

# Santa Clara University Energy Footprint



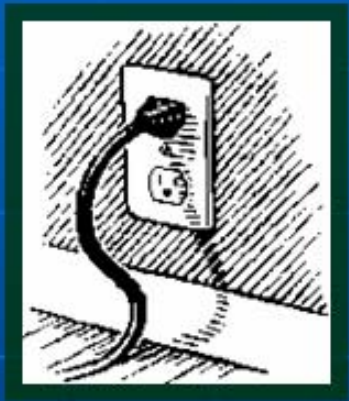
## Introduction

This presentation describes a tool that can help students translate sustainability concerns into an action plan. With this, students will be able to account for their energy use at a personal level and made decisions accordingly. It not only assesses the sustainability of current student activities, but is also effective in building awareness and assisting in decision-making.

## Method

First, I contacted the facility services for the energy use for Swig Hall. The next statistic I needed was the population. Then I divided energy available by the number of residence living in the dorm.

I surveyed the Swig residence to find common used appliances. I calculated all theses to find a sum of energy use the students are accountable for. This number was then subtracted from the first average to find the energy attributed to common energy use such as halls, and elevators.



## Results

The overall energy of the Swig dormitory is 767,147kWh for the annual year of 2006-2007. The number of residence in Swig is 386. By dividing the energy use by the number of residents, the average comes to 1987kWh per resident annually.

I was able to collect 39 completed surveys. The survey asked questions on television use, appliances plugged in, use of power strips or energy saving light bulbs, use of lights, and how residences deal with the heat. The sum of these energies was 881.51 kWh.

The common areas, such as halls, elevators, laundry and even the air conditioning account for 1105.5kWh, more than half the average.

|                            |                      |
|----------------------------|----------------------|
| Television                 | 28.67kWh             |
| refrigerato                | 529.25kW             |
| r<br>Cell Phone<br>Charger | h<br>1.092 kWh       |
| Stereo                     | 157.68kW             |
| Lamp                       | h<br>87.6 kWh        |
| Small<br>Window<br>Fan     | 96 kWh               |
| Bottom Up<br>average:      | Top Down<br>Average: |
| 881.51 kWh                 | 1987 kWh             |

## Conclusion

What does this number mean? The “bottom up” method is a more accurate reading for average energy use by Swig residents. The goal of this project was to find a standard that students can use to guide their own habits. Most students can manage their lives without the use of a television, refrigerator, and stereo. There are devices such as power strips, and energy saving light bulbs that may reduce daily power use.

It is simple for Santa Clara University students to calculate their energy usage. First, make a list of all appliances plugged in and log in those hours of usage. Then, record each appliance voltage and amps used. Watts is a measurement from multiplying these two numbers together. Next take that number, divide it by 1000, multiply it by the number of hours it’s plugged in a day and then multiply it by the number of days a year it’s plugged in. Repeat this calculation for all appliances that are regularly plugged in. The sum of these numbers will give an annual average of energy use. By understanding the maximum possible energy use is 1987 kWh, and the minimum number is 881.51 kWh, hopefully you’ll find yourself within this range.