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Office of the President

TO MEMBERS OF THE COMMITTEE ON GROUNDS AND BUILDINGS:

INFORMATION ITEM

For Meeting of February 3, 2009

ANNUAL REPORT ON SUSTAINABILITY POLICY

EXECUTIVE SUMMARY

- This is the fifth annual report on progress in implementing the Policy on Sustainable Practices ("Policy"), as required by the Regents' July 2003 action.

- Highlights of 2008 calendar year achievements include:

    - The UC Sustainability Steering Committee approved raising the policy requirement for new construction projects from a minimum level of LEED Certified with a target of LEED Silver to a minimum of LEED Silver with a target of LEED Gold;
    - Twenty-four new construction and significant renovation projects that received budget approval in the fiscal year 2007-08 will comply with green building policy guidelines;
    - More than $20 million in energy efficiency grant funding has been received since 2004;
    - Annual cost savings from energy efficiency projects are projected to reach nearly $12 million;
    - A strategic energy planning process was completed, identifying approximately 2,600 energy efficiency projects; campuses identified approximately 1,000 projects with a total cost of $260 million for completion by 2011;
    - Negotiations with utility companies resulted in a nearly threefold increase of grant funding for 2009-11 (compared to the previous three years) to assist the University in meeting its energy and greenhouse gas emission reduction targets;
    - Nine of ten campuses reported greenhouse gas emission inventories to the American College and University Presidents Climate Commitment;
    - Six campuses have submitted at least one LEED for Existing Buildings project to the U.S. Green Building Council (USGBC) for certification;
    - All campuses significantly improved their waste diversion rates, with 7 out of 10 campuses surpassing the goal of diverting at least 50 percent of municipal waste from being sent to landfills;

- More than 10 percent of the University's purchases meet one or more environmentally preferable purchasing standards;
- The University received multiple awards at the local, state, and national level (see Attachment VI);
- The University continues to be ranked in the top tier nationally in the growing number of campus sustainability rankings; and
- The University received positive media coverage in local and regional newspapers, as well as national publications such as *USA Today* and the *Chronicle of Higher Education*.

- Future steps:

  - Refine the Policy in accordance with the recommendations of the Sustainability Steering Committee and the March 2008 Regents' Statement on University of California Sustainability Programs;
  - Work with the USGBC to finalize procedures for certifying multiple buildings through the LEED for New Construction and LEED for Existing Buildings rating systems;
  - Pending successful negotiations with the USGBC, require third-party LEED certification for all new construction projects;
  - Begin implementation of the proposed energy efficiency 2009-11 partnership with utility companies, which will reduce current system-wide energy consumption by nearly ten percent; and,
  - Develop policy guidelines for sustainable foodservices.

BACKGROUND

Pursuant to the Regents' action of July 2003, the President formally issued the "Policy on Green Building Design and Clean Energy Standards" ("Policy") in June 2004. Five additional policy sections have since been added to those first two, and the expanded Policy is now referred to as the "Policy on Sustainable Practices." The current version can be accessed at http://www.universityofcalifornia.edu/sustainability/documents/policy_sustain_prac.pdf.

In March 2008, the Regents adopted a Statement on University of California Sustainability Programs that recommended building upon the University's record of environmental stewardship and requested an assessment of several policy areas for potential updating or expansion. The recommendations included increasing the green building requirements, requiring third-party certification of green building projects, and adding a section to the Policy on sustainable food practices.

As required by the Regents to monitor compliance with the Policy, this fifth Annual Report describes the progress achieved toward implementation of the Policy during the 2008 calendar year. The highlights are organized into the seven sections of the Policy Guidelines, followed by three cross-cutting topics: faculty, staff, and student collaboration; training; and external recognition.

Highlights of 2008 Accomplishments

I. Green Building Design

I.a. Project Status Summary

Since the passage of the Policy in 2004, as shown in Attachment I, 113 new construction and significant renovation[1] projects have complied with the Policy. Fifty-nine percent of these projects received or have targeted a rating of LEED[2] Silver or higher either through the US Green Building Council (USGBC) or the UC equivalency process.

In 2008, all 24 major capital new construction projects and significant renovation projects that received budget approval will comply with Policy guidelines. Seventy-nine percent of these projects are targeting a Silver rating or higher, with 12 projects targeting a Silver rating and 6 projects a Gold rating either through the USGBC or the UC equivalency process. Three projects achieved LEED certification through the USGBC in 2008: the Classroom and Office Building at the Merced campus received a LEED Gold rating; the Student Resources Building at the Santa Barbara campus received a LEED Silver rating; and the Early Childcare Education Center at the Berkeley campus also received a LEED Silver rating.

[1] The green building policy requirements apply to all renovation projects. Significant renovation projects are those with a project budget of $5 million or greater and are required to target a LEED for Commercial Interiors or UC equivalent rating of Certified or higher.

[2] LEED is a green building rating system developed and administered by the non-profit U.S. Green Building Council. The four levels of LEED certification, from lowest to highest, are Certified, Silver, Gold, and Platinum.

I.b. Campus Portfolio Pilot Program

In addition to individual project achievements, the Santa Barbara, Merced, and Irvine campuses, as pilot members of the USGBC's "Portfolio Program," are continuing discussions with the USGBC in order to establish prototype credits for each of these campuses. The program is designed to help companies, government agencies, and universities achieve LEED certification efficiently for a large number of buildings. In return for committing to certify all buildings under the LEED system, the USGBC provides discounts on certification fees, free consulting services, and other special support.

I.c. Energy Efficient Design

All projects implemented under the Policy are required to register with the Savings by Design Program. This energy efficiency program, offered by California's four investor-owned utility companies, provides design assistance, energy analysis, life-cycle costing, and financial incentives for individual building projects. Financial incentives can be used to offset increased costs associated with constructing more energy efficient buildings. To-date, 180 University projects totaling 14.7 million gross square feet have been registered with the program. By the time these projects are completed, the utility companies will pay the University over $5.5 million in incentive payments for these projects, and result in avoidance of an additional $5.4 million per year in energy costs. The energy efficiency grant funding outlined in *II.a* below will provide a higher level of funding for new construction projects through the Savings By Design program starting in 2009.

I.d. Green Building Policy Changes

In March 2008, the Regents adopted a Statement on University of California Sustainability Programs that included a recommendation that the University increase the green building requirements for new construction to LEED Gold certification through the U.S. Green Building Council in order to keep up with industry best practices and maintain a sustainability leadership position for the University. Attachment II provides details of the policy revisions proposed in response to this request.

I.e. Renovation Projects

As shown in Attachment I, 26 major renovation projects will comply with the Policy, with seven of those projects striving for LEED Silver or equivalent. Two projects are seeking LEED for Commercial Interiors certification at the Gold level.

II. Clean Energy Standards

II.a. Energy Efficiency and Conservation in Existing Buildings

The award-winning Energy Efficiency Partnership ("Partnership") program with the California State University and the state's investor owned utilities continues to provide much needed funding for improving the energy efficiency of the University's large and growing building stock. As of October 2008, the current three-year grant that commenced in 2006 has resulted in funding $475,000 in special engineering studies and more than $20.5 million in projected grant funding for energy efficiency projects. The investor-owned utilities estimate that these projects will reduce the University's electric demand by more than eight megawatts and energy usage by 73 million kilowatt-hours and 4.8 million therms. These results translate to a system-wide purchased utility cost reduction of $12 million annually, based on current energy rates.

Building on the current 2006-08 Partnership, the 2009-11 program is to be expanded three-fold and will for the first time include participation by the municipal utility serving the Los Angeles campus. The utilities have agreed to increase their grant budget from $20 million to $54 million over the next three years as long as the University delivers the commensurate energy savings. The program is expected to reduce electricity consumption by 10 percent and natural gas consumption by seven percent over 2007 usage levels and will contribute significantly to the Policy goals.

Constrained staff resources at the Office of the President have impacted the University's energy efficiency training program, resulting in non-utilization of the remaining $200,000 in training funds made available by the Partnership (see IX. below).

The Green Campus Program continues to provide student energy efficiency and conservation internship opportunities. Managed by the non-profit Alliance to Save Energy, the Green Campus Program has chapters on the Berkeley, Santa Cruz, San Diego, Irvine, Santa Cruz, and Merced campuses. Green Campus student interns partner with campus faculty and staff to educate the campus community through programs such as laboratory fume-hood sash management campaigns, office energy audits, light bulb exchanges, project-based courses, and green demonstration rooms in campus residence halls.

The Irvine campus has been evaluating technologies that could significantly reduce energy consumption in laboratory buildings while maintaining adequate safety levels. A recently-completed study demonstrated that low-flow fume hoods provide lab workers equivalent protection to standard fume hoods. In early 2009, the Irvine campus will request an Experimental Variance with the California Division of Occupational Safety and Health to allow the use of several low-flow fume hoods in one of its buildings. The hope is to be able to utilize this energy-saving technology on all of the University's campuses. The Irvine campus is also studying a monitoring system that can increase or decrease air change rates based on concentrations of contaminants.

The University has installed and tested 15 new energy efficient technologies on 30 demonstration sites across nine campuses through a $3 million grant from the California Energy

Commission's (CEC) Public Interest Energy Research program[3]. Some of these technologies have proven so successful that the Berkeley, Santa Cruz, Santa Barbara, Irvine, and San Diego campuses have installed them in multiple buildings. The CEC deemed this program a success and is now providing an additional $3.7 million for further demonstration projects.

II.b. Onsite Generation of Renewable Energy

The University's recently completed Strategic Energy Plan identified the potential for 36.2 megawatts of solar photovoltaic capacity on campus rooftops. Current State regulations restrict each campus to receiving subsidies for only the first megawatt of such an installation. On behalf of other State agencies, the University has taken the lead in attempting to modify the State guideline definitions for government entities in order to qualify for additional incentives for each campus.

The University is starting to make more progress toward achieving the Policy's goal of siting 10 megawatts of onsite renewable energy generation by 2014. The San Francisco campus recently completed a 250 kilowatt solar photovoltaic installation on its Mission Bay parking structure, and the Davis campus is experimenting with generating electricity from landfill methane gas. The San Diego and Irvine campuses have finalized power purchase agreements with third-party solar photovoltaic developers for one megawatt each, and the San Diego campus is considering other renewable sources such as landfill gas fuel cells and ocean water cooling.

The University has also formed a Climate Solutions Steering Group comprised of senior campus executives and representatives from the Lawrence Berkeley National Laboratory, the California Institute for Energy and the Environment, the University's Office of General Counsel, and the Facilities Administration department in the Office of the President. The Group is exploring potential large-scale renewable energy projects and other possible avenues to achieve the Policy's carbon neutrality goal.

III. Climate Protection Practices

The University is devoting significant attention to addressing its contribution to global warming. In 2008, campuses continued to refine their greenhouse gas emissions data collection and analysis efforts (see Attachment III for emissions data by campus), and work is underway at every campus to develop a climate action plan for achieving targets established by the Policy and by the State. The plans are due by December 31, 2008, and thus were not available for review at the time this report was drafted. Other signatories to the American College and University Presidents Climate Commitment will not complete their plans until September 2009, and the University will thus play a leadership role by providing model plans for other universities in the country to follow.
Several UC campuses are coordinating climate action planning efforts with their surrounding communities. For example, the Santa Cruz campus has entered into a regional climate compact

[3] For more information, and an interactive map of projects, see http://pierpartnershipdemonstrations.com/

with the City and County of Santa Cruz. This compact commits the parties to developing and implementing regional emissions reduction strategies and joint projects.

As noted in section II of this report, the University is dramatically increasing the size of its energy efficiency program, which will play a significant role in the climate action plans. For example, at a system-wide level, projected greenhouse gas emission reductions from the proposed 2009-11 statewide energy partnership are 155,000 metric tons, or roughly nine percent of the University's current emissions total.

IV. Sustainable Transportation

To better reflect the comprehensive nature of transportation demand management programs across the University and to respond to the objective of reducing greenhouse gas (GHG) emissions, the Sustainability Steering Committee has recommended revisions to the Policy Guidelines in the area of sustainable transportation. The "carshare/rideshare guideline" was broadened to encourage the expansion of all Transportation Demand Management programs and projects rather than limiting efforts to carshare/rideshare. Among the many other programs, the University is negotiating an opt-in system-wide carshare contract in order to take advantage of the increased utilization of carshare programs on each campus.

The other recommended revision addresses the specific fleet purchasing requirements of the "PZEV guideline" to require campuses to set specific goals and report annually on emission reductions from commuting, fleets, and business travel tied to campus Climate Action Plans. The broadening of the guideline was motivated by campus emission inventories which quantified that GHG emissions from commuting and business air travel far exceed emissions from fleets.

The Policy's required annual reporting of fuel consumption by the University's vehicle fleet is provided in Attachment IV.

V. Sustainable Operations

To address the sustainability of existing building operations and maintenance, every UC campus has submitted or will be submitting one building to the US Green Building Council for certification through the LEED for Existing Buildings (LEED-EB) program. Six campuses will have submitted their projects by February 2009. The Santa Barbara campus achieved its second LEED-EB certification when its Recreation Center earned a LEED-EB Silver rating in August 2008.

The Santa Cruz campus submitted LEED-EB documentation for its Engineering 2 building to the USGBC this October; the San Diego, San Francisco and Los Angeles campuses expected to submit their completed LEED-EB projects to the USGBC in December 2008. With the exception of the Merced campus, all other campuses plan to submit at least one project to USGBC by the second quarter of 2009. The Merced campus is planning to certify all campus buildings through the LEED-EB program.

VI. Recycling and Waste Management

The Policy Guidelines include a goal of diverting 50 percent of the municipal solid waste generated by each campus from landfills, mirroring the state requirement already in place for all municipalities and state agencies. In 2008, each campus began to initiate their Preliminary Integrated Waste Management Plan which they had developed in 2007 in response to the Policy. The data reported for FY 2007-08 reflect significant progress at each campus, including an impressive 174 percent improvement in the diversion rate at the Los Angeles campus. The three campuses that have not yet reached the 50 percent waste diversion target did improve their diversion rates and have plans to make further progress in the coming year.

Meets 50 percent Diversion as required by the Policy (percent increase in 2007-08):

- UC Davis at 69 percent (23 percent increase)
- UC San Diego at 67 percent (82 percent increase)
- UC Santa Barbara at 65 percent (24 percent increase)
- UC Berkeley at 57 percent (68 percent increase)
- UC Irvine at 54 percent (19 percent increase)
- UC Merced at 53 percent (13 percent increase)
- UCLA at 52 percent (174 percent increase)

Continuing Improvement Toward 50 percent Diversion:

- UC Santa Cruz at 46 percent (44 percent increase)
- UC San Francisco at 44 percent (5 percent increase)
- UC Riverside at 38 percent (8 percent increase)

Moving towards an ultimate goal of "zero waste," two major buildings on the Santa Barbara campus carried out a zero-waste challenge, with the winning building managing to increase its waste diversion rate to 88 percent. The Davis campus is also piloting a zero-waste building program. The influence of the zero-waste Aggie Stadium on the Davis campus is already being felt nationally, as the University of Colorado took inspiration and advice from Aggie Stadium in making its football stadium the first zero-waste major sports stadium in the country.

VII. Procurement

Improving the University's practices to conform to the Policy goals starts with sustainability training for all purchasing staff. Reflecting the University's consideration of sustainability, five percent of the total bid evaluation points are allocated for a bidder's commitment to sustainable products and operations.

Significant progress has been demonstrated through an increase in the total dollar amount of sustainable products from three percent of total tracked University purchases in 2007 to 10 percent in 2008. The University increased its purchases of 30-percent postconsumer waste multi-use paper from 41 percent to 63 percent in 2008.

Twenty-four systemwide procurement agreements (see list in Attachment V) now contain specific sustainability requirements. Complementing supplier requirements with internal process improvements, the University is developing practices to further "green" its commodity team bid process, such as utilizing teleconferencing for meetings, and collecting and distributing data and bidding documents electronically.

VIII. Staff, Faculty, and Student Participation in Sustainability Activities

The University's sustainability program contributes to the University's research, teaching, and public service missions through unique collaborations among faculty, staff, and students. For example, the University's 10 campuses joined hundreds of colleges and universities on January 31, 2008 in organizing Focus the Nation, a ground-breaking national teach-in on global warming solutions. Chancellors, Nobel laureates, and elected officials, joined thousands of students, staff, and community members at all 10 campuses for two days of workshops, expert panels, policy debates, and films screenings. The University's students and faculty used Focus the Nation to address global warming from a variety of disciplinary perspectives, including public policy, political science, law, and economics. The events also addressed behaviors and practices that individuals can adopt to reduce their personal and professional impacts on the climate.

The University's sustainability program is benefitting from the increased utilization of campuses as living laboratories for research and learning. The student-run Building Sustainability at Cal (BSC) Program uses service learning to focus the University's academic acumen directly on the University's operations. Students in the BSC Program administer energy, water and waste audits, and building occupant surveys, and use the resulting information to create sustainability action plans for individual buildings on campus, which are presented to campus operational units. Students then implement programs or design projects to reduce the environmental impact of campus buildings.

Some additional highlights of collaboration among students, staff and faculty include:

- green business certification of eight out of eleven dining halls on the Santa Cruz campus;
- the Sustainability Ambassadors program at the Santa Barbara campus, wherein students are hired and trained by the Associate Vice Chancellor for Administrative Services and Sustainability to be sustainability spokespeople that conduct outreach and education across campus;
- students at the Los Angeles campus passed a student fee referendum to become the third campus to create "The Green Initiative Fund" to provide nearly $200,000 in annual funding for campus sustainability projects;
- a faculty member at the San Diego campus organized a class to install and manage microclimate monitoring stations around campus that provide data to allow more efficient design and operation of campus buildings; and,
- Dining Services at the Davis campus teamed up with student groups to hold what has become an annual "Local Food Week" in the dining halls to educate students about

sustainable food systems and help transform the dining halls toward more permanent sustainable practices.

IX. Training

The University continued to promote excellence through training, both through individual training workshops and an annual conference. The seventh annual UC/California State University (CSU)/California Community Colleges (CCC) Conference hosted by Cal Poly San Luis Obispo in July 2008 attracted over 1,000 attendees – including 250 students - from 90 colleges and universities from throughout California and neighboring states. Regent and Lieutenant Governor John Garamendi served as one of the conference's keynote speakers. The conference program highlighted and shared best practices in thirteen tracks of sessions organized around each of the sustainability topics in the Policy, plus a number of others. Session tracks on social equity and medical center topics were added to the conference for the first time. The fourth annual Higher Education Energy Efficiency Partnership Best Practice Awards were presented to exemplary UC, CSU, and CCC energy efficient projects at a special ceremony during the conference.

Due to constrained staff resources, the University was unable to utilize all of the funding available through the UC/CSU/Utility Energy Efficiency Partnership grant mentioned above. After offering twenty or more training offerings in previous years and reaching more than 300 individual staff members, only three training workshops were able to be offered in 2008.

X. External Recognition for UC

The Regents and the University continue to receive extensive recognition as national leaders in sustainability, and are benefitting from increased national media coverage and student interest in the topic of sustainability in higher education. During the 2008 calendar year, more than 100 articles on the University's sustainability initiatives appeared in campus, local, regional, and national media outlets, including *Sierra Magazine*, *USA Today*, *Los Angeles Times*, *San Francisco Chronicle*, *Sacramento Bee*, and *San Diego Tribune*. The San Diego campus in particular received frequent television news coverage of its campus sustainability initiatives.

The Princeton Review conducted a survey in 2008 of graduating high school seniors which revealed that 63 percent asserted that a University's level of campus sustainability would influence their choice of college. Reflecting this increased importance in student recruitment, all major college guides have initiated "green ratings." The University ranked in the top tier of all green ratings, including being singled out as being "in a league of its own" by the Sierra Club in its second annual ranking of the top 10 greenest universities. Attachment VI provides a list of these and other awards achieved by the University and its campuses in 2008. Of particular note, the Irvine campus earned the State's top environmental honor, the Governor's Environment and Economy Leadership Award, for its sustainable transportation program.

XI. Future Steps

In addition to the extensive efforts to meet the requirements in each of the seven Policy areas, in the coming year the University will work to revise the Policy in accordance with the recommendations of the Regents' Statement on University of California Sustainability Programs. The University will develop policy guidelines for sustainable foodservices. The University will also work with the USGBC to finalize procedures for certifying multiple buildings through the LEED for New Construction and LEED for Existing Buildings rating systems. Pending successful negotiations with the USGBC, the Sustainability Steering Committee has recommended that the President consider revising the Policy to require third-party LEED certification for all new construction projects.

One of the most significant implementation tasks in the coming year will be to begin implementation of the more than 1,000 energy efficiency projects to be funded through the Partnership program. These projects comprise the core of the climate action plans that campuses will begin to implement in 2009.

(Attachments)