

OAKLAND HOUSING AUTHORITY AND REBUILD AMERICA



Oakland Housing Authority (OHA) is taking a leadership role in energy-efficiency for public and multifamily housing by implementing conservation measures and practices throughout its buildings. The goal is to reduce costs to both the housing authority and the low-income populations it serves while improving resident comfort. By reducing energy and water usage, OHA is being a good neighbor in a state that's had to contend with rolling electricity black outs and water rationing in the recent past.

With technical assistance from Rebuild America, Oakland Housing Authority developed a prototype for renovating small public housing sites. The result was a model that improves resident comfort while improving energy efficiency.

Results

After entering into an energy performance contract with Citizens Conservation, which uses future energy savings to pay for current retrofits, OHA was able to make a wide array of improvements including installation of:

- 214 energy-efficient refrigerators at five senior facilities
- LED exit signs and compact fluorescent canopy lights at four senior sites
- 13 central system hot water and hydronic heating boilers at five senior sites
- Electronic ballast/T-8 fluorescent fixtures for kitchens and bathrooms in 2,000 units
- 1,500 ultra low-flow toilets
- 1,100 low-flow showerheads
- 2,100 faucet aerators
- High-efficiency furnaces in maintenance workshops and a senior citizen community center
- Building Automation System (BAS) controls on boilers, HVAC systems, pumps variable frequency drives, furnaces and exhaust fans

Energy-efficiency improvements were also completed at administrative offices, including:

- 117 occupancy sensors in two office buildings
- Astronomical time clock to control exterior lighting at the main administrative building
- Variable air volume HVAC system—with variable frequency drives controlling fans—for the main administrative building

Thanks to their efforts, 90 percent of the housing authorities' sites benefited from energy-efficiency



Landscape training offered by local water utility EBMUD (East Bay Municipal Utility District)

improvements. Total annual utility savings under the performance contract are projected at approximately \$362,000.

Benefits

Residents have benefited by having more reliable hot water and heating and brighter lights that use less energy. During the audit phase of the energy performance contract, the housing authority hired four residents through a Rebuild America partner.

Along with these benefits for residents, the community is better off thanks to reduced energy consumption, which results in fewer emissions from power plants burning fossil fuel. As a result of the improvements, the Oakland Housing Authority uses 12 percent less electricity. By saving more than 1.6 million kWh of electricity per year, OHA has prevented the release of:

- 344,227 lbs of carbon dioxide
- 1,265 lbs of oxides of nitrogen
- 2,935 lbs of oxides of sulfur

Additional Savings

Outside of the performance contract, OHA has made other improvements to save energy dollars. New ENERGY STAR® washers and dryers were installed in shared laundry rooms at 18 sites. A cool roof was installed at an administrative building.

In addition to the low flow toilets, showerheads and aerated faucets, OHA has also reduced its water usage

continued

OAKLAND HOUSING AUTHORITY AND REBUILD AMERICA continued



through irrigation and landscape training. In total the authority has reduced its water use by 26 percent annually, thus saving this valuable resource and the power needed to pump water. At one site, OHA saved 2.7 million gallons of water, resulting in \$13,700 in savings.

To track savings OHA is using Utility Manager—a program for Microsoft Windows that can track not only energy, but telephone, recycling costs, garbage fees and other monthly expenses. Monitoring energy usage will help the housing authority identify other opportunities for energy savings that will further benefit the residents and community.

