

Rebuild Hawaii Island: High-Tech in Paradise

The Big Island of Hawaii is much less developed than its famous neighbor, Oahu. While Oahu is home to highly populated Honolulu and Waikiki Beach, a relatively small population of 140,000 is dispersed among the Big Island's 4,000 square miles. Cattle graze on soft green hillsides. Steam wafts out of vents at the craters of ancient volcanoes. Lava slowly flows down the mountains, providing a reminder of the incredible powers of *Pele*, the Hawaiian goddess of the volcano. The lava eventually cascades into the blue ocean via lava tubes, which can be as large as 30 feet in diameter, making it one of many natural wonders on this relatively undeveloped island.

High-Tech Solutions to High Energy Costs

"We are working hard to preserve the many unspoiled natural treasures on the Big Island, and at the same time, move Hawaii into the forefront of technology," says Ray Carr, Energy Coordinator for the Department of Research and Development, County of Hawaii.

Due to Hawaii's reliance on imported oil, the State's energy prices are 35 percent above the national average. As a result, energy use is a major drain on Hawaii's economy. To address this problem, Hawaii State and County officials have vowed to cut oil imports and boost the economy, in part through high-tech energy-efficiency measures facilitated by the Rebuild America program.

In 1996, the County of Hawaii took the lead and, along with the Hawaii Electric Light Company, Inc. (HELCO) and the Na Makani Community Initiative of North Kohala, created the Rebuild Hawaii Island partnership. The partnership has met with success, working in cooperation with Rebuild Hawaii State and the County island partnerships of Kauai and Maui. The partnership has also benefited from collaboration with various civic, business and environmental groups. The partnership's initial goal was the "25% Solution," which vowed to cut energy consumption in County buildings by 25 percent in 2000, and save County taxpayers nearly \$250,000 annually.



Hawaiian goddess of volcanos, Pele, shows her power by streaming lava into the ocean

Completed in March 1997, Rebuild Hawaii Island's first demonstration retrofit project was the 68,000 square-foot Hawaii County Building in Hilo. Made possible through a performance contract with Honeywell, Inc., energy-efficiency measures included a lighting upgrade and

PARTNERSHIP FACTS:

- **Targeted Buildings:**
Hawaii County Building in Hilo County, Fire and Police sub-stations and other county facilities
- **Targeted Square Footage:**
Hawaii County Building, 42,500 square feet
County Fire and Police sub-stations and other county facilities, 500,000 square feet
- **Estimated Energy Savings:**
Hawaii County Building: in 3 Years—a 30 percent decrease in energy usage - A cumulative savings of \$194,000.
- **Completion Date:**
Ongoing

replacement of two outdated air-conditioning chillers. In three years of operation, the building's energy usage has decreased by 30 percent, resulting in cumulative savings of \$194,000.



Honeywell, Inc. employees install the first of two chillers in the Hawaii County Building.

Other projects include lighting retrofits at 27 County fire and police substations, yielding \$51,000 in annual energy savings. By July 2001, the County will complete the retrofits of the two main public safety buildings, an investment of \$1.4 million that will save \$140,000 in annual energy costs. The partnership is also working with County Water Supply to implement efficiency measures aimed at significantly reducing their annual electricity costs of over \$8 million.

A Soft Path to Energy Self-Sufficiency

Already committed to energy efficiency, 30 percent of Hawaii Island's electricity is generated from diverse renewable resources—geothermal, wind, solar and run-of-river hydropower. The Na

Makani Energy Initiative was formed in 1996 after the Hawaii County Council and North Kohala citizens asked State officials to formally endorse a “soft energy path” for the future, encouraging energy efficiency and utilizing renewable resources. (The term “soft path” was coined by Amory Lovins and refers to the use of renewable energy options as an alternative to the current fossil fuel “hard path” on which most of society treads.)

The Na Makani Initiative contributes to both renewable energy use and energy efficiency through a variety of projects. In partnership with HELCO, the initiative plans to install 100 solar water heaters in homes and businesses and distributed “efficiency packets” of compact fluorescent light bulbs, water heater blankets, pipe insulation and informational literature. It is estimated that the North Kohala citizens who incorporate the measures will save \$50 on their monthly energy bill.

By conserving energy and promoting renewable energy sources, the committed members of the Rebuild Hawaii Island partnership show that they're doing their part in preserving their “diamond in the rough.” Through the utilization of Rebuild America and State resources, Hawaii Island has been able to leverage statewide awareness and build partnerships through the promotion of innovative solutions in their efforts to resolve resource efficiency issues.

TO LEARN MORE ABOUT REBUILD HAWAII ISLAND PARTNERSHIP, CONTACT:

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Visit the Rebuild America Web site at: www.rebuild.org
Or call the Energy Efficiency and Renewable Energy Clearinghouse at: 1-800-DOE-3732