



COLLEGE OF SOCIAL SCIENCES  
**HAWAII ENERGY POLICY FORUM**  
UNIVERSITY OF HAWAI'I AT MANOA

Final Report On

# Opportunities for Addressing Low- Income Energy Issues

Prepared by

**Hawai'i Energy Policy Project  
Energy Rates Working Group**

for the Hawaii Energy Policy Project University of Hawai'i at Manoa  
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## INTRODUCTION

The Hawai'i Energy Policy Forum formed several working groups on social, economic, and cultural issues. The Energy Rates Working Group is one of these. It addressed mainly the concerns of low-income households. Working Group members are listed in the Appendix. The group met once a month from June to October 2003.

It was found that energy bills are a heavy burden for low-income households in Hawai'i, especially for welfare recipients. Many are sacrificing other necessities in order to pay energy bills, and any increase in energy costs would be intolerable. Moreover, low-income people are generally not in a position to invest in energy-saving devices, although it would lower their costs in the long run.

There are a number of government and utility programs to assist the low-income population, but they do not meet the entire demand for such assistance. These programs could be expanded and many other kinds of programs could be considered to address the problem.

## INCOME STATISTICS

Table 1 shows Hawai'i's poverty status according to the U.S. Census of 2000. One can see that 7.6% of families and 10.7% of individuals in Hawai'i fell below the national poverty threshold. This is somewhat better than the national average of slightly over 11% of individuals. However—as noted on the table—the data understate the number of persons below the poverty level because Hawai'i's poverty threshold is approximately 15% higher than the national threshold.

Data from Hawaiian Electric Company, Inc.'s 2002 Residential Appliance Saturation Survey indicate that on O'ahu 21%, Big Island 32%, and Maui County 22% of residential customers are at or below 150% of the Hawai'i poverty threshold. Thus, theoretically, over 80,000 households in those three counties would qualify for the primary federal low-income energy programs offered in Hawai'i.

## ENERGY RATES

Table 2 shows residential prices for electricity from Hawai'i's four electric utilities (Hawaiian Electric Company, Hawaii Electric Light Company, Kaua'i Island Utility Cooperative, and Maui Electric Company) and for gas, compared to the national averages. Residential rates are higher than commercial and industrial rates, mainly because of the higher cost of metering and billing small customers. Table 3 shows average monthly electric bills for 2002. One can see that Hawai'i's energy rates are high compared to the national average, and bills are especially high on the neighbor islands, which also have the highest poverty rates.

There are a number of government and utility programs to assist low-income households with their energy needs.

**Table 1. POVERTY STATUS IN 1999, FOR THE STATE AND COUNTIES: 2000**

[Based on nationwide poverty thresholds. Hawaii thresholds are approximately 15 percent higher than those in effect on the Mainland; these data accordingly understate the numbers of persons and families below the poverty level in Hawaii. Data refer to the poverty status in 1999 of families and persons surveyed in April 2000]

Subject	State total	City & County of Honolulu	Hawaii County	Kalawao County	Kauai County	Maui County
All families	22,101	14,477	4,084	-	1,224	2,316
Percent below poverty level	7.6	7.0	11.0	-	8.4	7.7
With related children under 18 years	17,182	11,108	3,334	-	995	1,745
Percent below poverty level	11.3	10.3	17.1	-	12.3	10.6
With related children under 5 years	8,470	5,476	1,556	-	434	1,004
Percent below poverty level	13.9	12.3	22.3	-	14.7	15.4
Female householder families	10,024	6,616	1,843	-	608	957
Percent below poverty level	20.6	19.2	28.1	-	24.5	18.9
With related children under 18 years	8,737	5,671	1,684	-	528	854
Percent below poverty level	29.5	28.3	37.0	-	30.5	25.6
With related children under 5 years	3,879	2,441	747	-	215	476
Percent below poverty level	37.4	34.2	49.7	-	38.7	40.9
All individuals	126,154	83,937	22,821	59	6,085	13,252
Percent below poverty level	10.7	9.9	15.7	40.1	10.5	10.5
18 years and over	85,612	57,782	14,619	59	3,985	9,167
Percent below poverty level	9.6	9.0	13.5	4.1	9.3	9.7
65 years and over	11,683	8,614	1,391	44	546	1,088
Percent below poverty level	7.4	7.4	7.2	60.3	6.8	7.5
With related children under 18 years	38,730	25,080	7,873	-	1,994	3,783
Percent below poverty level	13.5	12.4	21.0	-	13.2	12.0
With related children under 5 years	27,159	17,612	5,718	-	1,455	2,374
Percent below poverty level	12.9	12.0	19.8	-	12.6	10.1
Unrelated individuals 15 years and over	46,365	31,136	7,819	59	1,958	5,393
Percent below poverty level	24.4	23.8	30.4	50.0	22.0	22.1

Source: U.S. Census Bureau, Census 2000, Table DP-3. Profile of Selected Economic Characteristics: 2000

<<http://www.hawaii.gov/dbedt/census2k/profile-state/index.html>> accessed July 23, 2002.

Table 2. Hawai'i Electric and Gas Rates for Residential Customers

Price of Electricity (2002)  
(cents per kwh)

HECO	13.76
HELCO	21.15
KIUC	22.74
MECO	17.39
U.S. Average	8.43

Price of Gas (2001)  
(\$/Therm)

O'ahu	\$ 2.5541
Maui	-
Hawai'i	3.3216
Kaua'i	3.0532
Moloka'i	2.6259
U.S. Average	1.9780

Source: Department of Business, Economic Development & Tourism

Table 3. Average Electric Bills  
(Residential) \$/month

O'ahu	\$ 92.98
Hawai'i	120.09
Maui	115.51
Lanai	104.85
Molokai	95.76

Source: Hawaiian Electric Company

## GOVERNMENT PROGRAMS

Hawai‘i, along with most states, employs two approaches to helping low-income families with their energy needs: weatherization, focusing on improving buildings, and bill assistance, which provides direct payments for utility bills.

### Weatherization

The Honolulu Community Action Program (HCAP) has received energy-related federal funding since 1977. An initial federal demonstration grant of \$409,747 was used, in cooperation with the Job Corps, to install solar water heater panels for about 124 low-income homeowners.

Under the U.S. Department of Energy’s Weatherization Assistance Program (WAP), funds were provided for the installation of weatherization measures water heaters, which is usually the largest energy user in a household. Initially these measures included only water heater jackets and timers. The Department of Energy in the mid-1990s approved the installation of heat pumps and solar water heating systems as additional measures under WAP. The state Office of Community Services receives approximately \$200,000 for weatherization for low-income households, and installs about 30 solar hot water systems statewide per year. In addition, WAP funds are used to provide other weatherization measures like heater jackets and timers, for qualified homeowners. In 2000, HCAP’s portion (\$33,219) was used to provide 15 water heater jackets, 8 water heater timers, and 6 solar systems.

Federal funds are also available from the Department of Housing & Urban Development (HUD) rehabilitation program. In April 2003 the City & County of Honolulu established a partnership with Hawaiian Electric Company, Inc. called the Honolulu Solar Roofs Initiative. The program provides financing through the City’s Rehabilitation Loan Program for the installation of solar water heating systems to homes of income-qualified homeowners on O‘ahu. The goal is to make the installation of solar water heating systems affordable for low- and moderate-income homeowners and landlords renting to low- and moderate-income tenants. Interest rates range from 0% to 2%, depending on income. Similarly, the Maui Solar Roofs Initiative loan program offered 0% interest loans to qualified homeowners, “on a first come first serve basis from April 1, 2003 to September 30, 2003,” according to their website. On Kaua‘i, the Kaua‘i County Housing Agency has a Residential Rehabilitation Loan Program that provides low-interest loans for a variety of home improvements, including solar water heating systems. The interest varies from 1% to 3%, depending on income; 5% loans are available to landlords for rental property.

Solar water heaters generally reduce electric bills by about \$10 per person per month.

### Bill Assistance

#### Heating/Cooling Credits

The most important government energy assistance program in Hawai‘i is LIHEAP (Low Income Home Energy Assistance Program), introduced in 1980. This is a federal block grant which fluctuates from year to year between about \$1 million and \$2 million. Allocations are based on “heating days,” which does not favor Hawai‘i among the 50 states. The target population is energy households at or below 150% of poverty level,

especially households with very young children and handicapped or elderly individuals. The application process is administered by the State of Hawai‘i, which contracts with community action agencies on each island. Currently, LIHEAP applications are accepted in June of each year and available funding is divided among the eligible applicants. LIHEAP then deposits credits directly to utility accounts of beneficiaries. In the most recent year, approximately 6,500 households received credits averaging \$255/household. The LIHEAP program also includes a “crisis component,” which helps households whose service has been shut off or is about to be shut off, including limited payments for reconnection fees. 10-15% of LIHEAP funds could be used for weatherization (including conservation and solar water heating) instead of paying utility bills, and 47 states do allocate a percentage of their funding for weatherization. But in Hawai‘i there is a problem with the administrative cost, since the 10% allowed administrative cost, the lowest in the nation, has been fully allocated.

#### Utility Deposits

The state Department of Human Services is able to help its clients with a once-in-a-lifetime utility deposit.

### UTILITY PROGRAMS

Hawaiian Electric Company, Inc. (HECO) offers a \$750 rebate for each solar water heater, and Maui Electric Co., Ltd. (MECO) and Hawaii Electric Light Co., Inc. (HELCO) offer \$1,000, regardless of income levels. Table 4 presents data on HECO rebates to low-income housing projects: a total of \$483,700 was rebated for 430 systems on low-income housing projects between 1997 and 2002. The rebates are paid to the agencies, but the low-income residents receive the benefits of lower utility bills.

On Kaua‘i, Kaua‘i Island Utility Cooperative (KIUC) currently offers 70% incentives for solar systems for homeowners who fall below 150% of federal poverty guidelines, and to landlords who install solar systems on full-time rental units. In addition, residential KIUC customers with electric resistance heaters or solar water heaters with electric back-up qualify to receive comprehensive energy services. This service is in the form of a home visit to deliver energy education, install no-cost energy saving devices (showerheads, faucet aerators, tank wrap, compact fluorescent bulbs, temperature reduction) and determine applicability of solar water heating incentives.

While this may seem like a lot of programs, the Working Group agreed that the assistance is far less than the demand for it.

### OTHER POSSIBILITIES

Options which have been used elsewhere to relieve the burden of electric and gas bills on low-income customers, and which may be considered for Hawai‘i, include the following (sources: National Consumer Law Center database; Regulatory Assistance Project & Mercados Energéticos 2002).

**Table 4. HECO Low Income Solar Projects Summary**

<b>Agency</b>	<b>Project Name</b>	<b>No. of Systems</b>	<b>Systems Approved</b>	<b>Rebates Paid</b>	<b>Program Year</b>
City & County of Honolulu	Renton Villages*	20	20	\$22,000	1997
	Tenney Villages*	50	50	\$62,000	1997
Consuelo Foundation	Ke Aka Ho'ona Increment VI*	9	9	\$13,500	1999
	Ke Aka Ho'ona Increment VII*	17	17	\$25,500	2000
	Ke Aka Ho'ona Increment VIII*	12	12	\$12,000	2001
Dept. of Hawaiian Homelands	Kalawahine Streamside	33	33	\$49,500	2000
	Na Pua Ko'olau - Waimanalo	10	10	\$15,000	1998
	Malu'ohai	46	46	\$46,000	2001
	Ho'olimalima (Mark Develop.)	70	70	\$70,000	2001
Honolulu Community Action Program	Ho'okipa Kahaluu	16	16	\$24,000	1998
	HCAP	9	9	\$4,500	2001
	HCAP	8	8	\$6,000	2002
	Haleiwa	1	1	\$500	2002
Housing & Community Development Corp.	Banyan St. Manor	54	54	\$43,200	1997
	Kalihi Valley Homes	45	45	\$45,000	2001
	Ma'ili II	24	24	\$36,000	1999
Office of Hawaiian Affairs	Waimanalo Self-Help Housing*	6	6	\$9,000	1998
<b>Total</b>		<b>430</b>	<b>430</b>	<b>\$483,700</b>	

\* Self-Help Housing Projects

## Government Programs

- Direct state funding for low income (150%-200% of federal poverty guidelines) and qualifying disabled or elderly, similar to federal LIHEAP programs.
- Use of temporary housing assistance funds to prevent utility shut-off
- Tax rebates for elderly and disabled low-income for home heating or weatherization
- Fixed credits or percentage of bill credit
- Voluntary tax contribution on state income tax return (similar to Hawai'i's publicly funded elections)
- Low-income efficiency retrofits
- Conversion to non-profit utilities

## Utility Programs

- “Good Neighbor” Funds where a combination of major utility customers, employees and/or shareholders contribute to support bills for seniors, disabled, fixed- and/or low-income customers. Some utilities will match the amount contributed by utility customers and employees. Some funds supplement LIHEAP and include energy efficiency programs, supplying fans in hot weather and energy use counseling.
- Utilities request a dollar from each customer.
- Customers donate \$1, \$2 or \$5 or round up bill payment to nearest dollar and difference is used for low income relief (HECO currently uses a similar campaign for solar equipment in schools)
- Utilities contribute unclaimed deposits to offset low-income customers' bills
- Waiver of monthly service charges for those on SSI, Medicaid or other similar assistance programs
- Predetermined discounts (e.g., 15% in California) for low-income residential customers (low-income is less than or equal to 150% of federal poverty guidelines)
- Waiver of deposit, arrearages, reconnection and service application fees for low-income customers
- Usage-based discounts (e.g., in Burbank, a 50% discount on the first 400 kilowatt-hours, 25% discount on the next 350 kWh) or inverted block rate design
- Percentage of income payment, generally 5% - 10% of total income

- Marginal cost rates
- Part of fuel charge paid by low-income customer, part by LIHEAP, part by other utility ratepayers
- System benefit charges (an increment in the price of electric service to those tariff groups which can afford to pay in excess of cost), or universal service fund, part of which supports low income customers
- Many states require the utility to fund (and be reimbursed from other ratepayers) energy efficiency programs for low-income customers
- Lower rates for small residential users (e.g., by equalizing the rates with large commercial users)
- “Lifeline” rates
- “Free Basic Electricity” programs
- Compact fluorescent lamp installation; high efficiency fans; high efficiency refrigerators

The Energy Rates Working Group had a number of other suggestions:

- Research other federal grant programs that may be applicable (see, e.g., the Catalog of Federal Domestic Assistance, [www.cfda.gov](http://www.cfda.gov))
- Possible partnership with utility rebates serving as matching or leveraged funding for federal grants
- Increase LIHEAP funding (e.g., lobby for changing the formula used for calculating it)
- Public and school-based education on no-cost and low-cost measures to conserve energy
- Extend the rent subsidy program to include energy subsidies

The possibility of statewide rates to lower costs for neighbor island customers was also discussed; this topic needs more research.

## Reference

The Regulatory Assistance Project and Mercados Energéticos, S.A. 2002. International Survey of Low-Income and Rural Development Programs for the Electricity Sector. Draft Prepared for the Directorate General of Electricity and Energy Utilization, Ministry of Energy and Mineral Resources, Government of Indonesia.

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