

Rebuild Kauai: Adjusting the Course Mid-Stream

The road to energy-efficient buildings can be described as a journey—one where obstacles are often thrown in the way, there are forks in the road and maps are not a “one size fits all” deal. Frequently, the travel conditions change while you’re on the road. The goal, as we see, in this Rebuild America partnership Close-Up, sometimes is not as far off as it seems.

Under Rebuild America, the County of Kauai formed its partnership in 1996 with a goal to bundle all government facilities for retrofits using performance contracting. County officials hoped to move a successful performance contracting model into the private sector to achieve even greater energy savings. Performance contracting is an agreement between a building owner or facilities manager and a private energy services company (ESCO) that lets future energy savings pay for the entire cost of a building’s energy-efficiency retrofits.

Since Kauai County’s Energy Coordinator Glenn Sato did not have much experience with ESCOs, he took a precautionary approach by hiring performance contracting expert Dr. Shirley Hanson. Her role was to guide the County in its energy-efficiency education and to act as an objective third party in the review and selection process for the ESCo.

Once an ESCo was on board, the next step was to divide the performance contract into three phases: Department of Public Works buildings, its Wastewater facilities, and then all Water

Department facilities. Over the 10-year project period of 1998-2008, the projected energy and operating cost savings were estimated at \$680,000 (cumulative), based on utility bills and past work by the chosen ESCo.

Guaranteed Success

By the beginning of 2000, Rebuild Kauai had completed the first phase lighting retrofit of 29 County facilities and buildings under its Building Division, including fire stations, base yards, community centers, a convention hall and a stadium. Savings were calculated to be over \$156,400 for the two-year period of 1998-2000, which calculated out to be only 93 percent of their goal in the second year.

Because ESCOs do not always achieve projected energy savings, Sato was glad that Kauai County had a “guaranteed savings” clause in its performance contract that held the ESCo responsible for the other 7 percent. “Our project is successful if you consider that we’ve upgraded the lighting systems and are paying for the program through savings,” Sato states. “The guaranteed savings clause was our insurance that we would not lose.”

Troubled Waters

Looking ahead to phase two—the Wastewater Treatment Plant retrofit—Sato and the plant’s facilities managers foresaw trouble.

PARTNERSHIP FACTS:

- **Targeted Buildings:**
29 county facilities and buildings, which include fire stations, community center, and a stadium
- **Estimated Energy Savings:**
\$156,400 (from 1998 through 2000)
- **New & Notable Innovations:**
From the partnership’s projects working with ESCOs, their experiences were used to develop the **Guide to Energy Performance Contracting**
- **Completion Date:**
Ongoing

Predicting energy use and patterns can be a challenge, complicated when working with variable use facilities like stadiums and wastewater treatment facilities. According to Sato, "Every time you add the human element, you're also introducing an element of unpredictability." That unpredictability, coupled with variable flow rates and equipment run times, could not produce the energy and operational savings required to pay for the project.

After looking at other means of financing, including some capital improvement funds and utility rebates, officials realized they could not achieve a reasonable payback period and the decision was made to postpone any further retrofits.

The third phase Water Department project was also a no-go. Motor Challenge Consultant Steve Bolles and Sato analyzed data to determine the feasibility of a performance contract to replace or retrofit the Department's many motors, and decided the work could not be justified economically.

Mid-Course Adjustment

This journey has caused County officials to reassess their position at every juncture. Rebuild Kauai currently has no plans to proceed with the Wastewater and Water phases because the data proved the measures would not be cost-effective. This may actually be the good news. Sato

explains, "It says that the County of Kauai is already at a high state of energy efficiency."

Of course, not every community partnership may have the luxury of either hiring a consultant or having experience with performance contracting. Sato is happy to share his knowledge and experience so others can avoid pitfalls and other hazardous road conditions.

"Every time you add the human element, you're also introducing an element of unpredictability."

— **Glenn Sato, Energy Manager, County of Kauai**

Living and Learning

To impart some of the experience gained during the County of Kauai project, Liz Raman from the Hawaii Department of Business, Economic Development, and Tourism (DBEDT) wrote the *Guide to Energy Performance Contracting* (www.hawaii.gov/dbedt/ert)

for other Rebuild America community partners to reference.

Sato comments, "I wish I had had this workbook to guide me in developing my program. Unfortunately, I was in the forefront of performance contracting in Hawaii and a lot of what I learned is in the Guide. Fortunately for those that follow, they can learn from my experience."

TO LEARN MORE ABOUT THE REBUILD KAUAI, CONTACT:

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