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Maplewood Homes

Introduction

In late 2010, the [Housing Authority of the County of San Bernardino \(HACSB\)](http://www.hacsb.com/) was awarded the largest California Solar Initiative (CSI) Multifamily Affordable Solar Housing (MASH) Track 2 grant in California. The rebate was (\$1,840,000) issued by Southern California Edison. HACSB worked with HeliPower in the development of the grant proposal, engineering and construction of the solar power system and development and delivery of the educational, training and Internet components of the program.

The MASH Track 2 funding maximizes financial, educational and career opportunities for the HACSB Maplewood Homes community residents.

Three major resident benefit areas:

- Cost-reducing benefits shared with the residents delivered through free electricity and wireless Internet resulting in resident savings of approximately 30% of the average utility costs per year. The savings from the solarized units will be distributed by reducing or eliminating the utility allowance for residents that have panels on their buildings and increasing the allowance for residents that don't have solar panels installed.
- Effective outreach and education of "green" building and energy conservation delivered through project workshops and outreach and monitoring resulting in resident "pride of ownership," behavioral consumption change, green job training and recruitment.
- [Green job training and creation](http://blog.heliopower.com/2011/03/solar-training-empowers-residents-with-new-job-skills/) through green job training and project installer job creation resulting in 14 solar installation trainees and 3 residents hired in project apprentice laborer positions.

Free Solar Energy

The MASH Track 2 funding supported the installation of an aggregate 302kWdc installation using 1288 ET Solar modules on two community buildings and ninety-eight individual residential units.

Solar on Common Area Buildings

HACSB will monetize the savings from green energy generated on common area meters and channel those funds into it's into Green Job Creation program, thus benefitting all applicable residents.

Solar on 98 Residential Units

An average family at Maplewood Homes consumes ~4200kWh and spends \$572 annually on electricity. Community-wide the average cost saving from the solar power generated energy will be \$165.99 per unit per year, or about 30% savings per year. HACSB is adjusting utility allowances throughout the community to equalize the resident benefits.

Additional Benefits – Wireless Internet

The Grant will also fund free high speed wireless internet access at the Whitney Young Community Center. HACSB will cover the cost of ongoing monthly wireless access by leveraging the savings from the common area solar installs.

Additional Benefits – Energy Efficiency

HACSB has identified five other solar and efficiency-related funding sources that it leveraged to broaden the benefits of the MASH Track 2 grant. HACSB received an American Recovery and Reinvestment Act Capital Fund Recovery Competitive Grant through the U.S. Department of Housing and Urban Development for energy efficiency and green upgrades for the community.

HACSB leveraged this Award and MASH Track 2 funds together to facilitate green retrofits to increase energy efficiency and environmental performance. While solar was not viable for all units, other energy efficiency upgrades will be implemented at all 296 apartment units. The upgrade/retrofit initiative is comprehensive, and includes replacing inefficient lighting, windows, tankless water heaters, refrigerators, cooling systems, lead-based paint with low volatile organic compounds (VOC), adding attic insulation, low-flow toilets, sink faucet and showerhead aerators and programmable thermostats, and new asphalt shingle roofs.

Additional Benefit - Ongoing Monitoring

The Project includes a large, wall-mounted flat screen system monitor display and computer in the Johnson Hall Computer Lab; the screen may default to energy production for common area arrays and provide a clear picture of the metered solar energy generated, carbon emissions (CO2) saved, usage patterns and conservation tips. The up-front green outreach and ongoing education, monitoring and metering will yield additional reductions in resident electricity.



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302 kW ET Solar Roof Top