

Cardinal Green

The Sustainable Stanford Quarterly Newsletter

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Call for submission or comments due at the end of the month for publication in the following month.

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In This Issue

Slow summer turned out to be a myth. The sustainability activities did not skip a beat while classes were out. In fact, our office and sustainability professionals across campus invested serious time into review, evaluation, and preparation for the new school year.

The most encouraging efforts this summer were those that led to welcoming the Class of 2013. We published the first-ever *A Student's Guide to Sustainable Living at Stanford*, a guide that articulates how individual action can complement the operational efficiency efforts underway by administration and staff.

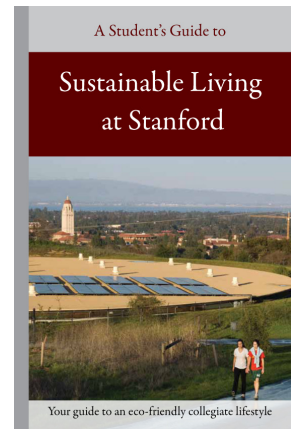
The fall session started with the Beginnings event (September 18) at Memorial Auditorium, organized by ASSU and Undergraduate Advising and Research. President Hennessy welcomed the Class of 2013 and returning students back to campus with an introduction to sustainability as the general theme of discussion.

And just this week, the Sustainable Endowment Institute released their Green Report Card 2010 and Stanford remains in the top tier. The top award went to 26 colleges (up from 15 last year) and universities for their leadership in sustainability, out of 332 (up from 300 last year) institutions surveyed. Stanford has now received this rank three times in the last four years, and A- still remains the highest grade of any participant. Visit www.greenreportcard.org for the detailed 2010 report card.

Enjoy this issue and, as always, send us your feedback. We look forward to working together in 2009-2010. Our website sustainable.stanford.edu will remain your primary guide for news, information, and resources.

Sincerely,

Fahmida Ahmed



Snapshot of the Sustainable Stanford Guide cover distributed at this year's New Student orientation.



New Beginnings panel welcoming new students at Memorial Auditorium (l to r): President John Hennessy, Professor Jeff Koseff, Professor Jane Woodward, CEO of MAP, Vinod Khosla, founding Chief Executive Officer of Sun Microsystems, and Jeff Orlowski, filmmaker and Stanford Grad '06

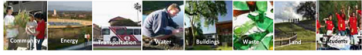
Year In Review 08-09

Sustainable Stanford

Sustainable Stanford – A Year in Review

August 08- August 09

Program Highlights and Sustainability in the News

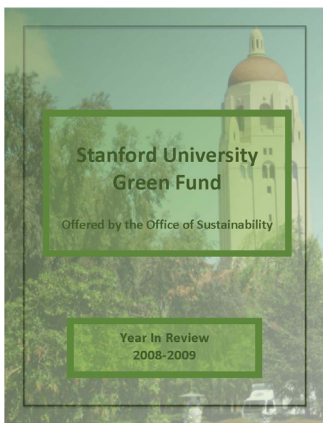


Sustainability is a core value at Stanford – demonstrated in academics, operations, communications, and events. This is a quick and chronological snapshot of various activities and accomplishments in the arena by various academic and operational departments. Some of them are big initiatives, others are small. Some programs are for long term implementation, others meet a timely need. However, all activities are strategic, inclusive, and collaborative parts of the integrated and flourishing culture of sustainability at Stanford.

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and collaborative parts of the integrated and flourishing culture of sustainability at Stanford: http://sustainable.stanford.edu/sites/sem.stanford.edu/files/documents/Stanford_year_in_review.pdf

Green Fund



The Stanford Student Green Fund provides grants for innovative student-driven projects designed to create a more sustainable campus. A total of \$30,000 per academic year is available to fund projects. This fund is offered by the Office of Sustainability. In 2008, the Green Fund received 25 applications that totaled \$75k in requested funds. The committee chose nine winners based on the projects' potential to achieve intended goals, as well as enable students to actively participate and make a contribution to campus sustainability. See the detailed report on the project's success, testimonials, and next steps at: http://sustainable.stanford.edu/green_fund.

This program will continue in 2009 through 2010.

External Evaluations

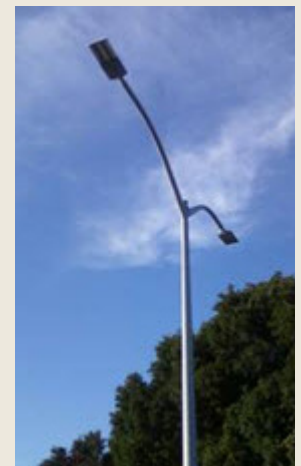


In recent years, various external entities have engaged in rating and ranking university campuses based on their environmental sustainability performance. The evaluation criteria, depth of inquiry, and level of transparency vary widely across the evaluation schemes, which is indicative of an evolving field in need of benchmarking standardization.

Nonetheless, Stanford has participated in these survey exercises because it creates the opportunity to track and record our progress, note trends, and analyze their relative importance, as well as gain insights that might be suitable for Stanford. Generally, Stanford is being recognized for its strength in institutionalizing environmental sustainability with some evaluators also noting areas of potential improvement: http://sustainable.stanford.edu/sites/sem.stanford.edu/files/documents/Stanford_SS_summary_evaluations.pdf

LED Street Lights Installed

Working with students from the Green Campus Program, the SEM Utilities Division installed two LED street lights on the west end of the Mayfield Avenue and Lomita Drive intersection.



Compared to other standard lamps, LED use as little as 50% of the electricity to produce the same amount of light. They also last longer resulting in more reliable illumination with lower maintenance costs. The LED street lights fully comply with the guidelines of the International Dark-Sky Association, which promotes the reduction of light pollution. For more information, contact Rich Bitting, Power Systems Manager, at rbitting@stanford.edu.

Gaining Momentum with More Pilots: Department/Building-Level Sustainability

The Office of Sustainability, in collaboration with various operational department, is designing a Department or Building-Level sustainability program that will make all aspects of operational sustainability more accessible and actionable to the campus community. The program, when rolled out, will be implemented at department or building level, enabling the building occupants to take conservation and efficiency action in energy, water, waste, food, IT, and transportation and directly contribute to 'green' their department or building. Currently, the Office of Sustainability is fine-tuning the program design, toolkits, occupant diagnostic survey, building selection criteria, promotional materials, and training for students and employees.

In Spring 2009, lead by Tom Fenner (Deputy General Counsel), Building 170 initiated the inaugural pilot and inspired representatives from various departments in that building to join him in the pilot. The pilot included deploying desktop power management, smart powerstrips, and timers on almost anything that had a plug, decommissioning unnecessary equipment, and turning off unneeded lighting. These efforts reduced the building's electricity consumption by over 20% during a three-month period and resulted in an estimated return on investment in less than a year. The savings have been holding since the pilot ended. (See complete results in Cardinal Green June issue: http://sustainable.stanford.edu/sites/sustainable.stanford.edu/files/documents/Sustainable_Stanford_June_09_Newsletter.pdf.)

Two additional pilots have been launched over the summer, with revised best practices and tools.

Department of IT Services (launched in August).

Lead by Matthew Ricks (Executive Director, Computing Services) and Joyce Dickerson (Director, Sustainable IT), IT Services rolled out the Building-Level Sustainability program to nine buildings in the department. 36 Green IT Services team members, at least 2 per building, have helped deploy 263 SmartStrips, 55 timers, 22 motion-sensor light switches, and 15 filtered water-coolers. They have also set 60% of their computers to Stanford SuperGreen, which puts them into Standby mode after ½ hour of idle time, and the rest to Stanford Green, which turns off the monitor after 15 minutes. The Green IT Services team is anxiously awaiting energy use reports, due out in October, to see how much energy they have saved.



Green IT Services Team

Arrillaga Alumni Center (launched in September).

Lead by Matt Williams (Director Alumni Center Facilities & Services), this enthusiastic and well-prepared team is poised to reach high goals in resource conservation that will help towards their budget plan. They recruited a "green team" of individuals who work in the center, discussed ideas and prepared an all-staff presentation to kick-off the program. The presentation highlighted electricity consumption and budget impact and also educated staff on the volume of consumables they use in their daily office life. Key statistics were shared on items such as paper, toner, cups, and bottled water. The hope is that educating staff will motivate them to think and conserve, reducing costs and landfill waste.



Launch presentation for Green Fran

If you are interested in conducting a pilot or discussing the future of this program in design, please contact Fahmida Ahmed at fahmida@stanford.edu.

School of Medicine: Sustainability Accomplishments and Programs Underway

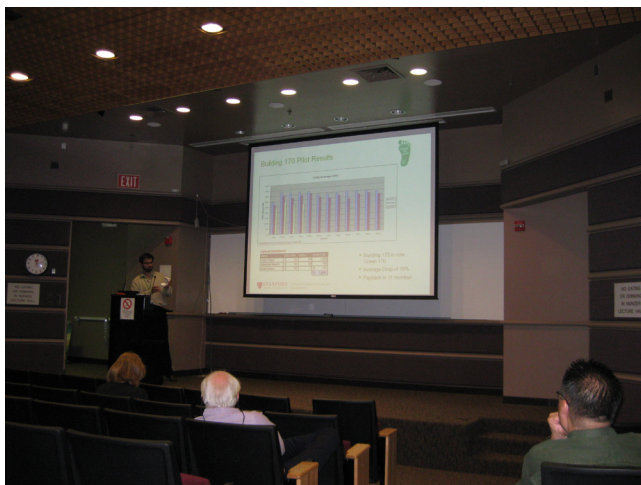
The Stanford University School of Medicine's commitment to sustainability supports the University's overall goal of reducing emissions. SoM focuses on reducing consumption of non-renewable materials by implementing programs with permanent effects. Last Spring, policymakers at all levels reviewed standard operating procedures and provided new solutions for addressing sustainability challenges.



School of Medicine logo

In 2007, the SoM Facilities Department replaced water seal vacuum pumps with waterless pumps, saving 788,400 gallons per year in the Fairchild building. In 2008, water efficient fixtures were installed at the MSLS & MSOB buildings, saving 798,325 gallons per year. In 2009, improvements to the HVAC variable air volume systems were made in the Beckman building calculated to bring a savings of \$1,330,000 per year in energy. Most of these large-scale engineered solutions come with a return on investment factor that makes implementation feasible.

To supplement these major renovation efforts, changes in individual mindsets are needed at a grassroots level to really make sustainable living an intrinsic part of everyday life.



William Rutledge, Sustainability Assistant, SoM Office of Facilities and Planning Management, presenting at the Energy Seminar Series.

Various SoM sustainability projects were identified and implemented this summer. While savings from these efforts might be incremental, their value has been tremendous. In addition to the renovation efforts, SoM is launching an awareness campaign, a new composting program has been started, newer energy efficient freezers are replacing older models, best practices are being implemented, teams are

installing smart powerstrips and timers and participating in the Big Fix program, and an Energy Policy was published Fall 2009.

For more information about the sustainability programs at the School of Medicine, contact William Rutledge, Sustainability Assistant, SoM Office of Facilities and Planning Management, at (650)751-2994 or warr@stanford.edu.

Stanford Rated Green Frontier

The Education Advisory Board (Washington D.C.) published their 2009 University Business Executive's Roundtable issue on Managing University Energy Costs. Each year, members nominate a small group of urgent and aspirational issues to be the focus of the Roundtable's most in-depth research efforts. Stanford University was featured at the highest end of the spectrum in "Maturity Model for Energy Management" for optimizing supply and demand with key initiatives, including the Next Generation Heat Recovery Systems, a key solution in the Stanford Energy and Climate Plan (approaching BoT discussion in October). For copies of the article, send an email request to elsab@stanford.edu. For more information about the Advisory Board, visit their [website](#).

GREEN IT

Its & Bits Quiz

1. How many watts does a typical copier/printer in the copy room use when it is in PowerSave mode?

- a. 3 watts
- b. 15 watts
- c. 30 watts
- d. 150 watts
- e. 200 watts

2. Which of these can you put in the Mixed Paper recycling bin?

- a. Junk Mail
- b. Errant print-outs
- c. Ziplock bags
- d. Bubble Wrap
- e. Plastic grocery bags
- f. All of the above

Answers on page 7.

Campus Garden Initiative: A Sustainable Food System On Campus

The Campus Garden Initiative (CGI) got its start early in the spring of this year, with the generous financial support of the Green Fund. Numerous students dug right into the task of creating three new gardens at houses on campus: Hammarskjold, East, and Kairos. Through the efforts of these students and their housemates, CGI had a successful spring and summer, and are quickly getting the gardens planted with fall and winter crops.



Students assembling a planting bed at East House.

This fall, CGI is working its way toward greening the campus with gardens. The CGI is cross-pollinating with other energetic groups on campus to try to expand the garden movement to a wider population of the student body. Currently, CGI is working with student housing to identify appropriate areas on campus to build additional gardens and they are using the already established CGI gardens as 'incubators' to sow the seeds of a new crop of gardeners.



Plant bed located at East House.

The CGI is working on getting word out to the campus community about creating a sustainable food system. Through the development of the existing CGI gardens, and by creating new ones around campus, CGI is providing an avenue for all students to get their hands dirty and feast on fresh, healthy, organic produce, while potentially reducing their carbon footprint here at Stanford. For more information about campus gardens, contact Sarah Wiederkehr, Stanford Farm Educator, at swied@stanford.edu.

Bike Demo Day at Porter Drive

In September, Porter Drive occupants adjusted their helmets and participated in the electric bike demo sponsored by ELV Motors and Parking & Transportation Services. Doug Schwartz, CEO of ELV Motors, was on hand to present the bikes to 15 test riders. Test riders were automatically entered in a drawing. Five winners were awarded helmets donated by the Campus Bike Shop.



David Lenox testing an electric bike with Eva Rose Leavitt.

Contact Doug at (408) 605-3747 or visit www.elvmotors.com for more information about the electric models and Stanford special pricing. For additional information about bike safety on campus, contact Ariadne Scott at adscott@stanford.edu.

The Y2E2 California Solar Initiative Rebate Arrives!

As a part of the sustainability and educational mission at Y2E2, a 14.5 kW of solar electric (photovoltaic) system was installed on the south facing roof structure. Three different photovoltaic technologies were used—monocrystalline, polychrystalline and thin film as a way of evaluating performance characteristics during different sun and temperature conditions, which can be easily seen from the top floor of the adjacent parking structure or from the nearby Bambi and Godzilla modulares. The California Solar Initiative, administered locally by PG&E, offers rebates for new grid-tied photovoltaic systems. After over two years of work, the SEM Utilities dept finally received a check for \$32,151 setting a precedent for future solar installations on campus. PG&E had challenged Stanford's eligibility based on a misinterpretation of the program rules which is the reason we are getting the



The solar panels are mounted along the south facing roof

check almost two years after Y2E2 was complete. The money will be returning to Y2E2 building operation fund to be used to further enhance sustainability in the Y2E2 facility.



Photocopy of the PG&E rebate check

Recycled Water Treatment Plant

In early 2009, Stanford's CEF Recycled Water Treatment Plant was completed and began producing recycled water for campus non-potable needs, including flushing toilets. To convey recycled water to the east side of campus and the new Graduate School of Business Campus (completion early 2011), a new pipeline was installed down the entire length of Serra Mall this summer. The plant intercepts cooling tower blow-down wastewater and treats it for reuse through microfiltration and disinfection processes. Other upcoming new buildings will also use recycled water, decreasing their demand for domestic water. Contact Tom Zigterman (twz@stanford.edu), P.E., Associate Director of Utilities, for additional information about the plant. Visit http://lbre.stanford.edu/sem/Water_Resources for more information on Stanford's water systems.



CEF Recycled Water Plant

Woods Institute Five Year Celebration

Join Stanford President John Hennessy at a symposium highlighting the major accomplishments of the Woods Institute during its first five years, along with a discussion on where environmental research should be headed in the future.

The symposium will take place on Oct. 21, 2009 at the Hewlett Teaching center (Auditorium 200) from 2:00 – 5:30 pm. The Fifth Anniversary Symposium is free and open to all, but space is limited. Register by sending an email to environment@stanford.edu or call (650) 736-8668.

The program will include faculty presentations on interdisciplinary collaborations and panel discussions on how the Stanford community and others can help solve environmental challenges through scientific research and policy innovation. The symposium will be followed by a reception at the Environment and Energy Building (Y2E2).

GREEN IT Its & Bits Quiz Answers

1. E) 200 watts

Networked copiers and printers draw 150 watts of electricity even when in PowerSave mode. That is the equivalent of leaving 10 laptop computers humming away for no purpose. To help cut this wasted 'phantom' energy, IT Services is installing timers on printer and copiers that are not typically used during the night. Cutting the power 8 hours a day, the total savings of energy is 438 kWh of electricity, or \$47 in electricity cost per copier per year.

2. F) All of the above

PSSI (our recycling partner) can collect, resell, and recycle processed plastic films and plastic bags. The films have a lower melting point than plastic containers and can be easily sorted in the paper-sorting process.

So, go ahead, toss that Saran Wrap right into the Mixed Paper bin.

New Sustainability Coordinator in Stanford Dining

On July 7th, 2009, Matt Rothe joined the Stanford Dining and Stanford Hospitality as their Sustainability Coordinator.

Matt brings a wealth of professional experience to the position, including co-founder and CFO of the Climate Conservancy, a nonprofit that calculates and verifies carbon footprints for consumer goods companies. Climate Conservancy developed a "Climate Conscious" eco-



Matt Rothe at the Stanford Produce Stand

labeling system, the first climate-related product label in the United States. Matt was also the Director of Operations at Niman Ranch for six years and managed the Operations department. Matt has a B.A. in Environmental Earth Sciences from Dartmouth College and received an MBA from Stanford University in 2007. While earning his MBA at Stanford, Matt designed "The Learning Light", a \$5 solar-powered lighting solution for children in the developing world.

To learn more about Stanford Dining's sustainable food procurement, waste reduction, on-campus production, and awareness programs, contact Matt Rothe at mrothe@stanford.edu or visit Stanford Dining's website: <http://stanford.edu/dept/rde/dining/index.htm>

Greening of 2009 Senior Games

In August, Stanford hosted the 2009 Summer National Senior Games. In partnership with Athletics, PSSI, and Parking & Transportation Services, and keeping with the greening of events already in place on campus, the Senior Games implemented strategies long before the 20,000+ athletes, family, and friends set foot on campus. Most notably, installation of several new hydration stations provided safe drinking water in convenient locations eliminating the use of multiple plastic water bottles. Athletes and volunteers were provided one reusable water bottle to fill at one of the stations. Other efforts included: free rides on public transportation, information for athletes were posted electronically, and food vendors committed to serve drinks and meals in biodegradable containers.



Hydration station

To learn more about the "Go Green" Senior Games initiative, visit: <http://www.2009seniorgames.org/go-green> or download the *Go Green* brochure: <http://www.2009seniorgames.org/pdf/greenbrochure.pdf>.

Coming Up!

Student TownHall: October 15

Students for a Sustainable Stanford (SSS), the ASSU Executive, and the Senate Sustainability Subcommittee are collaborating on an environmental townhall gathering in October. As a continuation of similar townhall events from last year, there will be university staff from Housing, Dining, the Sustainability Office, and other areas, as well as a diverse range of environmentally-focused student groups that hold a stake in sustainability at Stanford. SSS hopes to gather many of the relevant groups on campus and to share past, present, and future projects in order mutually support environmental on-campus efforts and to collaborate on them in the future.



Students for a Sustainable Stanford

Another goal of the town hall is to plan for the April Sustainability Summit, arranged by the ASSU Executive Cabinet and their partners (Office of Sustainability, Woods Institute). The event will be at Y2E2, room 101 from 5 to 7pm.

Sustainability Tours at Homecoming Reunion: October 22nd through 25th

There are several sustainability-related tours being featured at the Reunion homecoming events this October:

Sustainability on the Farm - **Thursday & Saturday, 2:00 – 3:30 p.m.** (bus boarding begins at 1:40pm)

Hop on the first-ever biofuel-powered Marguerite bus for a tour of Stanford's sustainability efforts. Led by the Office of Sustainability, you'll meet campus experts making this campus a greener place and visit various sites! Capacity: 30. Meeting place will be in front of the Alumni Center.



New Marguerite hybrid shuttle bus

Tour the Y2E2 Building- **Friday, 3:15 – 4:15 p.m., Sunday 10:00 - 11:00 a.m.**

A landmark of sustainability in building design, the Jerry Yang and Akiko Yamazaki Environment and Energy Building (Y2E2) is part of the larger Science & Engineering Quad 2 project. Its design promotes interdisciplinary collaboration, flexible lab space and minimal use of water, energy and other resources. Capacity: 40

Meeting place will be at the Environment and Energy Building (Y2E2), Red Atrium Lobby.

Visit: <http://www.stanfordalumni.org/erc/reunions/rh09schedule.html> for the full Reunion Homecoming events schedule.



Y2E2 Building