

Green Living Project Energy Team – Executive Summary

Over the last twenty weeks, the energy team – part of the Green Living Project – achieved the goal of measuring, categorizing, and understanding the energy usage habits of UCLA’s on-campus residents. The team’s initial goal was to ascertain how much energy students could save on a personal basis. This information would then be used to determine whether the school could afford to “pay students back” for their savings to encourage conservation. In fact, students in on-campus residences use much less energy than originally projected, so the energy team modified its aims accordingly. Rather than encourage the school to incentivize further conservation by “bribing” students, the team turned to educational programs and “best practices” recommendations for the Office of Residential Life, the Housing Administration Office, the on-campus housing department of Facilities and Maintenance, and other offices (collectively referred to as Housing). The team also sought to provide an estimate of the “average student” in terms of energy consumption, and to make worthwhile data available to these various offices for their use.

The energy team achieved these goals through a two-part data collection process. The primary portion consisted of direct metering of students’ energy usage. Using a Kill-A-Watt wall socket meter, the group took measurements on total kilowatt-hour (kWh) use over a one-week period. In addition to taking the measurement, the group also collected data on what appliances each volunteer had plugged in, students’ knowledge about how to use power strips, refrigerator and light bulb information, and recommendations. Though limited by the material and financial requirements of data collection, the energy team nonetheless managed to gain sixty-nine participants. On average, these students consumed just over 5 kWh of electricity each week, with over 90% of those participating consuming less than 12 kWh. The group had one significant outlier, who consumed over 36 kWh in a one-week period, but that data result may have been a reading error rather than an overly consumptive student. On a less optimistic note, the group also found that over two-thirds of the surveyed student population did not use compact fluorescent (CFL) light bulbs in their desk lamps. Given the current ubiquity of these bulbs and their obvious cost-saving and energy-saving properties, this result struck the group as a problem to be remedied. Another interesting point of discovery was the fact that a microfridge in a student’s room more than doubled his/her energy consumption over a given time period, on average – another problem that requires attention.

The team’s second data collection effort involved surveying, to provide the group with a broader picture of student use habits in comparison to the direct room metering. The group’s online survey, created via SurveyMonkey, a statistics-keeping website yielded over 810 responses. By setting up tables and computer banks inside residence halls and residential dining halls, the team took multiple evening shifts to ask passersby to complete the survey. The energy survey asked for details on the energy use habits of students, and included questions about time spent in the room with the lights on, appliances used, knowledge about power strips, bathroom light use, and others. The team discovered a number of interesting facts: students left lights on in their bathrooms (residential plaza and suite rooms) almost universally throughout the day; students tended to own power strips and did not use them maximally; 45% of students did not always turn

off their room lights; and the majority of students keep air conditioning or heating on throughout the day with minimal thermostat regulation.

The team also did background research on many other areas of interest. One member, for example, researched conservation stickers for energy appliances, finding that prior research into their effectiveness yielded impressive results for the upfront cost. Other members examined the website of Oberlin College, which tracks energy consumption on a variety of scales across all student dormitories. Up to the minute results are available for viewing, and the program as a whole is said to have substantially reduced consumption. The energy team researched aspects of implementation for such a project here at UCLA.

After compiling its data, the energy team made a number of recommendations to the Housing offices. The team suggests that UCLA seek to implement an Oberlin College-like sustainability tracking system throughout the dorms (though the details of implementation would obviously have to be worked out) to facilitate conservation, sustainable programming, and general student awareness. The team also encouraged both further programming (one-third of respondents desired it) and reminder stickers on energy supplies and by light switches (over half of students desired them). Another suggestion was to implement a SmartStrip, or other model of power strip, renting program for on-campus residences. Similar to the way wireless equipment is distributed now, students could rent SmartStrips for far less than the cost of purchase. In return, due to the technology of these strips, the school could ensure students do not draw power from unused appliances and thus save money on energy bills. Lastly, the energy team recommends considering a new vendor for micro-fridges, namely one that provided newer, more energy efficient models.