November 2013

Berkeley
UNIVERSITY OF CALIFORNIA

Energy Management Initiative

ANNUAL REPORT

Phase I Success

We are pleased to share this report on the Energy Management Initiative (EMI) and how it has reduced energy use on campus. While both of us have been involved with campus energy projects, this initiative offered the opportunity to challenge the assumption that growth in research and teaching leads to growth in resource use. By better managing energy, this initiative helps make the campus a living laboratory and a model for a more sustainable future.

Like many campuses, UC Berkeley's energy use had been increasing while funding for maintenance has stagnated. Commitments to reduce greenhouse gas emissions place energy management at the forefront of our sustainability efforts. The main focus of many of these efforts has been to reduce energy use in campus buildings, starting with large infrastructure projects. However, a comprehensive campaign was needed to drive both individual behavior change and institutional change to assure long term energy use reductions.

In 2011, when UC Berkeley initiated our comprehensive and innovative Energy Management Initiative, we incorporated several best practices and innovations:

Make the connection between individual and institutional actions explicit.
The EMI successfully bridged the overarching campus goals and the multiple individual actions needed to achieve these goals. This connection between larger infrastructure projects and the behavioral programs creates a more comprehensive and persistent savings strategy. One example of this connection has been the use of dashboards to show real-time energy use in buildings.

Innovate with comprehensive, complementary, and coordinated components.
The backbone of the initiative was the result of preplanning, stakeholder input, an on-going implementation team, and purposeful integration of communication into the larger EMI. This framework allows us to remain agile and incorporate new information and strategies moving forward.

Target the effort and program design for UC Berkeley audiences and for our circumstances.
On a large, decentralized campus, with many competing messages bombarding stakeholders, the EMI needed sufficient resources (both start-up funding and personnel support) and backing from campus leadership in order to be an effective change management campaign. The effectiveness of the program was enhanced by the grassroots involvement of faculty, staff, and students.

As a result, our energy savings – most of which accrue directly to campus units – are already at the level anticipated for our second full year of operations. We hope you enjoy reading about how we achieved these savings.

Jennifer Wolch
Dean, College of Environmental Design
Chair, EMI Steering Committee

Edward Denton
Vice Chancellor, Facilities Services
Sponsor, EMI

Summary

In April 2012, UC Berkeley's Energy Management initiative (EMI) was launched to provide a new framework for efficiency measures and to permanently reduce the amount of energy the campus uses. In the first year of the program, we have built momentum towards establishing energy efficiency as a social norm and part of the day-to-day operations of the university. We imagine and innovate through the four Energy Management projects that are helping UC Berkeley further distinguish itself as an environmentally concerned, fiscally responsible leader in energy conservation in higher education.

Since the launch of EMI in April 2012, the project has achieved savings of $2 million – surpassing our planning estimates – and have done so while remaining 12% under budget. Hundreds of students, faculty and staff have been involved in EMI program efforts and the program has been presented at 16 state, national, or international higher education conferences.

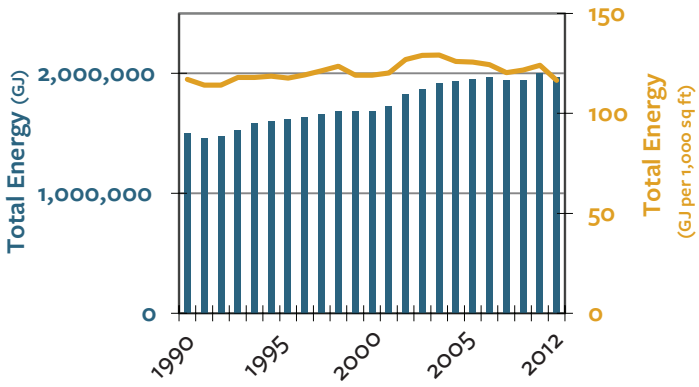
Program Launch: April 2012

$2M in Savings

12% Under Budget

Early Stages

Energy costs have been rising at a rate of nearly 2% per year – and nearly 35% since 1990. Even as costs increase, building occupants have in the past had no real knowledge of how and where energy is used. The campus bill for utilities for central campus, auxiliaries, and other state-funded buildings has been approximately $30-35 million; while auxiliaries are recharged for energy use, insufficient state funding for other facilities requires $6-9 million to be diverted annually from campus discretionary spending. Without remedial action, the continued rise in energy prices risks making this deficit worse.



The Energy Management program, one of several initiatives that comprise Operational Excellence, began with a goal of creating a sustainable energy savings plan that:

- monitors building energy use and fixes energy-related problems quickly
- provides support to campus units and individuals so that they can save energy
- creates an incentive to save energy for building occupants and campus units
- crafts new policy to support this effort.

The work of the EMI represents a dramatic shift in the way that energy and energy services (e.g., power for lighting or heat) are managed on campus. By instituting a central office to oversee campus-wide energy use and conservation efforts, providing incentives, and emphasizing the importance of individual actions (from dimming monitors to quick responses to hot and cold calls), the campus is projected to achieve $3-4 million in annual energy savings and a reduction in greenhouse gas emissions once the EMI is fully implemented. These savings are relative to a "business-as-usual" baseline, and do not include any of the savings from the planned and active projects being implemented by the Strategic Energy Partnership (SEP).

Without the EMI, the campus would face increasing utility deficits, increased risks of future price increases, and the additional cost of purchasing credits or offsets to achieve our greenhouse gas emission reduction goal. Building maintenance would further deteriorate and would offset the gains afforded by SEP reductions.

Achievements to Date

ENERGY OFFICE

Over the last two years, the Energy Office has built a team that executes energy projects and that serves as a catalyst and "one-stop-shop" for energy use reductions on campus. By managing the Energy Incentive Program and working with stakeholders, the Office is helping to transform the way the campus uses energy. Applying a blended approach of engineering, analysis, and technical skills, the Office works across traditional organizational silos to achieve their goals.

The Energy Office has tracked, monitored, and assisted the campus in reducing energy use by improving building management and performance, and provides continuous feedback to Operating Units (OUs) on their electricity use patterns. Primarily, the Office has engaged stakeholders and energy consumers on campus by working with facilities personnel and raising awareness among staff and students on energy use and costs. The Office also provides technical assistance in the form of reviews, site investigations, and the repair and maintenance of building systems. The Office implements energy-savings projects on campus through collaboration with the Strategic Energy Partnership (SEP); this role extends to ensuring the persistence of the energy savings achieved through SEP projects.

The office now has an Energy Manager, Energy Analyst, Electrician, and three Stationary Engineers (with an opening for one more, who will each cover a designated set of buildings). It became clear early in the recruiting efforts for the Office that the skill sets needed for the positions were in high demand, meaning that some hires may not have all of the needed skills. Because of this, the Energy Office collaborated with Pacific Northwest National Laboratory, Lawrence Berkeley National Laboratory, Facility Dynamics Engineering, and the Pacific Gas & Electric Energy Center to provide staff professional development and training to further develop needed skills.

Specific activities undertaken by the Energy Office staff include:

- energy audits for lighting and mechanical systems
- building commissioning and re-commissioning
- repairing and installing variable frequency drives (VFD)
- repairing economizers
- installing time clocks to ensure that equipment is not running 24/7.

The Energy Office also reviews requests for building operating schedules and temperature set point changes. In one instance, a department withdrew such a request once notified of the potential energy increases. At the same time, a process has been developed by PPCS to formalize these requests and ensure increased accountability for the changes and the impacts on energy use.

The Office works closely with other PPCS units on implementing projects that improve building systems. These projects affect a variety of systems including domestic hot water, lighting, HVAC, and compressed air systems and with the completion of each work order, the Office completes an energy savings estimate for each project. Some of the key work orders for energy savings include:

- Maintaining equipment hours of operations

- Scheduling the run time of fan and pump systems
- Repairing or installing new occupancy sensors
- Repairing steam and air leaks
- Repairing airside economizers
- Sequencing and optimizing performance of systems and controls
- Supporting preventive maintenance efforts (e.g., filter changes)

One example of how the Office has successfully reduced energy use occurred during Winter Break 2012-13. The Office expanded the annual Holiday Curtailment to include manually-shutdown buildings. The Office was supported by the stationary engineers and Energy Management Systems Group within PPCS, resulting in savings of approximately 972,000 kWh of electricity and 10,100 therms of steam.

The Office has also partnered with energy-related interest groups including National Labs (Pacific Northwest and Lawrence Berkeley), the PG&E Energy Center, and various student research groups led by Prof. Duncan Callaway (Energy & Resources Group), Prof. Culler (Electrical Engineering and Computer Sciences), Prof. Schiavon, Prof. Brager and Professor Arens (Architecture/Center for Built Environment). These partnerships exemplify the unique opportunity that a higher education setting has to create a 'learning laboratory' environment, benefitting students and staff alike.

ENERGY INCENTIVE PROGRAM (EIP)

The Energy Incentive Program (EIP) is successfully established and is achieving electricity savings. This innovative approach to energy management gives Operating Units (OUs) a financial incentive to implement energy-saving measures. OUs that use less electricity than allocated will receive an incentive payment, while those that exceed the allocation will incur overage charges beginning in the second year of the program. OUs receive monthly meter reports indicating actual consumption relative to their baseline allocation and will soon receive end-of-year statements and incentive payments totaling $870,000.

In this first program year, the magnitude of achieved energy reductions varied considerably across the Operating Units. Most important, twenty-six of the twenty-eight campus OUs will receive an incentive payment. Not surprisingly, some of the largest use reductions were achieved by the largest OUs. In fact, the Research Units and the College of Engineering will receive the largest incentive payments. Three other units stood out for size-adjusted savings: IST, L&S (Biological Sciences), and the Graduate School of Education.

Initial baselines (usually based on FY 10-11 electricity use) were sent to the 28 Operating Units (OUs) in April 2012. A process managed by the Energy Office was established to allow adjustments to baselines and to exclude savings from centrally-funded Strategic Energy Plan (SEP) projects[1]. To date, four OUs have asked for and received adjustments for the differential or changed electricity consumption of certain spaces. One OU also received an adjustment for equipment failure that resulted in increased electricity use.

The Energy Office meets regularly with OUs to convey the shift toward accountability in energy use through the EMI, and with facility managers or coordinators to discuss energy savings opportunities in buildings. The Energy Office also works with building occupants and designated OU energy liaisons, to help identify opportunities and implement projects for energy savings. During the Trial Phase of the EIP (April–June 2012), outreach efforts revolved around change management and the new programs that arose from the EMI. During Production Phase I (incentive-only phase during FY12-13), conversations focus on building energy use and ways to curb energy use increase.

Additional information on the Energy Office and the EIP can be found at physicalplant.berkeley.edu/energyoffice.html.

1 Since SEP projects are centrally debt-financed, the savings from these projects are required for loan payments.

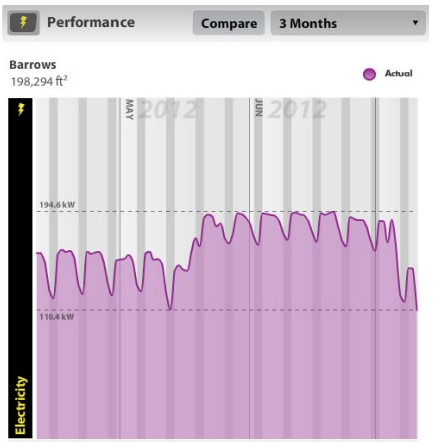
DASHBOARDS

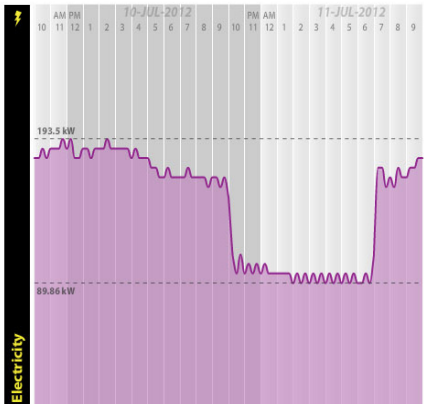
The software that shows real-time energy use for campus buildings has been installed for over one hundred buildings, including 8 housing units. Ultimately the campus will have over 140 live dashboards by the completion of the third phase of meter installation, making it easy to visualize the cumulative impact of individual savings.

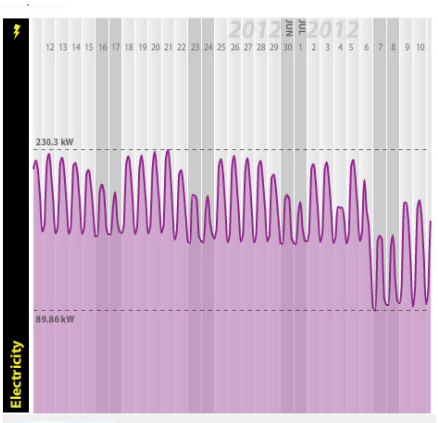
The benefits of this system go well beyond the public dashboards. Analytics provide real-time feedback on building-level interval data, which helps Energy Office and PPCS staff to identify performance anomalies and system malfunctions. For example, one professor noticed a spike in use in Barrows Hall and reported it to EMI staff, and the Energy Office was able to resolve the issue and avoid costs of $45,000.

The analytics also provide a simple way to benchmark buildings against one another, and help target efforts in buildings with increasing energy use. In general, there are no submeters within a building, though the dashboards can help provide insights into the disaggregation of energy use in a building just by analyzing a building's main electricity meter.

Over 100 Dashboards & 20 Submeters Currently Active and Publicly Accessible







OUTREACH

"How many Vice Chancellors does it take to change a light bulb? All of them."

UC Berkeley's public education and outreach campaign – myPower at Berkeley – envisions a future where all campus stakeholders – including Vice Chancellors – work to save energy. The multi-faceted outreach campaign combines campus commitment, communications strategies based on the latest research on behavior change, and expert design to achieve this vision.

myPower's multi-media campaign empowers faculty, staff, and students to take smart, simple energy savings measures that will improve our environmental footprint and save the campus money returning those funds to teaching and research. Individual behavior is a key component of our efforts to reduce energy use. Our success is related to how well we communicate with the campus and convince people to modify their behavior, make incremental change, and increase their energy awareness.

Before myPower, building occupants rarely knew how much energy they used or how much it cost – it was as if 'energy was free'. As the above tagline from one of the campaign's posters suggests, myPower seeks to engage the entire campus and to highlight that everyone has a role to play. myPower works to communicate how everyone can learn what they can personally do to reduce energy use on campus through multiple means:

- a one-stop-shop myPower.berkeley.edu website
- tips on individual actions to save energy targeted to specific campus settings (lab, office, and residence halls)
- posters and stickers to draw attention to the campaign with specific energy-saving steps
- volunteer "Power Agents," staff who receive support and training to serve as a resource for their buildings and departments
- case studies and competitions
- energy surveys by student teams to tailor information for building occupants
- a physical resource center on campus to supply materials, workspace, and meeting space for staff and stakeholders

Energy Surveys myPower Energy Associates conduct energy surveys in various campus buildings. These surveys focus on information to support behavioral changes that emphasize energy efficiency and energy reduction. Surveys are conducted in partnership with building managers or engaged and enthusiastic building occupants. The survey process includes interviewing building occupants, touring the building, and making observations. The process results in a report that details observations and outlines a customized energy reduction strategy for that specific building. "We suggest a wide range of strategies that are as simple as avoiding the use of screen savers. We also point out some larger actions such as replacing outdated energy appliances with new Energy Star ones," explains Energy Associate Ashley Dimas.

Twenty-five surveys have been completed in the following departments: Business and Administrative Services, EH&S, Energy Biosciences Institute, Dept. of Chemical and Biomolecular Engineering, Public Affairs, Linguistics, Performing Arts, Institute of

Personality and Social Research, ASUC Auxiliary, School of Information, Demography, Haas School of Business, College of Environmental Design, School of Optometry, and Summer Sessions.

Posters and Stickers A set of fun and inventive posters have been developed and distributed widely across campus. With messages ranging from "Power to the People" to "Tune Up, Turn Off, Save Energy," these posters use messaging that draws on behavior change research. The posters are designed to get people's attention and to establish individual action as the social norm on campus. The stickers reminding people to turn off lights and equipment have also been widely distributed and are part of this same reliance on proven research to manage change on campus.

Resource Center The myPower Resource Center provides the essential interaction between project staff and campus stakeholders on ways to save energy. This Resource Center gives project staff a single location to work together, network, and share information about EMI. It is used for informal meetings and as a place for the public to sign out equipment, ask questions, volunteer, and pick up outreach materials. Having a physical presence to cultivate in-person, human interaction is an important feature on our decentralized campus.

POLICY

A new Energy Use Policy has been approved by the EMI Steering Committee (February 2013) and the Campus Enterprise Risk Committee (April 2013), which is the campus administrative committee responsible for policies. The policy will be issued by Vice Chancellor Denton in December 2013. The Policy has been developed to provide a local framework to support energy-efficient decisions in accordance with the EMI. The intent of the policy is to support environmental stewardship and leadership congruent with the campus's standing in education, research, and public service. The Policy outlines new energy conservation practices for:

- heating, cooling, and ventilation in campus buildings;
- lighting;
- equipment, including computers; and
- construction and renovation projects.

The Policy aligns with previously adopted campus environmental and sustainability goals and campus workplace safety and accommodation policies. It creates some new requirements for campus departments, such as a requirement that the Energy Office review capital projects and fume-hood installations, and the prohibition of "once-through water" process cooling. To encourage climate-appropriate design, and to clarify a long-standing campus practice, mechanical air conditioning will be permitted only when required for programmatic reasons, and requires the approval of the Vice Chancellor for Facilities Services.

The Policy also establishes an aspirational "No Net Increase" energy goal to establish energy performance goals for renovation projects, meaning the proposed project would not result in an increase in the building's metered energy use, or, if it necessarily results in a net increase, that energy conservation measures or on-site energy generation are included in the project to offset the expected increase. This is an aspirational and innovative, but achievable, challenge for the campus, and is necessary to stem the increase in energy use, consumption, and cost of the past decades.

The Energy Office has administrative responsibility for the policy and will interpret and revise it as necessary. The Energy Office will also track the projects that they review and report quarterly to the Vice Chancellor for Facilities Services in coordination with Capital Projects. The outreach strategy for the Policy is to align messages with environmental and climate goals and to focus 'in-reach' in areas where new practices are being established.

Savings

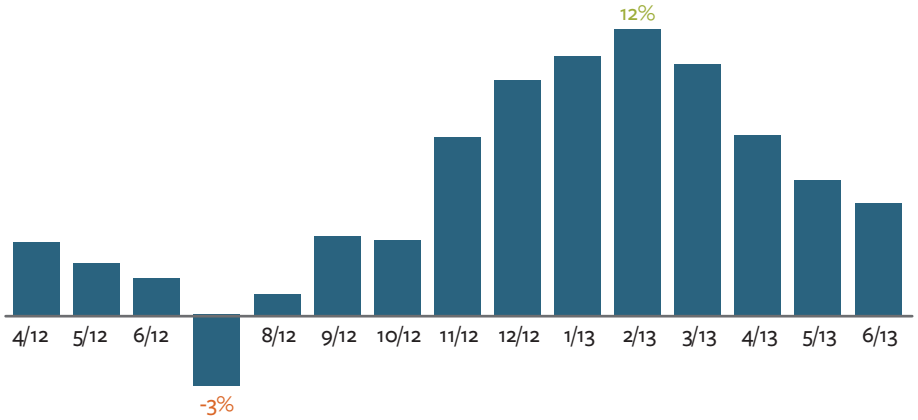
The Energy Management Initiative reports total savings of $2 million since the April 2012 launch of our program. This exceeds our projected savings of $1.4 million by over one-third. In fact, the EMI savings are a year ahead of schedule and are already at the level anticipated for our second full year of operations. Below are more details on how these savings were calculated, including examples of cost-saving projects. Overall, the savings represent a 1,500 ton reduction in greenhouse gases.

Source of Savings	**Assumptions, Description, and Source**	**Savings (since launch)**
Buildings included in the EIP	Includes savings from the EIP, outreach, and the Energy Office in 81 state-funded buildings; excludes the SEP savings; calculated relative to FY 10/11 baseline adjusted for business-as-usual increases *Source: Energy Office, EIP data*	$1,523,000
Residence Halls	Uses budget data for electricity only; calculated relative to FY 10/11 baseline adjusted for business-as-usual increases *Source: Office of Sustainability, budget data*	$325,000
Steam Savings	Steam reduction calculated based on completed work orders from skilled trades that resulted in reduced steam consumption *Source: PPCS-EO Work Order data*	$139,000
	TOTAL	$1,987,000

One key assumption in calculating these savings was that the baseline would have increased at 2% per year without the EMI. This business-as-usual baseline was necessary given that energy use has historically increased at approximately this annual rate. Without this assumption, estimated savings would not fully reflect the efforts to use less energy. These secondary savings (or avoided costs) equal just over 35% of the total savings achieved.

From a programmatic point of view, it is also instructive to show how much of these savings accrued to units (including auxiliaries) versus the central campus. This breakdown is currently 65%-35%, respectively. It is expected that the percentage accruing to central campus will over time equal or exceed the funding required to run the Energy Office and Energy Incentive Program.

EIP Buildings:
Percent Electricity Reduction



Buildings Included in the EIP

The Energy Office actively tracks the electricity use in the buildings under the Energy Incentive Program (EIP)[1] through monthly meter readings and dashboards relative to their baselines. New or renovated buildings that came online after FY2010-11 are not included in this dataset.[2]

The "EIP Building" graph (above) shows results for all buildings combined and are a simple comparison of electricity use between the baseline and current year monthly readings.[3] The EMI savings have been adjusted for projects completed under the Strategic Energy Plan (SEP)[4] and for increases from new buildings on campus and show an electricity use reduction of 9.3 million kWh (or $931,000 calculated at a rate of $0.10 per kWh) since April 2012.

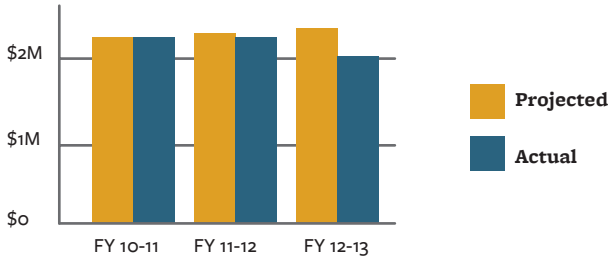
It is also interesting to see the variation in savings by month. The increase (negative reduction) seen in July is likely an anomaly, but may be attributed to how the SEP savings accrue or to the startup time of the initiative in working with customers. The EIP savings reveal a cyclic nature that is centered on the winter months; we believe this to be a direct effect of Energy Office staff, along with PPCS, concentrating on energy-saving work orders in this period as well as the Expanded Holiday Curtailment.

1. The EIP does not include auxiliary and housing Operating Units.
2. New or renovated buildings increasing campus electricity use includes, but are not limited to, the following: California Memorial Stadium, Energy Biosciences Building, Li Ka Shing Center, and Simpson Student-Athlete High Performance Center.
3. Baseline electricity data are subjected to change depending on availability of data (e.g., meter failure), since mechanical meters are still read manually on a monthly basis.
4. SEP projects require a post-implementation trending period after a measure is implemented to estimate and project energy savings – this usually ranges from a few weeks for simple projects (i.e., lighting retrofits) to a few months for complex projects (i.e., HVAC MBCx).

Residence Halls

Residence halls are included in the outreach portion of the EMI only. They are not eligible for the EIP since they pay their utility bills directly. Using budget data for electricity only, the savings relative to the baseline of FY10-11 (assuming a business-as-usual growth of 2% per year) totals $325,000.

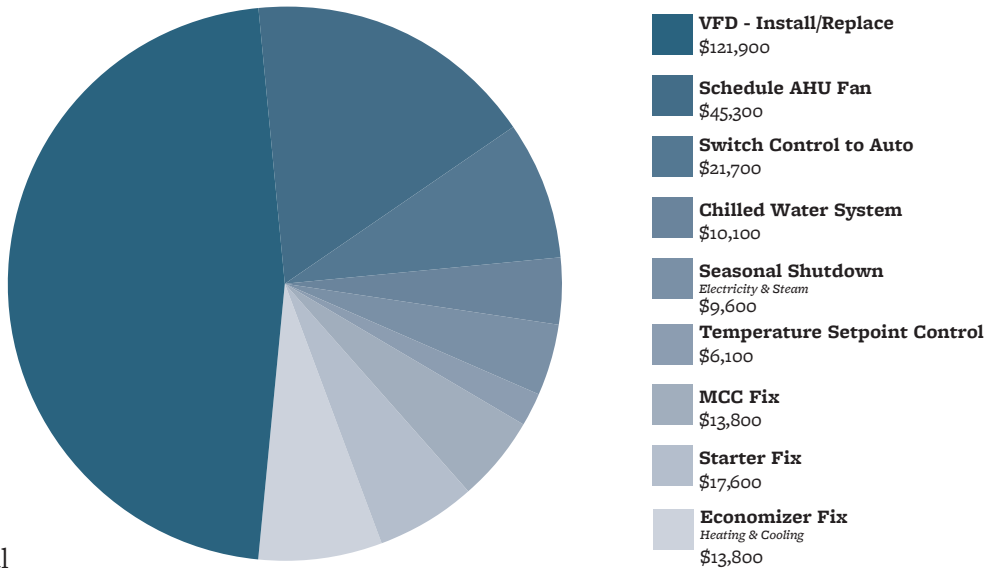
Housing Electricity Use



How Savings Were Achieved: Examples

The Energy Office works closely with PPCS on implementing projects that improve building systems. These projects affect a variety of systems including domestic hot water, lighting, HVAC, and compressed air systems. With the completion of each work order, the Office estimates the energy savings for each project. The energy savings associated with these work orders are estimated to be 3,000,000 kWh of electricity and 86,800 therms of steam annually.

Energy Cost Savings Distribution
FY 2012-13



This year, the Energy Office expanded the annual Holiday Curtailment to include manually-shutdown buildings. This resulted in savings of approximately 972,000 kWh of electricity and 10,100 therms of steam.

Responding to reports from building occupants on anomalies in electricity use seen on the dashboards yielded savings of $45,000 (Barrows Hall), $2,000 (Evans Hall), and $25,000 (Tolman Hall).

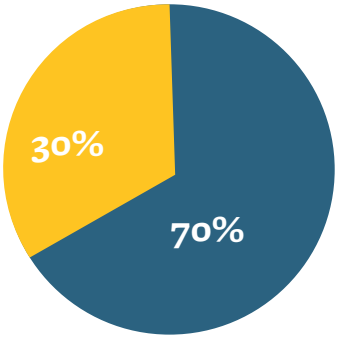
Outreach in Unit 1 (where 1,110 stickers and over 200 posters were placed over winter break) resulted in approximately 8% savings in both February and March, and a 4-6% reduction in use in April, or almost 40,000 kWh.

Other Metrics of Success

Product/Service Quality: Knowledgeable Stakeholders

One key way to assess the engagement of our stakeholders is to measure how many are using our websites and how fre¬quently, using web analytics. Data presented is for both myPower.berkeley.edu and my.pulseenergy.com/UniCalBerkeley/dashboard. Data below is for the period of April 2012 - June 2013.

	myPower.berkeley.edu	Dashboards
Visits (unique)	5,500	4,000
Pages/Visit	2.5	17
Avg. Visit Duration	3 minutes	12 minutes
Bounce Rate	49%	1.5%



myPower Site Return Rate

New Visitor

Returning Visitor

Dashboard site had similar rates at 35% new visitors.

Most Visited Dashboards

Overview Portfolio
South Hall
Alumni House
Anthony Hall
Barker Hall
Stanley Hall
Underhill Parking

Policy Compliance: Review of planned capital projects for compliance with Energy Policy

Once the Policy becomes effective, the Energy Office will track projects that they review. In addition, the Project Management unit in Capital Projects will track applicable projects and cross reference, in order to report quarterly to the Vice Chancellor for Facilities Services on compliance with the Energy Policy.

Budget

The total budget for Phase I of the Energy Management Initiative was $2,476,000, of which $2,160,000 was expended since start of project, resulting in over $300,000 surplus. These funds will be rolled over into the next phase of the EMI. The table below details the EMI budget and actuals by program.

Energy Management Initiative, Budget and Actuals

	FY11-12	FY12-13	TOTALS
Energy Office			
Budget			$1,020,000
Actuals	$91,234	$960,919	$1,052,153
Surplus (Deficit)			($32,153)
Energy Incentive Program			
Budget			$1,214,000
Actuals	$411,639	$497,986	$909,625
Surplus (Deficit)			$304,375
Outreach Program			
Budget			$242,000
Actuals	$104,858	$93,345	$198,203
Surplus (Deficit)			$33,797
Energy Policy (no expenses)			
TOTALS			
Budget			**$2,476,000**
Actuals			**$2,159,981**
Surplus (Deficit)			***$316,019***

Lessons Learned

As the Energy Management initiative moved from design to implementation planning to launch, the team identified opportunities for improvement in the program design elements as well as in the change management plan.

Allocation of incentives to OUs

The Design Phase team originally recommended splitting the savings achieved by individual Operating Units (OUs) between a cash payment and a credit with PPCS for work orders. The justification was to encourage OUs to work with PPCS and the Energy Office to implement small projects or repairs that would reduce energy use, as well as provide recharge funds to the Office. However, it quickly became clear that this split would be too complex to implement and was eliminated prior to project start.

Embedding change in the PPCS Call Center

As soon as work orders began coming to the Energy Office, it was apparent that new protocols were needed in the PPCS Call Center because there was no way to track work orders related specifically to energy issues. Work orders related to energy savings would need to be more visible, and all PPCS departments needed a way to ensure that their work did not conflict with that of the new Energy Office. A new process was developed and implemented in the fall of 2012 that helps ensure collaboration between the Energy Office and the trades on any work orders that might affect energy use. The Energy Office also helps educate OUs to make more informed decisions as they pertain to energy impacts when requests are made to PPCS for system changes and building renovations.

Role of physical monitors showing the dashboard

Physical LCD kiosk monitors were initially installed in the following facilities: Evans Hall, Tan Hall, Wurster Hall, and Maximino Martinez Commons. However, there have been some connectivity problems with the monitors, resulting in complaints from building occupants. The monitors were not programmed to be remotely reset when needed, which has caused problems. A traffic survey at Evans Hall to document the effectiveness of having monitors in main lobby of campus buildings on behavior modifications was not promising – only 5% of those who passed by the monitor even glanced at it. In Stanley Hall and Li Ka Shing, the building electrical consumption has been added into existing building kiosk monitors, but there is no good way to assess the impact of these monitors. We are currently testing a new generation of monitors before installation across the campus and will carefully assess the viability of monitors before proceeding with further installations.

Evolution of myPower team surveys

myPower offers surveys (condensed, observational audits) that provide individualized attention to a specific office or building's current environment, existing attitudes, and daily practices. Originally planned as a quick type of outreach, the surveys – through both office and laboratory – are now more involved, gauge the current climate of energy use in a specific area, and outline a customized energy reduction strategy for that area. Our team of student interns, along with student organizations (Power Save Green Campus and Building Sustainability at Cal), have helped with training and development of the survey instrument. As expected, this type of concentrated outreach has unearthed some technical problems in buildings that require repair, provide a louder voice for energy-conscious occupants looking make a larger impact, and encourage existing positive behaviors, among many other benefits towards our goal of permanently reducing the amount of energy used on campus.

192 Barrows: myPower Resource Center

While not originally part of the EMI design proposal, the myPower Resource Center was added in October 2012 in part at the recommendation of the OE Coordinating Committee. The Center now provides a central campus

space to provide the essential interaction between project staff and campus stakeholders on ways to save energy and serve as a focal point in order to create a community of change. This Resource Center gives project staff a single location to work together, network, and share information about EMI. It is utilized for informal meetings and as a place for the public to sign out equipment (e.g., small meters to measure energy use of office equipment), ask questions, volunteer, and pick up outreach materials.

Savings adjustments in the EIP

The first year of the EIP revealed one area of enhancement based on feedback from OUs – making savings adjustments more frequently so OUs can better understand the estimated savings attributed to their efforts. The Energy Office, with support from the Steering Committee, agreed to implement this change instead of waiting for a year-end-only true up. The Energy Office is also working diligently with PPCS to prioritize the installations of smart meters with the intent that future mailings of OU monthly electricity report, along with additional energy analytics, can be done primarily through the Pulse platform and sent to OUs in a more timely manner.

Steering Committee

The Energy Management Initiative convened a Steering Committee of relevant campus stakeholders to provide input and recommend strategies. The Steering Committee's primary purpose is to be an active and engaged entity in:

- providing guidance into the development of campus Energy Policy
- advising the Program Sponsor on matters related to the Energy Office and consulting on design and implementation of the EIP
- advocating the messages delivered through the myPower outreach campaign.

The Steering Committee will continue to provide advice and guidance as the EMI program evolves, such as advising the Energy Office on complex baseline adjustments and providing feedback and input on project review strategies or policy adjustments as needed.

The Committee, whose current membership is listed below, met ten times since fall 2011.

Jennifer Wolch, *Dean, Environmental Design (Chair)*
Edward Denton, *VC Facilities Services (Program Sponsor)*
Karl Brown, *POCIE - Cal Institute for Energy & Environment*
Chris Christofferson, *Assistant Vice Chancellor, PP-CS*
Mark Freiberg, *Director, Environment, Health, and Safety*
Rob Gayle, *Associate Vice Chancellor, Project Management*
Mikhail Haramati, *Student (now graduated)*
Mike Huff, *Assistant Athletic Director-Facilities*
Ann Jeffrey, *Assistant Vice Chancellor, Administration & Finance*
Vicki Lucas, *Director of Administration, Political Science*
Inna Massen, *Building Operations Manager, Chemistry*
Stefano Schiavon, *Assistant Professor, Architecture*
Harry Stark, Director, *Facilities and Engineering Research*
Jeff Urdahl, *RSSP Housing & Dining Services*

More Information

Energy Office

mypower.berkeley.edu/about/uc-berkeley-energy-office

Energy Incentive Program

physicalplant.berkeley.edu/energyoffice.html

Dashboards

mypower.berkeley.edu/how-it-works/find-your-dashboard

myPower Outreach campaign

mypower.berkeley.edu

Energy Policy

mypower.berkeley.edu/about/energy-use-policy

Email *myPower@berkeley.edu* for more information.