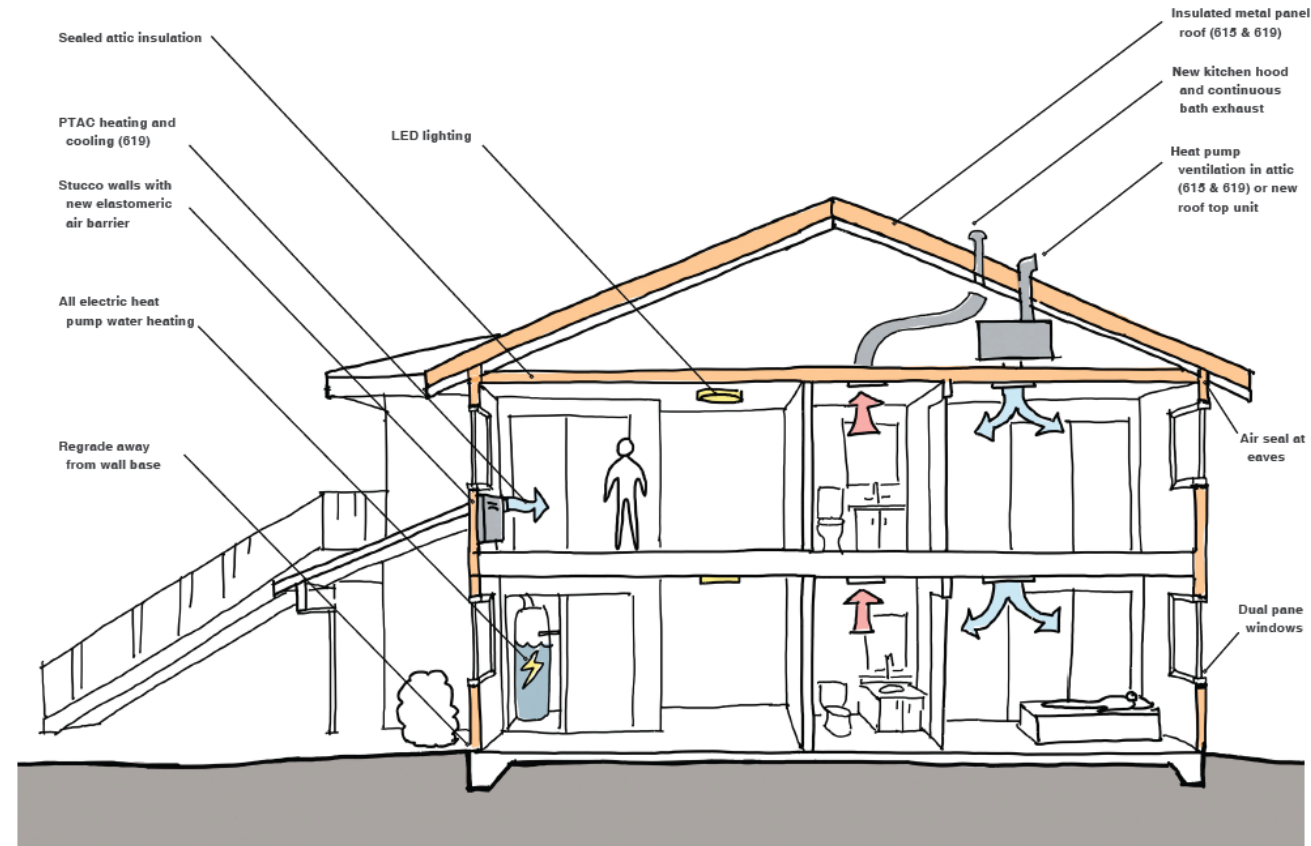


# Benefiting Residents & Leading the way

## ► Vera Cruz:

- Solar PV
- Energy Efficiency Upgrades throughout property
- Deep Retrofits as Pilot Project
- Teamwork and Communication
- \$1.8 million project
  - \$1.6 million in incentives

**\*First fully retrofitted farmworker housing project**



**VERA CRUZ VILLAGE**  
ENERGY RETROFIT



# Mt. Whitney Preservation Project



- ▶ Originally constructed in 1929 as a hotel
- ▶ Converted to affordable housing with its renovation in 1996
- ▶ Existing California Housing Rehabilitation Program - Rental Component (CHRP-R)
- ▶ 29 units of senior housing & commercial space
- ▶ Owner “gave” us the property for assumed debt
- ▶ PLHA for rehab and LIWP for energy efficiency



# Leading the Way

## ► Resident education is vital to long term sustainability

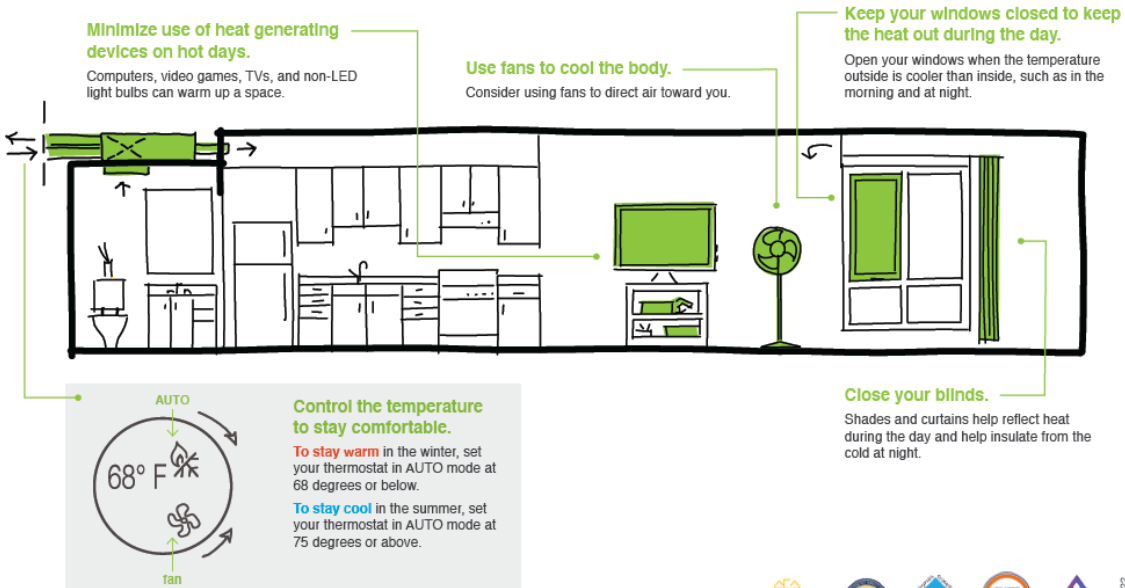
### STAYING COMFORTABLE IN YOUR HOME

#### What should I do if I get too hot or too cold?

Take these steps to reduce energy use and to stay more comfortable if the power goes out. During an outage, call 2-1-1 for assistance finding local resources.

Why don't I receive a gas bill anymore?

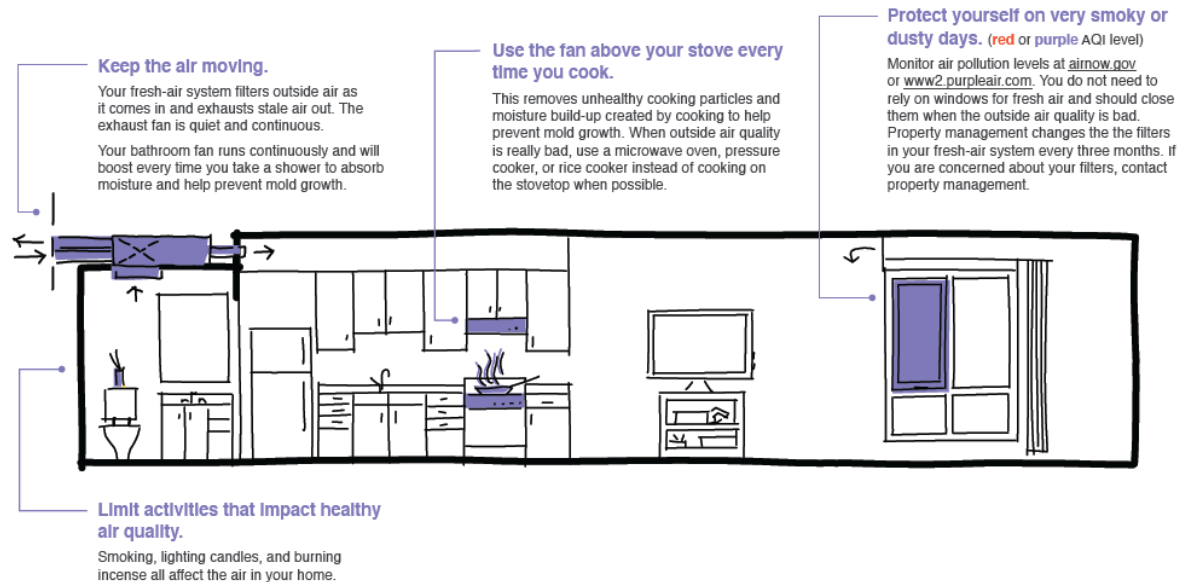
Your new electric heating system doesn't use gas. It is much more efficient than your old gas heater.



### STAYING HEALTHY IN YOUR HOME

#### How do I keep the air fresh?

A healthy home starts with breathing fresh air. Here are a few simple steps to keep the air in your apartment clean and healthy.



# Summary

## ✓ ***Scope of solar efforts***

Since 2007, Self-Help Enterprises has installed 39 solar PV systems, with 15 more systems pending.

## ✓ ***Benefits of solar***

From the 39 systems completed so far, 1,844 residents receive environmental benefits and financial savings of roughly \$900,000 per year.

## ✓ ***Self-Help Enterprises is leading the way***

By completing cutting edge pilot projects, taking advantage of funding opportunities, and creating pathways to climate resiliency.



# Questions?

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Program Director of Real Estate Development  
(559) 802-1653  
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**Join us for our next  
session on February 23!**

## **Navigating Rehabilitation of Small to Medium Multifamily Preservation**

[Register here](#)

### **What to Expect This Session**

- Participants will gain an understanding of key considerations in determining the **level of rehabilitation** to embark on and strategies for bridging to a more extensive rehab.
- Participants will understand **local considerations**, including zoning, building code, ADA, seismic regulations
- Participants will hear best practices and strategies to **incorporate resilience** within their rehabilitation scope and solve challenges associated with **occupied rehabilitation and resident relocation**

# Thank you

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## Resources:

[Preservation Next California Academy Sessions](#): Registrations, recordings, and materials

[Preservation Next Small to Medium Multifamily Toolkit](#)

[Enterprise Preservation Resources](#)