

ACTION PLAN

'REBUILD HAWAII ISLAND'

Introduction

The County of Hawaii is participating in the national 'Rebuild America' program consisting of thousands of people working as partners to renovate buildings and improve energy efficiency. The following is the Action Plan for the 'Rebuild Hawaii Island' aimed at implementing energy efficiency measures throughout the Big Island.

The Partnership, Its Priorities and Goals

A. Organizations involved in the Rebuild Hawaii Island program are as follows:

County of Hawaii	The lead partner in the Rebuild Hawaii Island program with a plan to upgrade the efficiency of energy use in its island-wide buildings by a target 25% by year 2000. Mayor Stephen Yamashiro of Hawaii County is very supportive of the energy efficiency program - subsequent to a recent energy retrofit to the Hawaii County Building he said: "This is an example of using the best available technology to save energy, reduce our dependence on imported fossil fuel and save the taxpayers' money. We plan to expand this program to other County facilities."
Hawaii Electric Light Company, Inc. (HELCO)	This electric utility serves the island of Hawaii and presently has in place aggressive Demand Side Management programs for the Residential and Commercial & Industrial sectors. The president of HELCO, Mr. Warren Lee, is very supportive of participation in the Rebuild Hawaii Island program.
The "Na Makani Community Energy Initiative: of North Kohala	A small rural community in the district of North Kohala has formally expressed a desire to enter the 21 st century on 'a soft energy path' in accordance with Hawaii County Resolution No. 317-96. Community representatives are interested in participating in the Rebuild Hawaii Island as a means of realizing their objectives of developing an energy efficient community.
Hawaii State	A number of state entities with facilities on Hawaii Island are partners in the Rebuild America program including University of Hawaii at Hilo, the Community College system, Hawaii Army National Guard, State Judiciary and the State Library system.
Private Sector	Individual partners have not yet been identified (other than 'Na Makani' described above).

B. Partnership priorities are as follows:

- " Economic Stimulation: By minimizing the amount spent on utility costs, which are high (island electricity rates are in the range 15 - 20 cents/kWh), government is able to use its revenues more effectively and private businesses become more profitable and better able to compete in national

and international arenas. In addition, retrofit projects directly impact the local economy by providing quality jobs.

- " much of Hawaii's electricity is generated from imported fossil fuels. Energy efficiency measures reduce the outflow of local money for these imports and increases the fraction of generation from indigenous resources such as geothermal.
- " Environmental protection is of paramount importance to Hawaii and its visitor industry. Efficient use of energy reduces the damaging impacts associated with power generation.

C. Goals

The main goal of the Rebuild Hawaii Island program is for the County of Hawaii to reduce energy consumption in its buildings by 25% of 1996-97 usage by year 2000. This corresponds to annual energy savings of 2,350,000 kWh and energy cost savings of \$425,000 at current utility rates.

Candidate Buildings

The County of Hawaii owns and operates about 200 buildings with an estimated total floor area of 750,000 square feet. The combined annual electricity costs for these facilities is over \$1,700,000. Consumption in these buildings range from the largest at 2,500,000 kWh/year (costing \$375,000/year) to small pavilions and park facilities with minimal consumptions.

The Hawaii County Building with a conditioned floor area of 42,500 square feet, was retrofitted in the first quarter of 1997. This retrofit was accomplished through a performance contract financed by a tax-exempt municipal lease. Project energy savings for this project total 405,000 kWh per year which is 34% of the pre-retrofit electricity consumption. The favorable experience with this demonstration project has provided the impetus for using performance contracting as the method for retrofitting the remaining inventory of County owned buildings. One performance contract will cover all remaining buildings, the only prioritization being that the largest buildings within the group will be retrofitted first.

Milestones for implementing and validation program energy efficiency measures in County owned buildings are as follows:

- November 1997: Issue RFP soliciting performance contracting services for the remaining inventory of County-owned buildings.
- February 1998: Select first choice Energy Service Company (ESCO).
- May 1998: Issue Energy Savings Report for first year of post-retrofit operation of the Hawaii County Building.
- June 1998: Sign performance contract - ESCO to start Energy Study.
- July 1998: Finalize financing for the project.
- August 1998: Start installing energy conservation measures (ECMs).
- February 1999: Complete installation of ECMs in County-owned buildings.
- March 1999: Start M & V of savings achieved for entire project.
- April 2000: Issue Energy Savings Report for first year of post-retrofit operation of county-owned buildings.

The above are the well-defined activities of the program for Hawaii county. Other activities tentatively identified at this time, together with their milestone dates, are as follows:

1. Na Makani Community Energy Initiative

December 1997	Community develops its energy plan and decides if it is to be a partner in Rebuild America program
March 1997	Community develops its Rebuild Action Plan

(No further activities are scheduled at this time)

2. County Wastewater and Water Supply Facility Upgrades

Discussions have already started with Wastewater Division concerning energy efficiency measures by performance contract for their island-wide facilities and a longer term objective is to implement a retrofit program in the Wastewater and Water Supply departments (which have electricity costs of approximately \$2 million and \$7 million respectively). While these facilities are not classed as buildings, it is felt likely that expertise within the national Rebuild America program could be of great help in assessment of engineering measures aimed at improving system operating efficiencies. It is planned to embark on this part of the program in July 1998.

3. Private Sector Upgrades

No private sector participants, other than those already identified currently exist. It will be an on-going part of the Rebuild Hawaii Island to attract partners from the private sector. The action plan will be modified as needed to incorporate these partners as they join in the program.

Resources, Financing and Responsibilities

1. Staff Resources and Technical Expertise

In proceeding with the performance contract for county buildings, the Energy Coordinator of Hawaii County will assume the lead role and will utilize the technical advice of an expert on performance contracting who is already a consultant to the County.

Further expertise that could be provided by other partners in Rebuild America to the County includes technical assistance in the areas of Monitoring and Verification, Indoor Air Quality and Moisture Issues, Office Equipment, Community Economic Development and Renewables as follows.

- " Training in the measurement, verification and long term tracking of post retrofit energy savings so that at least two county staff are trained to continue monitoring County performance contracts to termination.
- " Technical advice in relation to indoor air quality issues that may arise as retrofits are planned and implemented. Also minimizing the escalating energy demands of office equipment as computers and allied office systems are increasingly utilized.

- " Guidance to the Na Makani Community Energy Initiative in developing, implementing and monitoring their community action plan aimed at an energy efficient future including appropriate renewable resources where feasible.

2. Financing

Performance contracting will be the main method for implementing most of the proposed efficiency measures; project financing will be provided by the ESCO (or through a third party finance company as was done in setting up a municipal lease for the retrofit of the Hawaii County Building). Utility DSM incentive payments will be applied for as projects are completed and these incentives will be used either as credits against electricity costs or to enhance energy conservation measures.

3. Responsibilities

3.a. County of Hawaii.

Will play a lead role in implementing the Rebuild Hawaii Island program by implementing its own energy efficiency program, coordinating and assisting in the implementation of other programs, providing technical and project management advice to others as required and promoting the Rebuild Hawaii Island initiative through the Big Island.

3.b. Hawaii Electric Light Company, Inc.

HELCO staff will contribute through the on-going implementation of the utility's Residential and Commercial & Industrial DSM programs. HELCO's well qualified staff not only process utility incentive payments but also provide technical support to those contemplating efficiency retrofits. HELCO also is heavily involved in the promotion of energy efficiency measures.

3.c. Na Makani Community Energy Initiative.

This grass roots community group will add a special, unique dimension to the Rebuild Hawaii Island program through its self-help effort to implement energy efficacy measures throughout a small rural community utilizing outside partner resources to realize its objectives.

3.d. Hawaii State

The state of Hawaii will be an important source of technical and management advice mainly through staff of DBEDT's Energy, Resources and Technology Division. The State's energy efficiency programs in the University, Community Colleges, Army National Guard, Judiciary and Library systems on the island of Hawaii will complement the County's activities. Sustained promotion of these initiatives will further enhance participation by other public and private entities.

Monitoring and Evaluating Results

Since the County's main program will be achieved through performance contracting, there will be regular (quarterly and annual) energy and cost avoidance reports provided by the ESCO subsequent to the retrofits. These reports will be used to provide program results on an annual basis to the Executive

Committee of the U.S. Department of Energy.

For other projects implemented under the Rebuild program, the Energy Coordinator of Hawaii County plans to maintain historical and current energy use data using energy tracking software where feasible and to provide program results to US DOE.

Promoting the Program

It is intended to base much of the promotion of the Rebuild Hawaii Island upon the methods currently used by the Hawaii Electric Light Company. HELCO has already implemented a sustained promotional program wherein the recipients of DSM incentive payments are photographed receiving the payment. The photos and write-ups are placed in the local newspapers. Participation in these awards and promotions by the County and other partners in Rebuild Hawaii Island will complement existing utility promotions. Other promotions will include radio and television interviews as projects proceed.

In addition, staff of the County Department of Research and Development maintain close communication with various chambers of commerce, economic development boards and community and environmental organizations and through these channels is able to effectively disseminate information about the benefits of, and mechanisms for, implementing energy efficiency measures.

Finally, two workshops are planned for 1998 that will focus on potential Rebuild partners from public and private concerns. Information will be provided on the benefits of carrying out energy efficiency retrofits based on actual experience with projects on the Big Island. Available technologies and methods for financing and implementing energy retrofit projects will also be workshop topics.