



SUSTAINABILITY

U.S. ARMY GARRISON, HAWAII

HAWAII BUILDS GREENER HOUSING



Hawaii-based Soldiers are moving into housing described as the world's largest solar-powered residential community as homes are finished at a rate of about 35 per month, according to reports from the Army Hawaii Family Housing project. Photovoltaic cells and solar water heaters are only the most visible of sustainable construction practices in the \$2.33 billion program.

Sustainability is a guiding force behind the development of new homes on Oahu's Army installations, according to Col. Howard Killian, U.S. Army Garrison, Hawaii, commander.

Eventually the garrison will see more than 5,300 new and 2,500 renovated homes through the project, a public-private partnership under the Army Residential Communities Initiative.

Under RCI, a garrison establishes a 50-year partnership with a developer to build, manage and maintain family communities on post. Residents pay "rent" equivalent to their Basic Allowance for Housing. Army Hawaii Family Housing LLC is the partnership between the garrison and Actus Lend Lease, a Tennessee-based firm.

"We have a tremendous opportunity with our residential development to be a model of sustainability, a model for military communities and for private-sector developments," said Killian. "Photovoltaic and solar [panels] to reduce energy consumption is just the start. Urban home design, the appliances we use, and even our daily habits at home and work are essential to this garrison's sustainability goals."

This translates to several initiatives that include minimizing waste during demolition and construction, building homes that last and reducing energy consumption. One of the most visible sustainability initiatives is the home design.

"From the outside in, our urban planners and architects have taken an innovative approach to cooling homes in Hawaii's year-round tropical climate," said Claire Ridding, senior development manager for Actus Lend Lease.

For more information

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“For example, the preservation of large, mature trees and planting of new trees will reduce what is called the urban heat-island effect,” Ridding said. Retaining existing landscaping provides shading for homes and reduces the need for air conditioners, thereby lowering energy consumption.

Other design features help lower energy consumption by reducing the heat gain load in homes, including coated window glass that reflects heat while letting visible light pass through, heat-reflective barriers under roofing shingles, insulation, roof vents and high-efficiency air conditioning.

Inside the home, reducing energy use remains high on the list of things to accomplish. Ceiling fans and operable windows maximize natural ventilation, allowing residents to take advantage of Hawaii’s trade winds. Compact fluorescent lights have replaced traditional incandescent lighting. All major kitchen appliances meet Gold Energy Standards, international criteria for sustainable energy projects.

The rooftop photovoltaic cells should eventually produce a total of 6 megawatts, about 30 percent of the project’s power needs.

“With these design features, along with community-based recycling and energy conservation programs being developed by Army Hawaii Family Housing’s property management staff, our design team, the garrison and our residents can be proud to be part of an innovative, sustainable community,” said Ridding.



Previously published in the *Environmental Update*.