

Department of Demography

2232 Piedmont, Berkeley, CA



Consultation Date: November 14, 2012

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Building Information

Designed by Julia Morgan, this building was constructed in the 1920's and was owned by the Kellogg family. The entire building is now dedicated to UC Berkeley's Department of Demography, consisting of 20-30 building occupants. This space is utilized everyday throughout the week and even through the holidays as a research center and computer lab for graduate students in the department.

On November 14th, a myPower Energy Team conducted an energy survey in the Department of Demography at 2232 Piedmont Avenue. According to the Energy Office at UC Berkeley, the building's most recent energy bill reported a 28% increase in energy consumption in the month of September as compared to the previous year. Josh Mandel (Assistant to the Dean of Social Sciences) expressed concern over this issue and contacted myPower to determine the cause of this spike in energy consumption.

The main concerns for this building include heating and insulation. A new gas heating system was installed in the previous year, but its pilot light has malfunctioned several times since it was installed. In order to fix the heating system,

heaters are turned off for extended periods of time and occupants switch to individual space heaters to remain comfortable during the winter months. As previously mentioned, the building was constructed in the 1920's and currently retains its outdated insulation and single-paned windows. In addition, the basement has numerous vents that appear to lead directly under the building, allowing cold air to enter. Liz also expressed concern over sensor lights that are sometimes turned on indefinitely, as well as mold growth in the basement that is mitigated by hepafilters.

Observations

Existing Practices

- Lights are generally turned off when not in use.
- Heating system is turned off when building temperature is suitable.
- However, there was no heat last winter, so building occupants are reluctant to turn heaters off.
- Most monitors are turned off manually.

Lighting

- Building receives some natural lighting, but can become very dark throughout the day.
- Task lighting is often used instead of overhead lighting.
- Most overhead lights are fluorescent tubes that are turned off when not in use.

Thermal Comfort

- Building is generally too cold in the wintertime, but pleasant in the summer.
- Some occupants use space heaters when the building heating system is shut off.
- Occupants can manually control thermostats in the main entry way and in the basement.
- The building heating system runs from 6am to 10pm daily.

Computer Lab

- Servers in the basement run hourly checks to turn off all idle computers.
- Monitors do not use screen savers: an energy-saver for LCD screens!
- While all computers were turned off when not in use, a few monitors were left on.

SAVING ENERGY *On Campus*



- Two power strips are utilized, but are not turned off when equipment is not in use.

Kitchenette

- Several appliances (i.e. coffee makers, toaster oven, microwave), were plugged in when not in use.
- Items are stored on top of the refrigerator.
- The freezer is not defrosted regularly.
- The Haier refrigerators – in the attic and main kitchenette – are left running for long holiday vacations, as many people continue using the building during these periods.
- Refrigerator coils and fans are not cleaned regularly.

Attic

- Two computers were left on when not in use.
- Power strips were not turned off when equipment was not in use. This might be because a wireless router is connected to the wall power strip.
- The sky light allows for good natural lighting, although it leaks when it rains.
- Freezer is not defrosted regularly.
- HP Laserjet 4200n printer and Sheetfed Scanner AV220 were turned on when not in use.

Copy Room

- Caltronics Konica Minolta Photocopier is in power save mode when not in use, but suspiciously makes a loud noise regardless.
- Ricoh Aficio Sp C410 DN printer is also in energy save mode.

Recommendations

Lighting

- Consider replacing incandescent bulbs with more energy efficient CFLs or LEDs
- Continue to turn off lights when not in use.



Computer Labs

- Remember to shut off monitors when not in use.

- Strategically place equipment in power strips depending on whether they can be turned off or must be left on indefinitely.
- Turn off power strips if possible or when not in use.

Kitchenette

- Consider defrosting freezers regularly in the basement, attic, and main floor kitchenette. This can allow the appliances to run more efficiently and prolong the life of the equipment.
- Clear unnecessary items from the top of the refrigerator to reduce the refrigerator's energy consumption
 - Heat is released from the top of the fridge in order to cool items within. Items on top prevent heat from being expelled easily).



Further Resources

- Become a Power Agent!
mypower.berkeley.edu/about/power_agents.html
- myPower Office tips available at:
mypower.berkeley.edu
- Recycle e-waste with the Berkeley Overstock and Surplus
businessservices.berkeley.edu/disposal-unwanted-items