

Groundbreaking Efficiency Retrofits for Affordable Housing

Energy & water improvements for 80 California Properties



Mercy Housing, Inc., is a leading national affordable housing nonprofit that has participated in the development, preservation, and/or financing of more than 48,200 affordable homes. Mercy Housing operates in 41 states and has 35 years experience developing, preserving, managing, and financing affordable housing, serving low-income communities.

Objectives

- Reduce operating costs
- Improve resident comfort
- Reduce environmental impact
- Source funds to perform efficiency upgrades

Challenge

Mercy Housing wanted to lower operating costs while keeping tenants comfortable in an affordable and sustainable way. Part of the solution: upgrade buildings to use less energy and water while delivering better comfort. But securing funds to pay for efficiency upgrades outside of a refinance year was difficult. Even with incentives that are available from utilities and the government, Mercy Housing needed a more creative solution.

Solution

Mercy Housing partnered with Bright Power and Affordable Community Energy Services Company (ACE) to help upgrade around **80 properties** – which represents the majority of their California portfolio. Through our ongoing collaboration, Mercy Housing is able to utilize a “Pay from Savings” financing model to complete efficiency improvements when they are needed most, rather than waiting for refinancing or taking out a secondary loan. As Mercy Housing's energy and water management partner,

Bright Power first used our EnergyScoreCards™ cloud-based energy analysis platform to understand areas of waste and underperformance. Bright Power used this data to determine which properties needed an onsite energy audit to better identify high-impact opportunities for improvement.

Mercy Housing, Bright Power, and ACE then prioritized phases of work based on factors such as building performance, location, and available government and utility incentive programs like California’s Low Income Weatherization Program (LIWP). ACE’s innovative “Pay from Savings” financing approach, with funding through Reinvestment Fund, gave Mercy Housing the ability to complete the needed upgrades and use project savings to pay for the improvements over a 10-year period.

Like all EnergyScoreCards clients, Mercy Housing is paired with a dedicated Energy Analyst to monitor their buildings’ energy performance and calculate savings. To further ensure project returns, Bright Power is providing operations and maintenance support to the properties for the duration of the 10-year agreement.

April 2017 6 properties completed	November 2017 12 properties completed	November 2018 23 properties to be completed	March 2019 38 properties to be completed	January 2020 80 properties to be completed
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In the above timeline, the number of properties with completed improvements are cumulative.



"Working with Bright Power and ACE on this project has been a positive experience for Mercy Housing. The team's experience in implementing efficiency in affordable housing was invaluable to the successful implementation of the design and construction phases of this project."

Caitlin Rood
Environmental Sustainability Director
Mercy Housing

Improvements

Energy and water improvements were implemented at various properties. Each property did not receive every upgrade listed below.

- Upgrade LED lighting in common areas & resident apartments
- Install heat pump hot water heating systems
- Install high-efficiency heating systems
- Install Variable Speed Drive (VSD) recirculation pump for Domestic Hot Water (DHW)
- Install VSD for pool & spa pumps
- Install DHW and new steam cycle controls
- Retrocommission existing steam cycle controls
- Install Thermostatic Radiator Valves (TRVs)
- Install orifice plates
- Service steam traps
- Insulate DHW & heating pipes
- Install occupancy sensor thermostats in resident apartments
- Replace tub diverters
- Implement low-flow fixtures on faucets & shower heads
- Install ENERGY STAR washers & refrigerators
- Install vending misers

Our Role

Bright Power partnered with Mercy Housing and ACE in the following ways across all properties:

- EnergyScoreCards data analysis and benchmarking
- Comprehensive energy auditing and assessments
- Turnkey energy efficiency retrofit implementation
- Incentive procurement
- Measurement and verification in EnergyScoreCards
- Ongoing remote and onsite operations and maintenance support

Results

With this innovative "Pay from Savings" model, Mercy Housing didn't need to spend or raise capital to cut energy and water usage and cost, improve resident comfort, and reduce their carbon footprint. Under this model, other affordable and supportive housing organizations can secure funding to achieve similar results.

Bright Power is actively verifying savings in EnergyScoreCards and engaging with site staff to help optimize operations and maintenance throughout the 10-year financing term. Across the first 6 properties that completed implementation, Mercy Housing is seeing positive results:

29%
GAS USE REDUCTION

9%
ELECTRIC USE REDUCTION

4%
WATER USE REDUCTION

7%
CARBON EMISSIONS REDUCTION