

Lighting Energy Assessment Progress Report

Mānoa Energy Performance Assessment Team



by Eileen Ellis, Sea Grant Sustainability Specialist, Sept 8, 2009

The Mānoa Energy Performance Assessment Team inventories the lights in each room of a building and interviews the room occupant for information on how many hours/day and days/year the lights are used. With this data, they calculate how many kWh per year the lights are consuming in the building in its current state. With the data in spreadsheet form, they calculate the energy savings for various strategies: adding switches,

sensors, and timers so lights are on for less time; changing out incandescent bulbs for compact fluorescent bulbs; reducing the number of bulbs so the light levels are reduced to an adequate level (500 lux); and retrofitting lights to more energy efficient fluorescent or LED lights. Implementation of these energy saving strategies will save the university money in electricity and shrink the carbon footprint of the campus.

"I was both impressed and delighted by the recent visit of a student working with you who is assessing lighting in POST with the goal of saving energy. I was especially impressed by his knowledge of the fraction of student tuition that goes to energy."

- Professor Michael Antal, June 5

Building	Current kWh/year	Current cost/year	Delamping and retrofit to super T8, savings \$				Delamping and retrofit to LED savings \$			Building Square Footage	
			After proposed retrofit cost/year	\$ savings/year	% reduction	rebates	After proposed retrofit cost/year	\$ savings/year	% reduction	Gross Sq Ft finished	Gross Sq Ft in progress
HIG	373,404	\$78,415	\$36,184	\$42,231	53.9%	\$31,701	\$27,772	\$50,643	64.6%	126,708	
MSB	293,744	\$61,686	\$31,993	\$29,694	48.1%	\$26,934	\$22,067	\$39,619	64.2%	95,500	
POST	827,181	\$173,708	\$77,492	\$96,216	55.4%	\$88,177	\$56,551	\$117,157	67.4%	228,000	
George	86,465	\$18,158	\$8,951	\$7,534	50.7%	\$11,157	\$8,159	\$9,999	55.1%	47,761	
SoA	150,856	\$31,680	\$18,368	\$13,311	42.0%	\$14,168	\$14,073	\$17,607	55.6%	58,000	
Biomed			assessment in progress								97,767
Everly Hall			assessment in progress								20,625
Wist Hall			assessment in progress								24,591
Wist Annex			assessment in progress								5,548
Pacific Biomedical Research Center			assessment in progress								16,294
CoE Univ HS1			planned								
CoE Univ HS2			planned								
CoE Univ HS3			planned								
Castle Memorial Hall			planned								
Castle Annex			planned								