



Greening the Campus,
Building the Workforce

AN ALLIANCE TO SAVE ENERGY PROGRAM

PROJECT MENU

ENERGY SAVINGS • ACADEMIC INFUSION • GREEN CAREERS • OUTREACH

Since 2004, the Alliance to Save Energy's PowerSave Campus Program has developed a core group of best practice energy efficiency projects that students have been actively involved in carrying out and, in many cases, have initiated on their campuses. Based on our success with these projects across college campuses, the following list proposes potential projects to jump-start elsewhere:

Realizing Measurable Energy Savings



Laboratory Fume Hood Campaign: Play an active role influencing and educating lab staff and users to implement sustainable laboratory practices, through campaigns and competitions to reduce energy use. Research laboratories can consume somewhere between five to ten times more energy than typical commercial buildings. Variable Air Volume (VAV) hoods are targeted for this project — by lowering the sash when not in use, less energy is consumed.

UC San Diego interns educated Pacific Hall lab occupants on how to use the 229 new fume hoods. These retrofits are estimated to save UCSD nearly 200 million kWh, or \$10.5 million, over the life of the project.

Residential Energy & Water Reduction Competitions: Work with campus housing and energy managers to conduct energy competitions between residence halls. Students publicize the competition to residents, provide educational materials about energy and water saving practices, and obtain energy data to determine the winner as a result of energy saved compared to a baseline. This project has been successfully implemented on many campuses in the PowerSave Campus Program.

Savings from Cal Poly San Luis Obispo's one-month competition in 2009 were 176,355 kWh, 14,619 gallons of water, and net savings of over \$20,600.

Lighting Retrofit Projects: Catalyze energy efficiency retrofits for exterior and interior lighting on campus by having PowerSave Campus interns provide campus decision-makers with information on existing structures and replacement technologies, conduct lighting surveys, and propose low or no-cost operational changes.

Cal Poly Pomona's parking garage retrofit which generated savings of 154,000 kWh or over \$20,000 annually.

Network Based Power Management: Facilitate the installation of computer power management software that can be controlled by network administrators to have computers sleep and power off when not needed. This can be applied to both computer labs and individual faculty & staff computers on campus.

This project saved 230,000 kWh or \$30,000 annually when implemented at Chico State University.

Campus Dining Energy Efficiency: Work with campus dining facilities to identify retrofit opportunities for their kitchen or food display areas and/or conduct daylighting campaigns in the dining areas.

UC Santa Cruz conducted a pre-rinse spray nozzle retrofit at that saved 516,390 gallons of water, 4,302 therms, and \$7,754 annually

Office Energy Audits: Interns recruit offices and departments to participate, conduct behavioral energy/water use surveys; generate reports with recommendations for sustainable behavior change and retrofits, present the reports to office staff; help to implement efficiency measures, and present offices with certificates of recognition.

UC San Diego's office energy assessment of their Science & Engineering library yielded potential savings of 182,268 kWh or nearly \$15,500 annually.





Infusing Energy Efficiency Concepts into Academic Curricula

For-Credit Internships: Collaborate with faculty sponsors and campus staff to develop for-credit internships working on PowerSave Campus Program and/or other energy efficiency projects. These internship programs aim to teach students hands-on skills and improve their understanding of energy concepts while earning academic credit.

Peer-to-Peer Teaching: PowerSave Campus interns work with faculty to develop presentations, lectures, and learning materials geared towards teaching students about energy efficiency. Interns then serve as peer-to-peer instructors to educate fellow students through stand alone lectures, in-class presentations, or providing extra credit opportunities via participation in PowerSave Campus events and projects.

Coordinating Campus-wide Academic Infusion Efforts:

Provide the organizational support to coordinate efforts across campus to incorporate sustainability and/or energy efficiency principles into classes. This includes developing "green" rating systems for class offerings, convening faculty meetings, and involvement in academic committees to promote environmental academic initiatives.



Building Pathways to Green Careers

Job Fairs: Partner with campus career centers to host a job fair with employers from local energy-related companies (energy service companies, utilities, weatherization contractors, etc.) to recruit students for summer internships and full-time employment. This project has expansion potential to reach members of the local community and could include an energy fair component that educates the community about energy efficiency and exhibits new efficiency technologies.

Energy Efficiency Trainings: Provide trainings for students and/or staff regarding energy and energy efficiency concepts such as auditing, energy calculations, sustainable behavior changes, and project management. Trainings like these provide emerging green professionals with hands-on and peer-to-peer learning opportunities.

Career Panels/Speaker Series: Shed light on careers in the field by bringing green professionals to campus to discuss their experiences and advice. These events offer students a chance to ask candid questions and network, and can lead to mentorships, internships or jobs.

Linking Students to Job Shadow Opportunities and Other Resources:

Host field trips to utility resource centers, local green businesses, and related community events to inform students about available resources and offer them snapshots of what it is like to work in the green field. PowerSave Campus thereby serves as a conduit between students and community resources.



Promoting Energy Efficiency Outreach

Campus Outreach Campaigns: Develop marketing and educational materials related to energy efficiency, sponsor events, and explore other media channels for creating a PowerSave Campus presence and promoting sustainability on campus and in the broader community. These may include producing signage about the impact of facilities retrofit projects, distributing informational pamphlets about sustainable behavior changes, contributing energy efficiency components to Earth Day event planning, creating mock energy bills for campus residence halls, and much more.

Web-based Campaigns and Pledges: Promote web-based learning by directing students and staff to a campus-specific PowerSave Campus website with information about energy and water efficiency strategies as well as updates about projects underway. Such websites could also sponsor an online pledge for users to actively commit to making sustainable choices. Previous PowerSave Campus pledges have included pledges to take the stairs, wash laundry in cold water, set computers on energy saving mode, and turn off unnecessary lights.

Community Outreach: Conduct outreach beyond campus to the community in order to further promote energy efficiency. Possible mechanisms could include low-flow showerhead distribution, basic energy/water audits for homes in the local community, and publicizing campus events that are open to the public such as energy/job fairs and speaker series.

Exploration of Rebate Opportunities: Work with local energy and water utilities and energy service companies (ESCOs) to identify existing or potential projects that qualify for utility rebate programs, and publicize these opportunities to eligible campus and community members.

Others? The above list is not intended to be comprehensive, but to provide food for thought. Faculty, staff, and administration may want to consider other innovative energy efficiency projects that PowerSave Campus interns and volunteers other students can support.



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