

GREEN CAMPUS: ENERGY EFFICIENCY THROUGH CAMPUS LAB COMPETITIONS

This case study highlights how the myPower program can complement existing work to reduce energy on our campus. Many individuals and groups regularly contribute to permanently reducing the amount of energy we use—below is one example of how students have worked with others to do so.

SHUT THE SASH: FUME HOOD ENERGY-SAVING COMPETITION



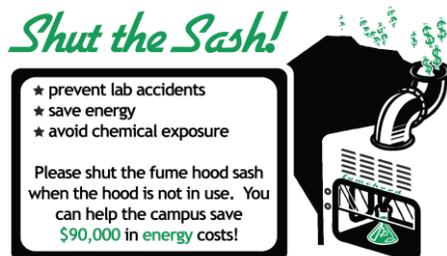
Have you noticed an energy-saving campaign on campus? If so, Green Campus might have been behind it. The Green Campus Program is a

student-led internship program created by the Alliance to the Save Energy with four goals including realizing measurable energy savings, educating the campus community about energy consumption, integrating energy concepts into curriculum, and promoting green careers.

Due to the magnitude of energy consumption in laboratories at UC Berkeley, Green Campus decided to present Tan Hall

with an energy-saving competition targeting one of the largest energy users of all: fume hoods. Fume hoods typically use over three times the energy of an average home. However, if variable air volume fume hoods are shut when not in use, energy consumption can drop by as much as 80% (Mills and Sartor 2004).*

During a one-month competition in the spring semester, Green Campus interns motivated researchers to shut hoods when not in use through



Fume hood stickers

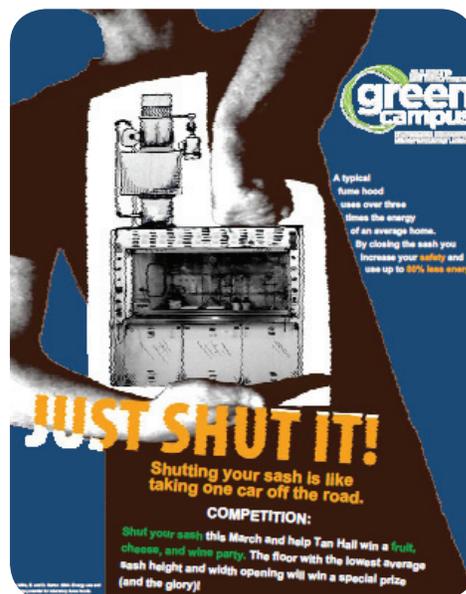
stickers on fume hoods, posters by elevators and in stairways, and a wine and cheese party incentive. Fume hood sash heights are checked once a week during the competition and the floor of Tan Hall with the lowest average sash height wins. A



Morwenna Rowe checks sash openings

fruit, wine and cheese party is hosted for the winning floor and the savings are publicized around the building.

Typical monthly savings (Fig. 1) and potential annual savings (Fig. 2) can be found in the charts on the back. Actual savings for March 2011 were 1,719 kWh and 145 therms of energy equivalent to \$317. More impressive are the potential annual savings. If all occupants were to close their hoods when not in use, annual savings could accumulate to 32,760 kWh and 2,420 therms of energy and \$5,696. The significant difference between potential and actual savings provides evidence for the need for



Campaign Poster

better publicity to encourage busy researchers to shut their fume hoods when not in use.

**Source: Mills, E. and D. Sartor. 2004. Energy use and savings potential for laboratory fume hoods. Energy 30: 1859-1864*



Wine and Cheese Party at Tan Hall

"If all occupants were to close their hoods when not in use, annual savings could accumulate to 32,760 kWh and 2,420 therms of energy and \$5,696."

"Shut the Sash" March 2011: ACTUAL SAVINGS									
		Annual Savings per Fume Hood				March Savings Entire Floor			
Floor	#hoods	kWh	therms	\$	lbs. CO ₂	kWh	therms	\$	lbs. CO ₂
6	24	320	30	62.00	571.06	652.27	61.1507	126.38	1164.024
5	19	330	30	63.00	576.3	532.52	48.411	101.66	929.9745
4	8	0	0	-	0	0	0	-	0
3	18	0	0	-	0	0	0	-	0
2	14	450	30	75	639.18	535.07	35.6712	89.18	760.0113
B	14	0	0	-	0	0	0	-	0
D	7	0	0	-	0	0	0	-	0
TOTAL SAVINGS		1100	90	\$200.00	1786.54	1719.9	145.233	\$317.22	2854.009

Fig.1

"Shut the Sash" March 2011: POTENTIAL SAVINGS (if all occupants had closed hoods to zero)									
		Annual Savings per Fume Hood				March Savings Entire Floor			
Floor	#hoods	kWh	therms	\$	lbs. CO ₂	kWh	therms	\$	lbs. CO ₂
6	24	390	30	69.00	607.74	9360	720	1,656.00	14585.76
5	19	760	60	136.00	1205	14440	1140	2,584.00	22895
4	8	0	0	-	0	0	0	-	0
3	18	0	0	-	0	0	0	-	0
2	14	450	30	75.00	639.18	6300	420	1,050.00	8948.52
B	14	0	0	29.00	234.02	2660	140	406.00	3276.28
D	7	0	0	-	0	0	0	-	0
TOTAL SAVINGS		1790	130	\$309.00	2685.94	32760	2420	\$5,696.00	49705.56

Fig.2