Acknowledgements

We thank sustainability professionals in various operational and academic departments who contributed to the creation of this program. This program has been built in partnership with:

- Sustainability & Energy Management (Land, buildings and Real Estate)
- Zone Management (Land, buildings and Real Estate)
- Stanford Dining (Residential and Dining Enterprises)
- Peninsula Sanitary Services Inc
- Students for a Sustainable Stanford (student group)
- Green Living Council (student group)
- Woods Institute for the Environment (academic institute)

The concepts and business cases have greatly benefited from the pilots and their leads as well as expert advice from the Sustainability Working Group and Communications Sustainability Working Team.
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Section 1: Introductory Concepts

Individual Action Meets Infrastructural Solutions

Stanford University has created a number of innovative campus-wide infrastructure and systems-based programs to implement and promote its institutional practice of environmental sustainability. These include:

- A governance and operational process devoted to sustainability (consisting of the Department of Sustainability and Energy Management and the Office of Sustainability, the Sustainability Working Group; and Sustainability Working Teams)<http://sustainable.stanford.edu/working_group_and_teams>
- The long range Energy and Climate Plan (2008-2050)<http://sustainable.stanford.edu/climate_action>
- The Energy Retrofit Program, the Whole Buildings Retrofit Program and the Energy Conservation Incentive Program<http://sustainable.stanford.edu/energy_initiatives>
- Sustainable Building Guidelines for new buildings and retrofits<http://sustainable.stanford.edu/guidelines>
- A comprehensive recycling program through PSSI<http://recycling.stanford.edu/>
- A Transportation Demand Management program<http://transportation.stanford.edu/>

Great potential exists to couple these centralized initiatives with program-based local actions that promote not only resource conservation but also a culture of sustainability.

This report outlines the programmatic, financial and educational potential of a sustainability program that utilizes the efforts of individuals to implement sustainability practices at a local level. The actions outlined in this report are applicable for a building-based, department-based or school-based program.
Implementing the Sustainability Vision

This Sustainability Program is designed to be an effective communication, education and implementation platform on campus that addresses the triple bottom line of the sustainability concept – environment, economy and social engagement. The resulting occupant awareness and action can directly contribute to resource conservation, lower utility bills, and generate knowledge of a more collaborative work environment that is consistent with the university’s commitment to sustainability as a core value.

*Environment, Economy, Society = Conservation, Savings, Engagement*

Connection to Energy and Climate Plan

In early 2009, Stanford initiated a number of pilot projects to assess and quantify the potential benefits of such individual actions and efforts, with an end goal of creating a business case for implementing local action programs across the campus.
The inaugural pilot, Green 170, for example, used a combination of desktop power management, smart power strips, timers, and decommissioning unnecessary equipment and excess lighting to reduce a building’s electricity consumption by over 20% during a three month period -- with an estimated payback (on the relatively minimal equipment purchases) of less than a year.¹ More information about pilots can be found in this story http://news.stanford.edu/news/2009/october5/green-alumni-center-100909.html.

The occupants enjoyed their participation and gained insight into the added value of sustainability efforts, often realized in terms of team spirit, worker productivity and a sense of place.

These pilots indicate great value in harnessing the conservation potential from individual action. The energy and resource savings from these efforts will directly contribute to emissions reduction and the reduction target for Stanford University. Upon program rollout in 2010, the estimated savings will be added as a proven emission reduction solution.

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¹ For further details on this calculation, see the Pilot Budget and Payback section, below.
An Existing Buildings Rating System for Stanford (Future)

A majority of Stanford existing buildings qualify for LEED equivalency and certification for Existing Buildings: Operations and Maintenance (LEED EBOM)\(^2\). However, the LEED system does not explicitly allocate credit to occupant behavioral efforts, the educational impact of which can far outlast the building infrastructure. Occupant behavior focused on additional resource conservation and application of new tools can effectively engage entire campus community in sustainability efforts. Stanford will develop a campus wide rating system in 2010 for existing buildings, as an extension of this program, which will take into account LEED criteria as well as building occupant initiatives and behavior. See concept of this rating system below.

Section 2: Program Component

This program was in pilot in calendar year 2009, and rolling out in various departments and schools in 2010 onwards. Below is the roadmap with all components of the program.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Partner</th>
<th>Timeline</th>
<th>Status and Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs goals, design</td>
<td>Main document that describes the goal, design and vision of the program.</td>
<td>Many</td>
<td>Calendar Year 2009</td>
<td>Done.</td>
</tr>
<tr>
<td>Building level pilots to gain insight</td>
<td>Building level pilots to assess the need, actionable ideas, workload, coordination and communication best practices</td>
<td>Green 170, IT Services, Alumni Center</td>
<td>All pilots end in December 2009</td>
<td>Done. Business case compiled.</td>
</tr>
<tr>
<td>Diagnostic survey</td>
<td>To assess the state of awareness and level of interest to change behavior. The survey is conducted once before and once after the pilot/program.</td>
<td>Many</td>
<td>Fall 2009</td>
<td>Done. Transferable with a SurveyMonkey account.</td>
</tr>
<tr>
<td>Individual level</td>
<td>Pilot buildings</td>
<td>Fall 2009</td>
<td>Done.</td>
<td></td>
</tr>
<tr>
<td>Building Manager Level</td>
<td>Zones</td>
<td>January-February 2010</td>
<td>Done.</td>
<td></td>
</tr>
<tr>
<td>Education and training</td>
<td>Staff</td>
<td>Zones, Departments</td>
<td>Preparation in December onwards, Building Manager Meeting in March</td>
<td>Organizing staff training and communication to the administrative deans.</td>
</tr>
<tr>
<td>Students</td>
<td>Woods Institute, CEE, SEM, Students for a Sustainable Stanford; Green Living Council</td>
<td>In progress Winter 2010</td>
<td>Winter 2010 CEE/Earth Systems 199, Monday and Wednesday - approved (Building Sustainability and Behavior). Group project, School of Earth Sciences, 2 out of 3 buildings (Mitchell and Geocorner).</td>
<td></td>
</tr>
<tr>
<td>Candidate buildings evaluation</td>
<td>Prepare an evaluation based ranking to systematically approach buildings associated with departments and schools. Priority will be given to buildings/departments with available coordination resources.</td>
<td>SEM (Demand Side Energy Management), Zones</td>
<td>Evaluation to be completed by December 2009, in time for the CEE/Earth Systems 109 course.</td>
<td>Done. The Whole Building Retrofit Program evaluation is being used as a foundation, with additional criteria such as types of building, resource availability, stakeholder interest, etc.</td>
</tr>
<tr>
<td>Program Evaluation (and Recognition)</td>
<td>Utility Consumption Report (already available) and program performance evaluation to assess conservation trends. This system will mirror the Evaluation Ranking.</td>
<td>SEM (Demand Side Energy Management), Sustainability Working Group</td>
<td>Winter 2010</td>
<td>In progress. Assessing reward and incentive mechanism.</td>
</tr>
<tr>
<td>Business case and funding scheme</td>
<td>Evaluate Payback and program success to see if there needs to be a new funding scheme or can tie into ECIF on the ‘behavioral program side’.</td>
<td>SEM</td>
<td>Fall 2009</td>
<td>Done, proposing 2010.</td>
</tr>
<tr>
<td>Final Green Action Menu/To-Do list for sustainability coordinators</td>
<td>Final list of To-Do items at a building level based on surveys, best practices, coordination team, and building/department priority</td>
<td>Many</td>
<td>Fall 2009, winter 2010</td>
<td>Ongoing. The ‘sustainability coordinator’ could end up being the building manager, a person appointed by the administrative deans, or student coordinators trained by the class.</td>
</tr>
</tbody>
</table>
Section 3: Program Description and Steps

Goals

1. Create a platform for individuals, in the context of schools and departments, to act to advance the University’s sustainability goals -- with an emphasis on influencing behavioral changes that last, and thereby yield ongoing benefits.
2. Create a vehicle for schools and departments to systematically contribute in measurable ways to resource conservation that improves campus performance, saves money, and demonstrates leadership in the institutional practice of environmental sustainability.
3. Complement the campus-wide programs of infrastructure and efficiency improvements.
4. Create a context for the Office of Sustainability to facilitate, learn from, and share green initiatives that pop up across the University.

Design Strategy

- Establish support from Department Deans and Administrative Deans to rollout the program in their department, which might be realized at a department level, or more specifically at a building level.
- Create a governance matrix – each participating local entity (at a building, department or school level) will create a “green committee” or “green team” that will be supported by the Office of Sustainability. By recruiting individuals in each unit with a pre-existing interest in environmental sustainability, for example, green teams can harness their energy, enthusiasm, creativity and commitment.
- Create a business case to obtain department-level endorsement of local sustainability programs, as a university priority that complements other existing efforts.
- Take advantage of existing funding resources (such as the Energy Retrofit Program)\(^3\) to fund local energy conservation expenditures for equipment such as smart strips – focusing on cost-effective ideas with minimal financial outlay and short-term payback.

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\(^3\) The Energy Retrofit Program (ERP) has invested more than $10 million over 15 years in improving energy efficiency through technology upgrades, such as T8 lamps and electronic ballasts, variable-speed drives for motors, LED exit signs and spectrally selective window film. The result is an estimated cumulative savings of over 240 million kilowatt-hours of electricity—about 15 months of the university’s current use—and prevention of 72,000
• Associate with **campus sustainability goals and targets** (e.g., the impending climate target <http://sustainable.stanford.edu/climate_action> if it is easier to communicate the message that way.

• Measure progress to **recognize and reward** accomplishments. This program will roll into a comprehensive Green Building Rating System for Existing Buildings to be implemented in 2010 for Evaluation Based Recognition.

### Implementation Approach

• **Local Leadership**: With the support and endorsement of the School Chair or Dean, or Directors of Departments in the case of operational departments, create a local ‘green team’ in the participating schools and administrative units that reflects a building-level presence.

• Since resource use (meter based) information is measured and recorded by individual buildings, it is important for the teams to have a ‘building’ identity. This also informs and empowers existing coordination personnel, such as building managers, to get and stay involved in relation to building-level best practices. Each green team will have a local chair or a leader who will initiate, communicate and report the pilot or program activities to the team and to the Office of Sustainability.

• **Training and Support for Local Teams**: Have sustainability professionals (or those trained by the university professionals) hold a briefing session for members of the local green team, and conduct a *walk-through audit/assessment* of the unit’s facilities and an evaluation of metered energy and utility usage data with them.

• **Green Actions Menu**: Based on that *walk-through audit/assessment*, the local green team (with advice and support from the Office of Sustainability) will create and implement a set of recommended energy-efficiency and other actions. The menu of actions will include energy conservation measures (such as desktop power management, smart power strips, reduced sleep settings, timers on electrical equipment, decommissioning unnecessary or inefficient lighting and equipment) and enhanced recycling and waste reduction measures.

• **Evaluation Progress** (in both implementation and *performance*): Based on key metrics and criteria used in utilities and operations candidate buildings will be chosen for the program.

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metric tons of carbon dioxide equivalent emissions. For more information, visit http://www.stanford.edu/group/EMG/html/program.html
• **Beyond Program:** Once the first wave of self-perpetuating resource conservation measures is in place, the green team of a candidate buildings will then quarterly report back to the Office of Sustainability to help inform the university-wide process, and will continue to look for other local sustainability opportunities.

**Resource/Funding Needs**

Such a program requires:

- A relatively minimal departmental budget (that is, if the program is not found to otherwise qualify for ERP funding -- see [http://www.stanford.edu/group/EMG/html/program.html](http://www.stanford.edu/group/EMG/html/program.html)) to cover minor equipment purchases such as smart power strips [CFLs] and timers. See tentative cost at the Budget Section in Founding Pilot Green 170.

- School and department level data from building meters, to be provided by the Office of Sustainability.

- Building level leadership, which can initially (during the estimated two to three month planning and implementation phase), be time intensive (in terms of hours beyond job description). It is therefore recommended that the green teams focus their efforts on planning, monitoring and encouraging, and rely on the expertise of Building Managers⁴ and Information Technology personnel for implementation.

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Section 4: Program Steps

Earlier in the chapters we mentioned the key steps to this program. To recap:

Step 1: Commitment and Team (main report)

- Establish School or Department level commitment, and better yet associate it with the existing sustainability goals or commitment of the school or department.

- For pilot group - establish/revive School or building-level sustainability committees (e.g., School of Medicine, Graduate School of Business, School of Earth Sciences, Sustainability and Energy Management) with faculty, staff and student membership (as appropriate), and with the inclusion of the local Information Technology representatives.

- When ready, please contact the Office of Sustainability (Primary contact Fahmida Ahmed) to discuss process and toolkits. The Office has evaluation criteria for building selection in place that can help you plan your pilot or rollout. After that discussion, the Office recommends these key steps, informed by experiences in other academic institutions and pilots conducted in 2009.

Step 2: Audit, Assessment and Target (Toolkit 0 - 6)

- (For sustainability staff) Create a current assessment - present statistics including building or school level energy usage to inform the schools about opportunities for conservation.
  - Electricity use
  - Chilled water use
  - Domestic water use
  - Gas and/or steam use
  - Waste and recycling systems

- Take an online survey to do a diagnosis on the current occupant behavior. See appendix for example.
• (For sustainability staff) Do an audit/walk-through of the facility – subject matter experts will walk through the facility with the local green team and provide an assessment on areas of improvement in resource conservation. These tips will later turn into action items.

• Create a menu of action items (with associated action in key sustainability areas) – see next section.

• Establish a baseline and set a target. School or department completes a self assessment survey of where the unit is in terms of its green practices, and sets a target.

• Develop a project plan/schedule to serve as a tracking and accountability tool. Make sure to budget at least six months for the total project duration.

• Schedule student intern “office visits” to finalize any equipment orders for Smart Strips and timers and collect delamping requests. Ensure that the student intern completes return visits to install the equipment and train users.

**Step 3: Publicize and Launch (Toolkit 7)**

• If needed, obtain training from the Office of Sustainability – this could include guidance on setting up committees, determining activities, partnering with existing initiatives.

• Determine the signage needed or other communication applicable to the target audience. Several examples are provided in the appendices of this report.

• Publicize through department channels, with emails from the leadership of the School, Department, Building or Entity.

• Continue student “office visits” in conjunction with the local Green Team to ensure that occupants are using the newly installed equipment correctly.

• Set up a distribution list with the core members of the green team to share observations, ask questions, etc.
• Assign a green team member to document the process.

• Determine an incentive program that would work best for the target audience.

**Step 4: Conduct/Start Rollout**

• Hold periodic team meetings to ensure that communication is clear and implementation is complete.

• Document observations, issues, best practices, new ideas.

• Request monthly data from the Office of Sustainability to assess progress.

**Step 5: Assess and Recognize (Toolkit 8)**

• Assess improvement, retake the survey, and compare the metering data.

• Recognize achievement in an annual sustainability program.
Rollout Toolkit for Coordinators

- The designated coordinator may be the buildings manager, a trained student coordinator, or a staff appointed by Administrative Deans.

All materials are subject to departmental customization.
This online survey is to be conducted once before and once after the pilot. The building manager or the designated coordinator will help conduct this survey. A SurveyMonkey format is available upon request from the Office of Sustainability and should be customized for a specific building or department.

Welcome Message

Date Survey taken ____________

Thank you for your time and interest in the Building Level Sustainability Program. The X pilot is the first building/department level pilot. The best practices from this pilot will not only inform the institutional rollout, but also shape many information/communication tools. All your answers will remain anonymous. This survey will take about 15 minutes. Thank you for your time.

Section 1: Individual Level Survey

<table>
<thead>
<tr>
<th>General Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Now</strong></td>
</tr>
<tr>
<td>What building do you work in?</td>
</tr>
<tr>
<td>🔒 (Insert A)</td>
</tr>
<tr>
<td>🔒 (Insert C)</td>
</tr>
<tr>
<td>What time do you usually first come to this building?</td>
</tr>
<tr>
<td>🔒 Before 8 AM</td>
</tr>
<tr>
<td>🔒 8AM- 10 AM</td>
</tr>
<tr>
<td>🔒 10AM - 12 PM</td>
</tr>
<tr>
<td>🔒 After 2 PM</td>
</tr>
<tr>
<td>🔒 After 6 PM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Questions on Energy Use (Lighting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the Lights of the main office on at the time you come in?</td>
</tr>
<tr>
<td>If you are the only occupant at this time, would you be willing to turn on the lights when you come in or turn them off when you leave?</td>
</tr>
<tr>
<td>How often are the lights on when you enter the restroom?</td>
</tr>
<tr>
<td>□ Some of the time</td>
</tr>
<tr>
<td>□ Never, I have to turn them on</td>
</tr>
<tr>
<td>If you are the only occupant, would you be willing to turn on/off the lights?</td>
</tr>
<tr>
<td>How often do you notice excessive lighting in the hallways? (interior)</td>
</tr>
<tr>
<td>□ Sometimes</td>
</tr>
<tr>
<td>□ Never</td>
</tr>
<tr>
<td>Would you be okay with automated lighting that only lights up when an occupant is walking by?</td>
</tr>
<tr>
<td>Other comments __________________</td>
</tr>
<tr>
<td>Are there grossly over-lit or under-lit areas in this building that you have noticed? (describe location)</td>
</tr>
<tr>
<td>Under lit ___________________</td>
</tr>
<tr>
<td>Comment __________________</td>
</tr>
<tr>
<td>How important is it to you that these areas are adjusted with appropriate/moderate lighting?</td>
</tr>
<tr>
<td>□ Somewhat important</td>
</tr>
<tr>
<td>□ Not important</td>
</tr>
<tr>
<td>Do you use personal task lighting (i.e. a desk lamp) in addition to overhead lighting?</td>
</tr>
<tr>
<td>□ No</td>
</tr>
<tr>
<td>If Yes, what is the wattage?___________</td>
</tr>
<tr>
<td>Would be willing to use only the overhead lighting or only the desk lamp?</td>
</tr>
<tr>
<td>Other comments ___________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Questions on Energy Use (Heating/Cooling)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In general, how comfortable are you with the temperature in this building?</td>
</tr>
<tr>
<td>□ Uncomfortable, too warm</td>
</tr>
<tr>
<td>□ Uncomfortable, too cold</td>
</tr>
<tr>
<td>□ Do not care</td>
</tr>
<tr>
<td>Do you make adjustments to be comfortable? (check all that apply)</td>
</tr>
<tr>
<td>□ Yes, wear lighter clothing</td>
</tr>
<tr>
<td>□ Yes, use a personal heater</td>
</tr>
<tr>
<td>□ Yes, use a personal fan</td>
</tr>
<tr>
<td>□ Open window</td>
</tr>
<tr>
<td>□ No</td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>How often do you use a personal heater at the office?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Would you still use it if the room temperature was adjusted?</td>
</tr>
<tr>
<td>How often do you use a personal fan at the office?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Would you still use it if the room temperature was adjusted?</td>
</tr>
<tr>
<td>How often do you wear comfortable business attire layers, to be comfortable at various temperatures?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Questions on Energy Use (Office Equipment)</td>
</tr>
<tr>
<td>Do you have a personal refrigerator at your work space?</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Do you know what temperature the fridge is kept at?</td>
</tr>
<tr>
<td>Would you be willing to adjust the temperature if a range suitable and safe for your items was recommended?</td>
</tr>
<tr>
<td>Do you have a personal printer at your workspace?</td>
</tr>
<tr>
<td>Would you still use it if additional printers were available for the whole office?</td>
</tr>
<tr>
<td>How do you leave your computers after work?</td>
</tr>
<tr>
<td>If you do not already, would you be willing to put the computer in sleep mode after work?</td>
</tr>
<tr>
<td>How do you leave your monitors after work?</td>
</tr>
<tr>
<td>Would you be willing to turn it off when you are done?</td>
</tr>
<tr>
<td>Has your area set aggressive sleep settings on network printers and copiers?</td>
</tr>
<tr>
<td>Do you have concerns with setting aggressive sleep settings on network printers and copiers?</td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Do you know who did it?</td>
</tr>
<tr>
<td>Are they working out OK?</td>
</tr>
<tr>
<td>If no:</td>
</tr>
<tr>
<td>Would you prefer it?</td>
</tr>
<tr>
<td>Have you set your computer to default to double-sided printing?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>If No, would you be willing to?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Questions on Equipment Use</td>
</tr>
<tr>
<td>Do you purge/unplug unnecessary equipment (such as old monitors or unused fax-machines)?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>If yes, how did that get started</td>
</tr>
<tr>
<td>If no, why not?</td>
</tr>
<tr>
<td>Do you have timers installed on and/or turn off non-in-use printers, copiers and other electrical equipment? (such as speakers, scanners, water dispensers, and coffee pots)</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Some</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Not sure</td>
</tr>
<tr>
<td>Do you have any concerns about putting timers on networked printers, copiers, and other electrical equipment?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>If yes, why?</td>
</tr>
<tr>
<td>Elevator Use (if applicable)</td>
</tr>
<tr>
<td>How often do you use the elevator at work each week?</td>
</tr>
<tr>
<td>More than 15 times</td>
</tr>
<tr>
<td>About 10 times</td>
</tr>
<tr>
<td>About 5 times</td>
</tr>
<tr>
<td>About 2 times</td>
</tr>
<tr>
<td>Never</td>
</tr>
<tr>
<td>If you are physically able, would you be willing to take the stairs instead?</td>
</tr>
<tr>
<td>Yes, all the time</td>
</tr>
<tr>
<td>Yes, half of the time</td>
</tr>
<tr>
<td>No, never</td>
</tr>
<tr>
<td>Not sure</td>
</tr>
<tr>
<td>Not physically able</td>
</tr>
<tr>
<td>Waste Reduction</td>
</tr>
<tr>
<td>Do you use reusable serviceware (plates, cups, utensils)?</td>
</tr>
<tr>
<td>Yes, all the time</td>
</tr>
<tr>
<td>Yes, most of the time</td>
</tr>
<tr>
<td>Rarely</td>
</tr>
<tr>
<td>Never, but I use compostable</td>
</tr>
<tr>
<td>Never</td>
</tr>
<tr>
<td>Are you willing to use reusable serviceware if it were easily accessible and easily washable?</td>
</tr>
<tr>
<td>Yes, all the time</td>
</tr>
<tr>
<td>Yes, half of the time</td>
</tr>
<tr>
<td>No, never</td>
</tr>
<tr>
<td>No, but I would use compostable</td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Do you recycle batteries, toner cartridges, bulbs, and other electronic waste? | ☐ Yes, all the time  
☐ Yes, most of the time  
☐ Rarely  
☐ Never  
Would you be willing to recycle these things if you had a place to do so conveniently?  
☐ Yes, all the time  
☐ Yes, half of the time  
☐ No, never |
| Sustainable Food Practices | How often do you bring your own lunch/meals to work?  
☐ All the time  
☐ Some of the time  
☐ Never, I always buy it  
☐ Never, I get it for free here  
If you owned such, would you be willing to bring your own lunch in reusable containers, nearly every day?  
Yes ☐  No ☐  Not sure ☐ |
| When you do, how often do you pack it in a reusable/recyclable/compostable container (versus a disposable container). | ☐ All the time  
☐ Some of the time  
☐ Never, I don’t own any such containers  
If you owned such, would you be willing to bring your own lunch in reusable containers, nearly every day?  
Yes ☐  No ☐  Not sure ☐ |
| Do you know what percent of coffee your provided tea is organic and/or fair Trade? | ☐ Yes. Explain: __________________________  
☐ No  
Would you be okay with a reduced selection of only earth-friendly coffees and teas?  
Yes ☐  No ☐  Not sure ☐  
Other comments __________________________ |
| Do you compost your food waste? | ☐ Yes, all the time  
☐ Yes, some of the time  
☐ No  
☐ No, my building does not have a composting system  
If your building had a composting system, would you participate?  
Yes ☐  No ☐  Not sure ☐  
Other comments __________________________ |
Have you been encouraged to use alternative transportation at Stanford? (Check all that apply)

- Yes, by my department
- Yes, by coworkers/friends
- Yes, by P&TS and/or HR
- Yes, by Stanford/other
- No, no one has mentioned this

Would you be willing to receive information if you haven’t already or to encourage others to use alternative transportation?

- Yes, to receive information
- Yes, to share information
- Maybe, will consider one/both
- No, not interested
- I’m already receiving information

How many of these programs have been communicated to you this year? (Check all that apply)

- Commute Club Clean Air Cash
- Commute Club Carpool
- Free commute planning
- Free transit for eligible employees
- Zipcar (car sharing service)
- Zimride (ride matching service)
- Stanford Marguerite Shuttle
- Avoid peak-hours (7:30-9am; 4:30–6 pm)

Would you be willing to try or commit to one or more of these programs that you aren’t already using/doing?

- Yes
- No
- Not Sure

If yes, which one(s)?

_________________________________________
_________________________________________

Do you or your department use any of the following approaches to event planning? (Check all that apply)

- Offer transit options for event attendees
- Schedule events to avoid peak traffic times (avoid arrivals of 7:30am-9am and departures between 4:30pm-6pm).
- Contact P&TS for charter bus services
- Offer custom event ridematching services
- Offer links to Marguerite shuttle schedules (to minimize printed information).
- Provide visitor bike information and/or valet bike parking service
- Plan event parking with P&TS

Would you be interested in receiving information on any of these topics? (Check all that interest you)

- Available transit options for your event(s), including airport information
- How to avoid event peak trips
- Charter bus services through Stanford P&Ts
- Custom event ridematching services through Zimride at Stanford
- Marguerite shuttle services and schedules for events
- Visitor bike information, including valet bike parking
- Event parking information, including valet service options
- Other __________________________________
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you receive alternative/sustainable transportation information?</td>
<td><img src="https://example.com/options.png" alt="Options" /></td>
</tr>
<tr>
<td>Would you be willing to receive alternative/sustainable transportation information more frequently?</td>
<td>Yes, No, Not Sure</td>
</tr>
<tr>
<td>Desired frequency: __________________________</td>
<td></td>
</tr>
<tr>
<td>Does your department have a free departmental Zipcar (carsharing) account?</td>
<td><img src="https://example.com/options.png" alt="Options" /></td>
</tr>
<tr>
<td>Would you be willing to use a department Zipcar account for business vehicle use instead of your personal car or other vehicle?</td>
<td>Yes, No, Not Sure</td>
</tr>
<tr>
<td>Does your building have a bicycle fleet? If so, do you have a bike helmet use requirement?</td>
<td><img src="https://example.com/options.png" alt="Options" /></td>
</tr>
<tr>
<td>Would you be willing to help establish a bicycle fleet for your building and/or promote bicycle safety? (check all that apply)</td>
<td>Yes, want to help create bike fleet, Yes, want to help promote bike safety, Yes, want to help promote BOTH bike fleet and safety, Not sure, No, not interested</td>
</tr>
<tr>
<td>Which, if any, of the following bicycle facilities do you personally need added/increased (in or near your building) to support your bicycle use?</td>
<td><img src="https://example.com/options.png" alt="Options" /></td>
</tr>
<tr>
<td>Would you be willing to talk with Stanford’s bicycle program about the following areas for your building? (check all that apply)</td>
<td>Need for bike racks, Need for bike lockers, Need for clothing lockers, Need for showers</td>
</tr>
<tr>
<td></td>
<td>Showers</td>
</tr>
<tr>
<td>---</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td>Don’t know</td>
</tr>
<tr>
<td></td>
<td>Not needed/not interested</td>
</tr>
</tbody>
</table>

### Questions on Resource Use Behavior

In the near future, how likely are you to take the following direct actions to reduce energy and resource use?

Scale: [very unlikely] 1 2 3 4 5 6 7 8 9 10 [very likely]

**Lighting:**
Turning off lights in main office when light outside or when last to leave for the day
1 2 3 4 5 6 7 8 9 10
Turning off lights in the bathroom
1 2 3 4 5 6 7 8 9 10
Not using unnecessary desk lamps
1 2 3 4 5 6 7 8 9 10

**Personal Energy Equipment**
Wearing adequate layers to avoid personal fans and heaters:
1 2 3 4 5 6 7 8 9 10
Not using personal refrigerators and printers, when possible
1 2 3 4 5 6 7 8 9 10

**Computer Use**
Turning off computer at night
1 2 3 4 5 6 7 8 9 10
Turning off monitor at night
1 2 3 4 5 6 7 8 9 10
Turning of printers and accessories at night
1 2 3 4 5 6 7 8 9 10
Printing double-sided
1 2 3 4 5 6 7 8 9 10
Encouraging purging of unnecessary equipment and use of timers
1 2 3 4 5 6 7 8 9 10

**Other**
Avoiding using elevators
1 2 3 4 5 6 7 8 9 10
Avoiding non-reusable utensils and serviceware
1 2 3 4 5 6 7 8 9 10
When necessary, encouraging/using only compostable utensils/serviceware
1 2 3 4 5 6 7 8 9 10
Recycling electronic waste and batteries correctly
1 2 3 4 5 6 7 8 9 10
Feedback
Please let us know anything more you’d like to share with the Green Team – how’s the project going, any ideas you have, etc.

Section 2: Building Manager or Coordinator Level Survey
Created by Office of Sustainability and Zones Management, this survey was launched in January 2010 to all campus Building Managers. About 1/3 of the population responded, and their feedback and insights have further improved the program. The information is also being used to conduct training at the March 2010 Building Manager meeting. This survey is only administered through Zones or the Office of Sustainability.
Building Manager Survey 2010  (results are published after this section)

1. Welcome
Welcome to the Building Level Sustainability Program! We are asking Building Managers to take a short survey (about 7 minutes) to help us promote and enable individuals to conserve energy, water and resources at Stanford University. This program is built in partnership with you and various units in Land, Buildings & Real Estate. We are requesting that you take this survey to help identify sustainable opportunities tailored for individual buildings. The information you share will be invaluable to the success of the Building Level Sustainability Program. Thank you for your time, participation and leadership.

2. Building Information
Please answer the following questions related to the operations of your building.

1. Are you the Building Manager for an entire building, a portion of a building or multiple buildings?

<table>
<thead>
<tr>
<th>Entire Building</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portion of Building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Buildings</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

2. What time do the majority of occupants arrive in your building?

   | Before 8am | 8-10am | 10am - Noon | 12 - 2pm |

3. What time do the majority of occupants leave your building?

   | 2pm - 4pm |
4. What are the typical hours of occupancy?

☐ 4pm -6pm

☐ After 6pm

5. If your building has an elevator, please answer this question. Do you feel the majority of occupants use the elevator or the stairs?

<table>
<thead>
<tr>
<th>Elevator</th>
<th>☐ Yes</th>
<th>☐ No</th>
<th>☐ Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stairs</td>
<td>☐ Yes</td>
<td>☐ No</td>
<td>☐ Not Sure</td>
</tr>
</tbody>
</table>
3. Energy Conservation

Please answer the following questions related to lighting and temperature control in your building.

1. In your role as Building Manager, are you responsible for making sure office equipment/lights (where applicable) are turned off at the end of each business day in the common work area of your department?
   - Yes
   - No

2. If yes, are you responsible for turning off the following types of office equipment at the end of each business day?

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printer(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Heaters</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. If no, who is responsible for turning off common area lights at the end of the business day?
   - Students
   - Custodian
   - Other Assigned Staff
   - Automatic Timer
   - Not Sure

4. How are the lights controlled in your building?
☐ Light Switches
☐ Automatic Timer
☐ Motion Sensor
☐ Not Sure

5. Are the lights on when you come into the building?
   ☐ Yes
   ☐ No

6. How often are the lights on when you enter the restroom?
   ☐ All of the time
   ☐ Activated by Motion Sensor
   ☐ Never, I have to turn them on

7. For Heating/Cooling, is your building is on an: (fill in the appropriate response)

<table>
<thead>
<tr>
<th>HVAC Start/Stop Time Schedule</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVAC Local Thermostat Control Time Schedule</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Not Sure</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

8. In the cooler months, how often is your building: (fill in the appropriate response)

<table>
<thead>
<tr>
<th>Too Hot</th>
<th>Infrequently</th>
<th>Regularly</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too Cold</td>
<td>Infrequently</td>
<td>Regularly</td>
<td>Never</td>
</tr>
</tbody>
</table>

9. In the warmer months, how often is your building: (fill in the appropriate response)

<table>
<thead>
<tr>
<th>Too Hot</th>
<th>Infrequently</th>
<th>Regularly</th>
<th>Never</th>
</tr>
</thead>
</table>
Too Cold  ☐  Infrequently  ☐  Regularly  ☐  Never

10. Does your building have operable windows?

☐ Yes

☐ No
4. Water and Waste Management

Please answer the following questions related to drinking water and composting.

1. Is there a common kitchen area(s) in your building?
   - Yes
   - No

2. Do you provide bottled water through a vendor provided dispenser?
   - Yes
   - No
   - Other (please specify)

3. Would the building occupants be interested in using filtered drinking water versus bottled water?
   - Yes
   - No
   - Not Sure

4. Are you currently using composting bins in your common area kitchens?
   - Yes
   - No

5. Do you have these types of recycling containers located throughout your building?
   - Glass/Can/Plastic
     - Yes
     - No
6. Are there adequate recycling bins located throughout your buildings?

☐ Yes

☐ No

7. How often do you see recyclables (paper, cans and bottles) in the trash can?

☐ Never

☐ Seldom

☐ Sometimes

☐ Often

☐ Always
5. Building Sustainability

Please answer the following questions regarding your interest and overall familiarity with building sustainability.

1. How familiar are you with the following aspects of sustainability as it relates to your building?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very Familiar</th>
<th>Somewhat Familiar</th>
<th>Not Familiar</th>
<th>Would like training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Conservation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste Recycling and Reuse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Conservation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desktop Computing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable Food Sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Which of these aspects of sustainability do you feel would be easily incorporated into your department culture/practices?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Conservation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste Recycling and Reuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Conservation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desktop Computing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable Food Sources</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Would you be interested in surveying your building occupants on the following topics:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Tap Water vs. Bottled Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting On/Off Practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Equipment On/Off Practices</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Would you be interested in participating in a program that helps to introduce sustainable practices into your department?

- [ ] Yes
- [ ] No
- [ ] Yes with help!

6. You have completed the survey - Thank You!

Thank you for your time. The survey results will be shared at the Building Manager's Meeting, March 23, 2010. We will also provide a list of recommended buildings we feel are ideal candidates for the Building Level Sustainability Program based on your feedback.

If you have any questions or comments, please contact:

Fahmida Ahmed (fahmida@stanford.edu)
Julie Hardin-Stauter (jhardin@stanford.edu)
# Building Level Sustainability Program Survey

## 1. Are you the Building Manager for an entire building, a portion of a building or multiple buildings?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Building</td>
<td>81.3% (61)</td>
<td>18.7% (14)</td>
<td>75</td>
</tr>
<tr>
<td>Portion of Building</td>
<td>56.2% (32)</td>
<td>41.8% (23)</td>
<td>55</td>
</tr>
<tr>
<td>Multiple Buildings</td>
<td>58.8% (40)</td>
<td>41.2% (28)</td>
<td>68</td>
</tr>
<tr>
<td><strong>answered question</strong></td>
<td></td>
<td></td>
<td>105</td>
</tr>
<tr>
<td><strong>skipped question</strong></td>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

## 2. What time do the majority of occupants arrive in your building?

<table>
<thead>
<tr>
<th>Time</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 8am</td>
<td>16.3%</td>
<td>17</td>
</tr>
<tr>
<td>8-10am</td>
<td>73.1%</td>
<td>76</td>
</tr>
<tr>
<td>10am - Noon</td>
<td>8.7%</td>
<td>9</td>
</tr>
<tr>
<td>12 - 2pm</td>
<td>1.9%</td>
<td>2</td>
</tr>
<tr>
<td><strong>answered question</strong></td>
<td></td>
<td>104</td>
</tr>
<tr>
<td><strong>skipped question</strong></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

## 3. What time do the majority of occupants leave your building?

<table>
<thead>
<tr>
<th>Time</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2pm - 4pm</td>
<td>3.8%</td>
<td>4</td>
</tr>
<tr>
<td>4pm - 6pm</td>
<td>69.2%</td>
<td>72</td>
</tr>
<tr>
<td>After 6pm</td>
<td>26.9%</td>
<td>28</td>
</tr>
<tr>
<td><strong>answered question</strong></td>
<td></td>
<td>104</td>
</tr>
<tr>
<td><strong>skipped question</strong></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
4. What are the typical hours of occupancy?

<table>
<thead>
<tr>
<th>Time</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>7am - 5pm</td>
<td>5.9%</td>
<td>5</td>
</tr>
<tr>
<td>8am - 5pm</td>
<td><strong>25.9%</strong></td>
<td><strong>22</strong></td>
</tr>
<tr>
<td>7am - 5pm</td>
<td>4.7%</td>
<td>4</td>
</tr>
<tr>
<td>8am - 6pm</td>
<td><strong>24.7%</strong></td>
<td><strong>21</strong></td>
</tr>
<tr>
<td>7am - after 7pm</td>
<td><strong>24.7%</strong></td>
<td><strong>21</strong></td>
</tr>
<tr>
<td>8am - after 7pm</td>
<td><strong>18.8%</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**answered question** 85

**skipped question** 20

5. If your building has an elevator, please answer this question. Do you feel the majority of occupants use the elevator or the stairs?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Not Sure</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td><strong>37.7%</strong> (20)</td>
<td><strong>56.6%</strong> (30)</td>
<td><strong>5.7%</strong> (3)</td>
<td><strong>53</strong></td>
</tr>
<tr>
<td>Stairs</td>
<td><strong>81.7%</strong> (49)</td>
<td><strong>13.3%</strong> (8)</td>
<td><strong>5.0%</strong> (3)</td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

**answered question** 69

**skipped question** 36
6. In your role as Building Manager, are you responsible for making sure office equipment/fluorescents (where applicable) are turned off at the end of each business day in the common work area of your department?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>26.8%</td>
<td>26</td>
</tr>
<tr>
<td>No</td>
<td>73.2%</td>
<td>71</td>
</tr>
</tbody>
</table>

answered question 97

skipped question 8

---

7. If yes, are you responsible for turning off the following types of office equipment at the end of each business day?

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Yes</th>
<th>No</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td>16.0% (8)</td>
<td>84.0% (42)</td>
<td>50</td>
</tr>
<tr>
<td>Monitor</td>
<td>14.0% (7)</td>
<td>86.0% (43)</td>
<td>50</td>
</tr>
<tr>
<td>Printer(s)</td>
<td>15.7% (8)</td>
<td>84.3% (43)</td>
<td>51</td>
</tr>
<tr>
<td>Personal Heaters</td>
<td>10.9% (5)</td>
<td>89.1% (41)</td>
<td>46</td>
</tr>
</tbody>
</table>

answered question 51

skipped question 54
8. If no, who is responsible for turning off common area lights at the end of the business day?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>15.7%</td>
<td>13</td>
</tr>
<tr>
<td>Custodian</td>
<td>20.5%</td>
<td>17</td>
</tr>
<tr>
<td>Other Assigned Staff</td>
<td>51.8%</td>
<td>43</td>
</tr>
<tr>
<td>Automatic Timer</td>
<td>34.9%</td>
<td>29</td>
</tr>
<tr>
<td>Not Sure</td>
<td>21.7%</td>
<td>18</td>
</tr>
</tbody>
</table>

answered question 83

skipped question 22

9. How are the lights controlled in your building?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Switches</td>
<td>81.8%</td>
<td>81</td>
</tr>
<tr>
<td>Automatic Timer</td>
<td>27.3%</td>
<td>27</td>
</tr>
<tr>
<td>Motion Sensor</td>
<td>62.6%</td>
<td>62</td>
</tr>
<tr>
<td>Not Sure</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

answered question 99

skipped question 6

10. Are the lights on when you come into the building?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>62.5%</td>
<td>60</td>
</tr>
<tr>
<td>No</td>
<td>37.5%</td>
<td>36</td>
</tr>
</tbody>
</table>

answered question 96

skipped question 9
11. How often are the lights on when you enter the restroom?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>All of the time</td>
<td>27.8%</td>
<td>27</td>
</tr>
<tr>
<td>Activated by Motion Sensor</td>
<td>54.6%</td>
<td>53</td>
</tr>
<tr>
<td>Never, I have to turn them on</td>
<td>17.5%</td>
<td>17</td>
</tr>
</tbody>
</table>

answered question: 97

skipped question: 8

12. For Heating/Cooling, is your building on an: (fill in the appropriate response)

<table>
<thead>
<tr>
<th>Response</th>
<th>Yes</th>
<th>No</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVAC Start/Stop Time Schedule</td>
<td>82.4% (56)</td>
<td>17.6% (12)</td>
<td>68</td>
</tr>
<tr>
<td>HVAC Local Thermostat Control Time Schedule</td>
<td>86.8% (46)</td>
<td>13.2% (7)</td>
<td>53</td>
</tr>
<tr>
<td>Not Sure</td>
<td>76.2% (16)</td>
<td>23.8% (5)</td>
<td>21</td>
</tr>
</tbody>
</table>

answered question: 98

skipped question: 7

13. In the cooler months, how often is your building: (fill in the appropriate response)

<table>
<thead>
<tr>
<th>Response</th>
<th>Infrequently</th>
<th>Regularly</th>
<th>Never</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too Hot</td>
<td>56.5% (52)</td>
<td>10.9% (10)</td>
<td>32.6% (30)</td>
<td>92</td>
</tr>
<tr>
<td>Too Cold</td>
<td>60.2% (56)</td>
<td>31.2% (29)</td>
<td>8.6% (3)</td>
<td>93</td>
</tr>
</tbody>
</table>

answered question: 99

skipped question: 6
14. In the warmer months, how often is your building: (fill in the appropriate response)

<table>
<thead>
<tr>
<th></th>
<th>Infrequently</th>
<th>Regularly</th>
<th>Never</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too Hot</td>
<td>49.5% (47)</td>
<td>38.9% (37)</td>
<td>11.6% (11)</td>
<td>95</td>
</tr>
<tr>
<td>Too Cold</td>
<td>45.9% (39)</td>
<td>11.8% (10)</td>
<td>42.4% (36)</td>
<td>85</td>
</tr>
</tbody>
</table>

Answered question: 97
Skipped question: 8

15. Does your building have operable windows?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>82.8%</td>
<td>82</td>
</tr>
<tr>
<td>No</td>
<td>17.2%</td>
<td>17</td>
</tr>
</tbody>
</table>

Answered question: 99
Skipped question: 6

16. Is there a common kitchen area(s) in your building?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>93.9%</td>
<td>92</td>
</tr>
<tr>
<td>No</td>
<td>6.1%</td>
<td>6</td>
</tr>
</tbody>
</table>

Answered question: 98
Skipped question: 7
17. Do you provide bottled water through a vendor provided dispenser?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>49.0%</td>
<td>48</td>
</tr>
<tr>
<td>No</td>
<td>35.7%</td>
<td>35</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>15.3%</td>
<td>15</td>
</tr>
</tbody>
</table>

answered question 98
skipped question 7

18. Would the building occupants be interested in using filtered drinking water versus bottled water?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>54.8%</td>
<td>51</td>
</tr>
<tr>
<td>No</td>
<td>9.7%</td>
<td>9</td>
</tr>
<tr>
<td>Not Sure</td>
<td>35.5%</td>
<td>33</td>
</tr>
</tbody>
</table>

answered question 93
skipped question 12

19. Are you currently using composting bins in your common area kitchens?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11.5%</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>88.5%</td>
<td>85</td>
</tr>
</tbody>
</table>

answered question 96
skipped question 9
20. Do you have these types of recycling containers located throughout your building?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass/Cans/Plastic</td>
<td>96.9% (95)</td>
<td>3.1% (3)</td>
<td>98</td>
</tr>
<tr>
<td>Mixed Paper</td>
<td>99.0% (98)</td>
<td>1.0% (1)</td>
<td>99</td>
</tr>
<tr>
<td>Electronics</td>
<td>52.8% (47)</td>
<td>47.2% (42)</td>
<td>89</td>
</tr>
<tr>
<td>Batteries</td>
<td>70.7% (65)</td>
<td>29.3% (27)</td>
<td>92</td>
</tr>
</tbody>
</table>

answered question 99
skipped question 6

21. Are there adequate recycling bins located throughout your buildings?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>83.7%</td>
<td>82</td>
</tr>
<tr>
<td>No</td>
<td>16.3%</td>
<td>16</td>
</tr>
</tbody>
</table>

answered question 98
skipped question 7

22. How often do you see recyclables (paper, cans and bottles) in the trash can?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>8.1%</td>
<td>8</td>
</tr>
<tr>
<td>Seldom</td>
<td>31.3%</td>
<td>31</td>
</tr>
<tr>
<td>Sometimes</td>
<td>32.3%</td>
<td>32</td>
</tr>
<tr>
<td>Often</td>
<td>12.1%</td>
<td>12</td>
</tr>
<tr>
<td>Always</td>
<td>16.2%</td>
<td>16</td>
</tr>
</tbody>
</table>

answered question 99
skipped question 6
23. How familiar are you with the following aspects of sustainability as it relates to your building?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very Familiar</th>
<th>Somewhat Familiar</th>
<th>Not Familiar</th>
<th>Would like training</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Conservation</td>
<td>30.1% (28)</td>
<td>38.7% (36)</td>
<td>22.6% (21)</td>
<td>8.6% (8)</td>
<td>93</td>
</tr>
<tr>
<td>Waste Recycling and Reuse</td>
<td>52.2% (48)</td>
<td>28.3% (26)</td>
<td>14.1% (13)</td>
<td>5.4% (5)</td>
<td>92</td>
</tr>
<tr>
<td>Energy Conservation</td>
<td>41.3% (38)</td>
<td>40.2% (37)</td>
<td>12.0% (11)</td>
<td>6.5% (6)</td>
<td>92</td>
</tr>
<tr>
<td>Desktop Computing</td>
<td>33.3% (31)</td>
<td>34.4% (32)</td>
<td>21.5% (20)</td>
<td>10.8% (10)</td>
<td>93</td>
</tr>
<tr>
<td>Sustainable Food Sources</td>
<td>15.1% (14)</td>
<td>36.6% (34)</td>
<td>37.6% (35)</td>
<td>10.8% (10)</td>
<td>93</td>
</tr>
</tbody>
</table>

24. Which of these aspects of sustainability do you feel would be easily incorporated into your department culture/practices?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Yes</th>
<th>No</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Conservation</td>
<td>78.8% (67)</td>
<td>21.2% (18)</td>
<td>85</td>
</tr>
<tr>
<td>Waste Recycling and Reuse</td>
<td>88.3% (75)</td>
<td>10.7% (9)</td>
<td>84</td>
</tr>
<tr>
<td>Energy Conservation</td>
<td>92.2% (83)</td>
<td>7.8% (7)</td>
<td>90</td>
</tr>
<tr>
<td>Desktop Computing</td>
<td>76.5% (66)</td>
<td>20.5% (17)</td>
<td>83</td>
</tr>
<tr>
<td>Sustainable Food Sources</td>
<td>56.8% (42)</td>
<td>43.2% (32)</td>
<td>74</td>
</tr>
</tbody>
</table>

answered question 91

skipped question 14
25. Would you be interested in surveying your building occupants on the following topics:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Yes</th>
<th>No</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Tap Water vs. Bottled Water</td>
<td>56.3% (49)</td>
<td>43.7% (38)</td>
<td>87</td>
</tr>
<tr>
<td>Lighting On/Off Practices</td>
<td>68.2% (60)</td>
<td>31.8% (28)</td>
<td>88</td>
</tr>
<tr>
<td>Recycling</td>
<td>69.4% (59)</td>
<td>30.6% (26)</td>
<td>85</td>
</tr>
<tr>
<td>Office Equipment On/Off Practices</td>
<td>70.8% (63)</td>
<td>29.2% (26)</td>
<td>89</td>
</tr>
</tbody>
</table>

answered question 92

skipped question 13

26. Would you be interested in participating in a program that helps to introduce sustainable practices into your department?

<table>
<thead>
<tr>
<th>Response</th>
<th>Yes</th>
<th>No</th>
<th>Yes with help!</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32.9%</td>
<td>12.9%</td>
<td>54.1%</td>
<td>85</td>
<td>28</td>
</tr>
</tbody>
</table>

answered question 85

skipped question 20

27. If you are interested in being contacted regarding your participation in the Building Level Sustainability Program, please provide your contact information below:

<table>
<thead>
<tr>
<th>Contact Information</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>100.0%</td>
<td>44</td>
</tr>
<tr>
<td>Email Address</td>
<td>97.7%</td>
<td>43</td>
</tr>
<tr>
<td>Phone Number</td>
<td>97.7%</td>
<td>43</td>
</tr>
</tbody>
</table>

answered question 44

skipped question 61
28. If you would like to identify yourself as a participant of this survey, please provide the contact information below: (optional)

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>100.0%</td>
<td>31</td>
</tr>
<tr>
<td>Email Address</td>
<td>100.0%</td>
<td>31</td>
</tr>
<tr>
<td>Phone Number</td>
<td>100.0%</td>
<td>31</td>
</tr>
<tr>
<td><strong>answered question</strong></td>
<td></td>
<td>31</td>
</tr>
<tr>
<td><strong>skipped question</strong></td>
<td></td>
<td>74</td>
</tr>
</tbody>
</table>
Toolkit 1a: Building Audit - Energy Conservation

Adapted from <http://facilities.stanford.edu/conservation/esi.htm>

Basic Energy Conservation Information /Tips

UNECESSARY APPLIANCE USAGE

- Avoid using personal space heaters.
  - Such heating units use a lot of energy, cause breakers to trip, and are dangerous when left unattended. One space heater can consume the same amount of power that it would take to run fifty-six 4-foot fluorescent lamps!
  - Wear comfortable business attire and wear layers to be comfortable at various temperatures and to avoid resetting thermostats.

- Enable the sleep settings on your computer monitor.
  - Screen savers do not save energy but sleep settings do.

- Turn off items when not in use.
  - This should include PCs, monitors, printers, copiers, coffee pots, and lights every night and on weekends. If you can’t turn off the whole computer, turn off the monitor and the printer.

- Try to use ink-jet printers and laptops.
  - These consume 90 to 95% less energy than laser printers and desktop computers. (Copiers can also be custom-chosen to reduce energy for specific needs).

- Look for Energy Star models.
  - PCs, monitors, printers, fax machines copiers and refrigerators all come with Energy Star ratings that compare energy usage. Computers and monitors also have EPEAT ratings, which take into account total environmental footprint. EPEAT ratings can be found at www.epeat.net.
OTHER ENERGY-SAVING BEHAVIORS

- **Lock up**
  - Close and lock all windows at night and on weekends. Not only does this keep out the rain and maintain security, but it’s important for energy savings.

- **Turn off lights.**
  - This should be down when leaving offices, classrooms and conference rooms, where safe and practical.

- **Reduce peak power usage**
  - Try to minimize your energy use during peak demand hours:
  - These are from noon to 6 pm on weekdays

- **Save paper**

Implement paper-reducing strategies such as double-sided printing, and using email instead of sending memos and faxes. It takes 10 times more energy to manufacture a piece of paper than it does to put an image on it.

Note: This sheet is intended for a single office (and not the whole building)

**Calculating Energy Use**

**Basic terminology:**

- **Current**—measured in Amps, is the flow rate of electricity. Appliances such as vacuums and fans are often labeled in Amps.
- **Voltage**—measured in Volts (V), is the electric potential or potential difference. (The standard voltage for a US household is 120V).
- **Watt** (Amps x Volts) is a unit of power, or energy per unit time.
- **kilowatt-hour** (kWh) is a unit of energy. This is (Watts x Hrs) / 1000, the unit that utility company use to measure energy usage.

**While filling any audit form:**

1. To find out how many kWh appliance or light uses, find out how much power is it draws.
   a. There should be a label that states how many Watts (or amps) it draws.
   b. If amps are listed: \[ \text{amps} \times \text{voltage} \times (120V) = \text{Watts} \]
   c. If you can’t find a label, you can use a kilowatt meter.
2. Next, estimate how many hours each day the appliance or light is used [ask the occupant(s)].
3. Then: \[ (\text{Watts} \times \text{hours}) \div 1000 = \text{kWh} \]
4. **Repeat** steps 1, 2, and 3 for each appliance and light. Remember to include details on location and type of ballasts, fixtures, or appliances. And consider **behavior**: what about the residents’ energy behaviors could benefit from change?

5. Add up total for **daily energy consumption**, then multiply by the number of days in the month to get **monthly consumption**.

**PG&E’s Audit Recommendations:**

- Utilize the PEC library of tools where you can rent out meters to measure efficiency: [www.pge.com/pec/tll](http://www.pge.com/pec/tll) (or talk to Rich Bitting at Stanford Utilities)
- Check out timers and photocells (when do they come on)
- Make sure fans work on appliances, so they don’t overheat
- Utilize the PG&E website, where there are more calculation tools
## Hardware Usage Comparison

<table>
<thead>
<tr>
<th>Computer Hardware</th>
<th>Awake/Active</th>
<th>Sleep/Standby</th>
<th>Hibernate</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>60</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Laptop</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitors</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>17&quot; LCD Flat Panel Monitor</td>
<td>34</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>17&quot; CRT Monitor</td>
<td>80</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peripherals</th>
<th>Awake/Active</th>
<th>Sleep/Standby</th>
<th>Hibernate</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speakers: Tweeter &amp; Sub-woofer</td>
<td>15</td>
<td>15</td>
<td>---</td>
<td>3</td>
</tr>
<tr>
<td>Speakers: Single-unit</td>
<td>3</td>
<td>0.06</td>
<td>---</td>
<td>0.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Office Printers:</th>
<th>Printing</th>
<th>Ready</th>
<th>Sleep</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser BW, Inkjet printer</td>
<td>380</td>
<td>10</td>
<td>---</td>
<td>0</td>
</tr>
<tr>
<td>Laser Color printer</td>
<td>400</td>
<td>35</td>
<td>---</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Printers/Copiers:</th>
<th>Printing</th>
<th>Standby</th>
<th>PowerSave</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network BW Laser Printer</td>
<td>550</td>
<td>27</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Network Color Laser Printer</td>
<td>445</td>
<td>18</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Network Copier</td>
<td>1600</td>
<td>290</td>
<td>120</td>
<td>4</td>
</tr>
<tr>
<td>Network Copier/Printer</td>
<td>1700</td>
<td>330</td>
<td>155</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Manufacturer’s Website, Prepared by SustainableIT.stanford.edu
Building Walk Though Audit Tips
(Adapted from Stanford’s demand-side energy management team in Sustainability and Energy Management)

**Offices**

1. Does the occupant have incandescent task lamps? Yes No
   *If yes, recommend replacement with compact fluorescent (dimming, if needed)

2. Does the office have bi-level switching for overhead lighting? Yes No
   *If yes, ask the occupant to try keeping lights at half level, especially on sunny days, and supplement with task lighting as needed.

3. Does the office have a lighting occupancy sensor? Yes No
   *If no, recommend installation.

4. Does the office have a mini-fridge? Yes No
   *If yes, recommend consolidation and removal.

5. Does the office have a space heater? Yes No
   *If yes, what kind is it? Convection/resistance (with fan) Radiant (no fan)
   (If convection, recommend replacement with radiant; see [http://www.buyenergyefficient.org/RadiantElectricHeaters.html](http://www.buyenergyefficient.org/RadiantElectricHeaters.html))

6. Does the office have operable windows? Yes No
   *If yes, do the occupants have a way of knowing when the building heating/cooling systems are running in order to keep windows closed at those times?
   *If no, recommend establishing a notification system.

7. Are any supply air vents (aka diffusers) blocked? Yes No
*If yes, is it accidental or deliberate?  Accidental    Deliberate
*If accidental, encourage re-arrangement of furniture or other items to improve comfort.
*If deliberate, work with Building Manager and Zone to find an alternate solution to the comfort problem since blocking a vent just makes it worse for everyone else.
Note: Table-top or floor fans are an energy-efficient way to improve comfort; encourage their use in areas that are occasionally too stuffy/hot (in the summer).

**Kitchenettes**

1. Is the refrigerator more than 10 years old?  Yes    No
   *If yes, recommend replacement with ENERGY STAR-labeled unit (no freezer or one on the bottom).

2. Does the gasket on the refrigerator/freezer door seal properly?  (test with dollar bill)  Yes    No
   *If no, recommend replacement.

3. Does the kitchenette have a lighting occupancy sensor?  Yes    No
   *If no, recommend installation.

4. Does the kitchenette have a bottled water dispenser?  Yes    No
   *If yes, recommend replacement with filtered hot/cold dispenser and/or install timer so heat/cool functions only run during occupied hours.

5. Does the kitchenette have a coffee maker with a hot plate?  Yes    No
   *If yes, recommend replacement and/or re-heating coffee with microwave instead.

**Lounges, Hallways, Restrooms**

1. Does the space have bi-level switching?  Yes    No
   *If yes, try keeping the lights at half level, especially on sunny days.
2. Does the space have a lighting occupancy sensor? Yes No  
   *If no, recommend installation. For restrooms, the sensor should have both infrared and ultrasonic motion detection.

3. Are there vending machines in the building? Yes No  
   *If yes, are they equipped with Vending Misers? (look for an occupancy sensor mounted above/next to) Yes No  
   *If no, recommend installation of Vending Misers (see http://www.vendingmiserstore.com/).

Whole Building

1. What is the building’s HVAC (heating, ventilation, air-conditioning) weekly operating schedule?

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON:</td>
<td>ON:</td>
<td>ON:</td>
<td>ON:</td>
<td>ON:</td>
<td>ON:</td>
<td>ON:</td>
</tr>
<tr>
<td>OFF:</td>
<td>OFF:</td>
<td>OFF:</td>
<td>OFF:</td>
<td>OFF:</td>
<td>OFF:</td>
<td>OFF:</td>
</tr>
</tbody>
</table>

2. Could these hours be reduced? Yes No  
   *If yes, recommend revised schedule.

3. Is the system running evenings or weekends “just in case” someone might be working? Yes No  
   *If yes, recommend installation of an override switch to provide 2-3 hours of HVAC when needed.

4. Are there lights, paper shredders, or other appliances that get left on by accident? Yes No  
   *If yes, install “Please SHUT OFF when not needed” stickers
• **Turn off lights.** This should be done when leaving offices, classrooms and conference rooms, where safe and practical.

• **Reduce peak power usage**
  • Try to minimize your energy use during peak demand hours:
    • These are **from noon to 6 pm on weekdays**

• **Save paper**
  • Implement paper-reducing strategies such as double-sided printing, and using email instead of sending memos and faxes. It takes 10 times more energy to manufacture a piece of paper than it does to put an image on it.
**Toolkit 1b: Building Audit – Information Technology**
(Adapted from Sustainable IT)

**Information Technology**
(Adapted from Sustainable IT)

**Computers**

1) At the departmental level, change administrative functions, such as backups and patching, to run during the day rather than at night. This will let you put into stand-by at night and when idle, which yields significant energy savings.

2) If you can’t put the computers into standby, then have monitors turn off automatically after 5-15 minutes.

3) New Computers: Set a departmental policy that all new computers to be purchased will be EPEAT Gold. The good news is that Stanford has arranged great pricing on EPEAT Gold models just for the university. You can see them here: [www.stanford.edu/dept/its/projects/hardwarerec/hardware](http://www.stanford.edu/dept/its/projects/hardwarerec/hardware)

4) Retiring Computers & other electronic equipment
   - If it’s still usable, contact your Department Property Manager and arrange for it to be sold or reused.
     - [findmydpa.stanford.edu](http://findmydpa.stanford.edu)
   - If it’s not usable, recycle it by placing in the eWaste bucket.
     - Make sure there is an eWaste disposal bucket either in the building or nearby. If there is not one, contact EH&S: [www.stanford.edu/dept/EHS/prod/enviro/Electronic_Waste.html](http://www.stanford.edu/dept/EHS/prod/enviro/Electronic_Waste.html)
Peripherals

1) As a rule of thumb, if the individual has a printer in their office, putting in an energy-saving SmartStrip makes sense. These can be purchased from SmartMart, either by going to SmartMart/Favorites/Sustainable IT, or by searching for LCG3 and SCG3. They are also available at the Student Green Store: greenstore.stanford.edu and Amazon.com.
   o See Appendix J for more information on how to set up the SmartStrips.

Network Printers

1) Network Printers, if shared, are best put on a timer so that they truly stop using energy at night when no one is around. Any heavy-duty, 3-prong, 15 Amp timer will do. These can be found on SmartMart/Favorites/Sustainable IT, or can be purchased from a hardware store.
   o Check the built-in ‘power saving’ settings on the printer. They should be set to go into PowerSave mode after no longer than 1 hour, preferably less.

2) Network Copiers/Printers use a lot of electricity even when they’re in ‘power save’ mode (see Appendix I). These should be turned off at night. To automate this, put them on a heavy duty, 3-prong, 20 Amp Appliance Timer and set them to be off when you know everyone is out of the office. These can be found on SmartMart/Favorites/Sustainable IT, or can be ordered from Grainger via SmartMart.
   o TIP: If putting a timer on a copier, post a note above the copier indicating that you’ve done so, and explain how to over-ride the timer. Make sure there is someone in the office who will periodically check to make sure the timer is still connected, as people tend to disconnect them and not connect them again.

Water Coolers, Coffee Makers, etc.

1) Water Coolers work 7x24, even though no one is in the office. Putting on a timer that turns off the base from 6pm to 6am, for example, can save 400 kWh/year, or about $40/water cooler. Any 3-prong, 15 Amp timer will do. These can be found on SmartMart/Favorites/Sustainable IT, or can be purchased from a hardware store.
(Adapted from Sustainable IT)

- Standard timers are good up to 15 Amps, have a standard plug, and can be used on network printers, water coolers, coffee makers, etc.
- Heavy-duty timers are good up to 20 Amps, and have a NEMA 5-20R receptacle. They are required for any 20 Amp device, which includes most copiers.

### Sustainable IT Building Audit

**Building:**

**Date:**

<table>
<thead>
<tr>
<th>Floor Number:</th>
<th>B</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td># 10-outlet SmartStrips</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># 7-outlet SmartStrips</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Timers - Standard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Timers - Heavy Duty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

<table>
<thead>
<tr>
<th></th>
<th>Controlled</th>
<th>Always-On</th>
<th>SmartMart/CWA Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-outlet Smart Strips:</td>
<td>6</td>
<td>3</td>
<td>LCG3</td>
</tr>
<tr>
<td>7-outlet Smart Strips:</td>
<td>4</td>
<td>2</td>
<td>SCG3</td>
</tr>
</tbody>
</table>

Standard Timers have a standard plug, and can be used on network printers, water coolers, coffee makers, etc.
Heavy-Duty timers have the 20 Amp plug configuration, and can be used on network copiers.

SmartStrips can be ordered from Stanford's SmartMart and/or CWA.
## SmartStrip & Big Fix Power Mgmt Guidelines

<table>
<thead>
<tr>
<th>Computer Configuration Needs:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Always On (Backup or Remote Access When Away)</td>
<td>Computer Standby OK</td>
</tr>
</tbody>
</table>

### Windows

<table>
<thead>
<tr>
<th>Power Setting</th>
<th>Stanford Green</th>
<th>Stanford Super Green or Custom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Plug (blue)</td>
<td>Monitor</td>
<td>Computer</td>
</tr>
<tr>
<td>Dependent Plugs (white)</td>
<td>Peripherals</td>
<td>Peripherals</td>
</tr>
<tr>
<td>Always-on Plug (Red)</td>
<td>Computer</td>
<td>---</td>
</tr>
</tbody>
</table>

### Apple

<table>
<thead>
<tr>
<th>Power Setting</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Plug (blue)</td>
<td>Monitor</td>
</tr>
<tr>
<td>Dependent Plugs (white)</td>
<td>Peripherals</td>
</tr>
<tr>
<td>Always-on Plug (Red)</td>
<td>Computer</td>
</tr>
</tbody>
</table>

Peripherals should include all computer peripherals - printers, monitors, external drives, speakers, etc. May also include cell phone charger, i-pod doc, space heater, desk lamp, etc -- depends on office setup and needs of employee

**General Process to follow:**
1) Confirm Power Management settings of computer, and check with needs of client. If possible, move power settings to more aggressive energy savings: standby and hibernate

2) Identify configuration - blue, red & white plugs

3) Identify a time to do the 'replugging' -- make sure to shut the machine down properly if working on a desktop (eg no battery backup) machine

4) Shut down the computer and swap plugs

5) Test the configuration by turning the computer on and making sure the controlled outlets turn on. If not, turn the ‘adjust’ knob until they do.

6) Put the computer in standby mode, and make sure the outlets turn off. If not, turn the ‘adjust’ knob until they do.

7) Repeat 5 & 6 until working properly

(Adapted from Sustainable IT)
## Toolkit 1e: Building Audit – Information Technology - Hardware Watt Usage Comparison

<table>
<thead>
<tr>
<th>Computer Hardware</th>
<th>Awake/Active</th>
<th>Sleep/Standby</th>
<th>Hibernate</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>60</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Laptop</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitors</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>17&quot; LCD Flat Panel Monitor</td>
<td>34</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>17&quot; CRT Monitor</td>
<td>80</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peripherals</th>
<th>Awake/Active</th>
<th>Sleep/Standby</th>
<th>Hibernate</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speakers: Tweeter &amp; Sub-woof</td>
<td>15</td>
<td>15</td>
<td>---</td>
<td>3</td>
</tr>
<tr>
<td>Speakers: Single-unit</td>
<td>3</td>
<td>0.06</td>
<td>---</td>
<td>0.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Office Printers:</th>
<th>Printing</th>
<th>Ready</th>
<th>Sleep</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser BW, Inkjet printer</td>
<td>380</td>
<td>10</td>
<td>---</td>
<td>0</td>
</tr>
<tr>
<td>Laser Color printer</td>
<td>400</td>
<td>35</td>
<td>---</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Printers/Copiers:</th>
<th>Printing</th>
<th>Standby</th>
<th>PowerSave</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network BW Laser Printer</td>
<td>550</td>
<td>27</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Network Color Laser Printer</td>
<td>445</td>
<td>18</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Network Copier</td>
<td>1600</td>
<td>290</td>
<td>120</td>
<td>4</td>
</tr>
<tr>
<td>Network Copier/Printer</td>
<td>1700</td>
<td>330</td>
<td>155</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Manufacturer’s Website

(Adapted from Sustainable IT)
Although the occupant survey, building manager survey, and initial audits by the Green Team and Department of Sustainability and Energy Management staff can help define the opportunities for resource conservation, specific office-by-office or room-by-room data is often most helpful in jumpstarting the program. The Office of Sustainability has a number of available student interns who now specialize in this type of data collection and the associated user training and equipment installation. The students report directly to the Green Team and provide results in an easily manipulated tracking matrix.

As an example, below is the email communication sent out during one of the pilot projects. Note that communication about the student’s objectives, and the procedure should an occupant not be at his or her desk, are crucial components of the communication:

*Good Morning,*

*I want to thank you all for helping us to identify and remove all mini refrigerators and microwaves in your offices; this was a big step towards our building sustainability goal. If we have missed any please let me know right away and I work with you to have these removed.*

*We still have a few more things to do in order to effectively participate in the building level sustainability program! To do this we have arranged for 2 students to come by each office in Mitchell tomorrow from 1-4pm, their names are Dave Luciano and Frances Ellerbe. Please work with them to achieve the following:*

1) *Replace incandescent desk lamp bulbs with CFLs*

2) *Install timers on shared printers. Timers are programmed to turn off the machines from 9PM to 5AM, but the settings can be customized for your group, including separate weekend settings.*
3) Audit workstations for SmartStrips, and where determined a value-add, install and train users.
4) Publicize desktop Power Management via BigFix.
5) Raise awareness of the composting program and additional recycling bin and e-waste stations.
6) Create a list of occupant-approved additional delamping.
7) Identify any lingering personal microwaves or refrigerators.

If you are not in your office when the students arrive, they will do the following:

1) Replace incandescent desk lamp bulbs with CFLs
2) Install timers on shared printers. Timers are programmed to turn off the machines from 9PM to 5AM, but the settings can be customized for your group, including separate weekend settings.
3) Audit workstations for SmartStrips, and where determined a value-add, install and leave training information for users.
4) Leave a flyer regarding Power Management via BigFix
5) Flag your office for a revisit to discuss delamping potential

If you have any questions or concerns please contact me directly.

Thanks,

Lauren
Please note that a single pass through the building is generally insufficient. In order to complete the office visit process, students will need to make multiple trips and several return visits to each office. Ideally, the students should be provided with the following to ensure a smooth process:

- A rolling cart
- Floor plans
- Laptop computer (students to provide)
- Smart Strips
- CFLs
- Timers and accompanying override instructional signage
- Relevant signage for posting
- Desktop power management fliers (to be coordinated with local IT group)
- Access to all rooms in the building (please provide keys if necessary)

Furthermore, the students will need a local contact with whom they can share data daily. This person, whether the Green Team leader, the building manager, or another contact, should be in a position to handle delamping requests, equipment shortages, occupant concerns, etc. in a timely fashion.
A. Preparation with Campus Staff

Prior to Audit/Walkthrough

- Contact the Office of Sustainability to obtain
  - Copies of monthly water billing statements and consumption from the Building Manager or Sustainability & Energy Management, for several years if possible, to determine a range of variability of monthly consumption.
  - A baseline of water consumption over the 12 months to get an idea of how water use characteristics change seasonally. *(Refer to Cumulative Domestic Water Consumption graph on following page. Source: Marty LaPorte, 1/25/09).*
  - Determine if or when any previous water efficiency measures had been installed.

- Fill out as much information below as possible prior to the walk through, and use the time during the walk through to verify and complete any needed information.

1. Gather Basic Building Information

Building Name: _____________________  Building Type: _____________________
Audit Date: _____________________
Building Manager: _____________________  Email/ Phone: _____________________
Does the building have a dedicated water meter or is it metered as part of a complex?

**YES**    **NO**

Where is it located?

_________________________________________________________________

Key information from Building Manager Sustainability Survey (source: Office of Sustainability, contact prior to survey)

•  __________________________________________
•  __________________________________________
•  __________________________________________
•  __________________________________________
•  __________________________________________

What are the core activities of the building?

______________________________________________________________________________
______________________________________________________________________________

How many Full Time Employees occupy the building daily? ____________

How many non-occupant “visitors” are on site daily?   ____________________________
2. Assess Existing Water Consumption (working with staff)

The goal of the water audit will be to determine which end-uses contribute the most to consumption, and to find ways to reduce overall use through efficiency and conservation. Use the billing data and other information obtained through the Office of Sustainability to check if previously installed efficiency measures (if any) have yielded verifiable results.

Work with staff during the audit to understand how the core activities of the building determine its water use. Does the building have a laboratory, dining establishment, or have many visitors during normal operation hours?
### B. Walk-Through Audit

Prior to the walk through, print out a copy of the BLSP Water Audit Checklist spreadsheet.

The spreadsheet utilizes the Performance Goals for Water Efficient Equipment in New or Renovated Stanford University Buildings as a reference for comparison to the currently installed fixtures and equipment. ([http://lbre.stanford.edu/sem/sites/all/lbre-shared/files/docs_public/we_performance_goals_12.18.08.pdf](http://lbre.stanford.edu/sem/sites/all/lbre-shared/files/docs_public/we_performance_goals_12.18.08.pdf))
Use the spreadsheet to take notes during the audit. You will notice on the left hand side of the spreadsheet that fixtures are identified by the building type, as they are delineated in the Performance Goals. Key inputs to take note of during the audit include “# of Fixtures,” “Measured or Labeled Use,” “Duration” of use, and “Daily Frequency of Use per Office Building Occupant.” After the audit, input your hand-written notes into the Excel Spreadsheet, which will automatically calculate consumption attributed to each of the uses. You may change the assumed inputs according to your observations during the walkthrough.

As you audit the different areas of the building, be sure to consult the following table to help identify probable areas of high consumption (Source: Stanford Utilities Division).
### Possible Causes for High Water Consumption in Buildings

<table>
<thead>
<tr>
<th>Restrooms/Janitor Closets/Kitchens</th>
<th>Mechanical Systems</th>
<th>Lab/Building Equipment Use</th>
<th>Irrigation</th>
<th>Underground Piping</th>
<th>Maintenance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sticking flushometer valves</td>
<td>Failed trap primers</td>
<td>New once through equipment cooling added by buildings occupants</td>
<td>Landscape irrigation on building domestic water</td>
<td>Underground DCW pipe leak</td>
<td>Failed steam condensate return system. Plumbing Shop tempering steam condensate to sanitary drain with domestic water.</td>
</tr>
<tr>
<td>Leaking faucets and showers</td>
<td>DCW leaking to floor drain in mechanical room</td>
<td>Building programmatic changes in water consumption</td>
<td>Leaking irrigation control valves</td>
<td>and/or filling building water systems made-up by DCW.</td>
<td></td>
</tr>
<tr>
<td>Flow restrictor removal</td>
<td>HVAC or equipment cooling in domestic water back up mode.</td>
<td>Failed water meter</td>
<td>Broken irrigation pipe fittings</td>
<td></td>
<td>Gutter cleaning, power washing and other building water cleaning activities.</td>
</tr>
<tr>
<td>DCW cross-connect with lower pressure CHW.</td>
<td>Automatic air vents leaking</td>
<td></td>
<td>Excessive irrigation</td>
<td></td>
<td>Washing coils &amp; outside dampers &amp; screens.</td>
</tr>
<tr>
<td>Failed and dribbling backflow preventer</td>
<td>Addition of lab sinks</td>
<td></td>
<td>Fountains on building DCW system</td>
<td></td>
<td>Filling up sumps.</td>
</tr>
<tr>
<td>Misuse of autoclave temper</td>
<td>Addition of kitchen appliances &amp; equipment</td>
<td></td>
<td>Fountain leaks or failed make-up water control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excessive DI water reject</td>
<td>Green House wet wall</td>
<td></td>
<td>Leaking irrigation supply line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failed hot water circulation</td>
<td>connection to fume hoods</td>
<td></td>
<td>Fountain level control malfunction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaking mechanical seals on pumps</td>
<td>Failed pressure regulator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Bathrooms**

1. Are faucets fitted with temporary cut-off valves, low-flow models, aerators, infrared and ultrasonic sensors, self-closing water spigots, or pressure-reducing valves?
   - YES
   - NO
   Consider installing flow regulators.

2. Are showerheads fitted with low-flow models?
   - YES
   - NO
   Consider installing low-flow showerheads.

3. Are occupants aware of how to properly use dual flush fixtures?
   - YES
   - NO
   Consider signage to encourage proper use.

**Cafeterias and Kitchens**

4. Are faucets fitted with temporary cut-off valves, low-flow models, aerators, infrared and ultrasonic sensors, self-closing water spigots, or pressure-reducing valves?
   - YES
   - NO
   Consider installing flow regulators.

5. Are there refrigerators that use water-cooling systems?
   - YES
   - NO

6. Is a garbage disposal installed in the sink and used often?
   - YES
   - NO

7. Can a compost bin be installed in its stead?
   - YES
   - NO

8. Are there low-flow pre-rinse spray valves installed?
   - YES
   - NO

9. Do occupants only run full loads in dishwashers?
   - YES
   - NO
   Consider replacing an old dishwasher with a new, more efficient model.

10. Do occupants only run full loads in sterilizers or HOBARTS?
    - YES
    - NO
For Laboratory Consumption

11. Are efficient faucets installed?
   YES  NO  
   Consider aerators, vacuum pumps rather than aspirators, pressure-reducing valves, and automatic sensors.

12. Do the equipment cooling systems use water “once-through”?
   YES  NO  
   Use re-circulating closed-loop chilled water for cooling. Once-through tap or chilled water cooling prohibited.

13. Are water misers installed on sterilizer equipment?
   YES  NO  
   Water misers are required on all equipment requiring quenching with cold water to reduce the temperature of wastewater.

14. Are there lab processes or machines where water can be reused or recycled?
   YES  NO  
   Establish procedures for sampling, testing and clean up that minimize the amount of water required. Post these procedures and emphasize compliance.

15. Do Reverse Osmosis systems reject wastewater directly to the sewer?
   YES  NO  
   Capture RO reject water for non-potable re-use. RO reject water could be used for non-potable uses, e.g., quenching, toilet flushing, sewer trap priming.

16. Can sub-meters be installed at high-flow processes and equipment without interrupting service or experiments?
   YES  NO

Mechanical Consumption

17. Evaluate the necessity of water heaters and water softeners. If they are vital, do they always need to be running?
   YES  NO  
   For necessary water heaters and softeners, set backwash frequency to a lower setting (so that backwash occurs less often).

18. Are ice machines turned off when they are not needed?
19. Does the facility have water-cooled drink machines?
   YES  NO
   Consider replacing them with new, more efficient air-cooled models.

Cleaning and Janitorial Use

20. Are janitorial staff aware of all office water conservation efforts?
    YES  NO

21. Are hoses used as a cleaning tool?
    YES  NO

22. Does the building have hoses that are used for vehicle cleaning?
    YES  NO
    When vehicles must be washed, do so at a professional carwash where minimal water-
    consumption machines are in use.

Maintenance

23. Are regularly scheduled plumbing checks to prevent leaks?
    YES  NO

24. Do building managers and occupants have ‘rapid response’ reporting systems to quickly
    repair leaks and equipment malfunctions?
    YES  NO

Estimate Consumption of water

Now that you have completed a visual inspection and undertaken preliminary questioning and
investigations, estimate water use for the large consumption areas of the building by inputting your notes into the Water Audit Checklist Spreadsheet. It will be helpful to make a graph to show how different uses compare with one another.
Summarize Recommendations

- Check your water audit against a utility bill, keeping in mind that water usage varies throughout the year (more water in Summer and less in Winter).

- Compare audit results with consumption data from the same month from previous years. From your investigations recommend the water-saving retrofit or plumbing work that will achieve the largest water savings.


- Estimate the changes in monthly utility costs associated with the measure. Consider the possible improvements that could be made analyze measures based on the cost of installation over the lifecycle of the product. Prioritize the recommendations with 1 as your first option (largest water saving). Keep in mind the feasibility of the retrofit, in relation to how it will affect building operations and occupants (i.e. laboratory experiments).

Example Best Management Practices (which must be co-developed with Building Manager)

Refrigerators:
- Consider replacing water-cooled refrigerators with new, more efficient models.
- Water-cooled models often use water to remove heat generated by the refrigerator in a once-through/ open-loop system.
- Consider a model without an icemaker.
- Manual ice-cube trays are much more efficient.
- Consider an air-cooled icemaker (rather than a water-cooled)
Dishwashers/Clothes Washers:
- When using your dishwasher, run only full loads. Learn more about water and energy efficient dishwashers at the EPA's Energy Star website.
- When using your clothes washer, run only full loads. Learn more about water and energy efficient clothes washers at the EPA's Energy Star website.
- Experiment with a modest reduction (10 percent) in water flow to dishwashers.
- Reuse wastewater from dishwashers for pre-washing or flow to garbage disposals.
- Revamp dishwashers so water stops when the flow of items stops. Revamp garbage disposals so that water flow stops when the motor stops running.

Bathroom:
- Do not use toilets as a trash can.
- Take shorter showers. Long, hot showers use between five and ten gallons of water every minute.
- Turn off the water while brushing your teeth. Run as much as you need, then turn off the tap until you need some more.

Irrigation:
- Consider installing an evapotranspiration (ET controller) weather-based controller.
- Water your lawn only when needed, generally once every three days during the summer. Check sprinkler timers and reduce watering times if necessary.
- Adjust watering schedule for each season. In fall, unless it’s very hot outside, you can reduce your watering time by half. By December, you can turn off your irrigation system completely.
- Set your irrigation system to run in the early morning or late evening, when the water is less likely to be lost due to evaporation or wind.
- Check sprinkler heads, valves and drip emitters once a month. Make sure heads are aimed correctly (no matter how much you water it, concrete will not grow).
- Check routinely for leaks.
• Plant drought-resistant trees and plants. There are many beautiful trees and plants that thrive with less water. For a listing of drought-resistant trees and plants that do well in the Bay area go to, water wise plant list, the Santa Clara Valley Water District's Web Site.
• Put down a layer of mulch around trees and plants. Mulch will slow evaporation of moisture and discourage weed growth.
• Use a spray nozzle with a shutoff handle on your hose so water doesn’t flow continuously.

Other BMPs:
• Thaw frozen foods ahead of time in the refrigerator, not under running water.
• Use the garbage disposal sparingly, and try composting instead.
• Use brooms, squeegees or wet/dry vats to clean the floor before washing. Do not use hoses as brooms.
• If sanitary regulations mandate hosing the floors, do so every other day and make sure hoses are equipped with high-pressure nozzles.
• If possible, wash linens half as often. Consider contracting to wash linens.
• If possible, consider changes in janitorial procedures. Consult with janitorial staff or ABM to discuss water-efficient cleaning practices. Ensure that all staff are trained in the most water-efficient procedures and that you include janitorial staff in your water conservation program.
• If possible, encourage dry-cleaning methods like sweeping. If hoses are used, equip them with water-efficient, high-pressure nozzles.
• Establish cleaning procedures that minimize the amount of water required. Post these procedures and emphasize compliance.
• Wash office windows, building exteriors and sidewalks as infrequently as possible without damaging facility or compromising safety concerns.
• Establish regularly scheduled cleaning of auxiliary equipment. (Particularly heating and cooling systems; filters should be checked and replaced regularly.)

Measure and Verify (With Staff)
One month after installation of any water conservation measures, measure water consumption at the building-level meter to verify whether savings measures are reducing water consumption as expected. Compare audit results with consumption data from the same month from previous years determined from your baseline. If reductions are lower than expected interview the building manager or occupants to determine any significant changes in use patterns and how to remedy them.

**Document Sources:**

This segment was prepared by Adam Kern, Utilities Division and Noel Crisostomo, Earth Systems 2010 for the purposes of Building Level Sustainability Program and CEE/EarthSys 109. Content was derived from:


LEED version 2.2 Water Efficiency checklist

Examining the contents of trash, recycling and composting bins and looking for clues to occupant behavior and practices around generation and handling of waste in a building can lead to Zero Waste: reducing waste and increasing recycling and composting.

Here is what to look for as you walk through the building:

1. Are there reusables, recyclables, or compostables in the trash? If so, where? Why?

2. Are the recycling bins well placed? Well labeled? They should be placed in high generating locations. Add or remove any recycling bins?

3. Are the trash bins well placed? Well labeled? Trash bins should be placed along side recycling bins, not by themselves. Do they have a large amount of one type of waste? Add or remove any trash bins?

4. If applicable, are there compost bins well placed? Well labeled? Compost bins should be placed along side trash and recycling bins.

5. Are reusable cups used? Are reusable cups offered? Is there a place to wash and store cups?
6. Are disposables used? Are they compostable? Chinet? Styrofoam? Can they switch from non-compostable to compostable or to reusables?

7. What type of water? Do they used bottled water, jugs of water, or filtered water? Do they have instant hot water? Goal is to use tap water – save money and energy.

8. Do they use recycled content (30%) copy paper?

9. Do they double side copy and print? Do they reuse their one-sided paper?

10. Do they have a place where they can hold onto reusable office supplies? Reuse mailing envelopes?

11. Do they recycle e-waste, batteries, toner cartridges? Environmental Health and Safety have established programs for these materials.

12. How many days per week is their deskside trash emptied? Could it be reduced to increase recycling?

13. Do they use deskside recycling bin? Do they want deskside recycling bins? You can get free cardboard trays from PSSI/Stanford Recycling or you can order small blue bins.

14. Does department put on special events? Do they know about special event recycling and composting?
A. Preparation with Campus Staff

Prior to Audit/Walkthrough

- Contact the Office of Sustainability to obtain
  - Basic building information – does it have a kitchen, kitchenette, and/or dining establishment?
  - Copies of monthly energy and water billing statements and consumption from the Building Manager or Sustainability & Energy Management, for several years if possible, to determine a range of variability of monthly consumption.
  - Assist with setting a baseline of water usage over the 12 months to get an idea of how water use characteristics change seasonally
  - Determine if or when any previous water efficiency measures had been installed.
  - Fill out as much information below as possible prior to the walk through, and use the time for walk through to verify.

Gather Basic Building Information

Building Name_________________ Establishment Name ____________________

Audit Date_____________________

Building Manager ___________________ Email/ Phone ___________________

Dining Manager ___________________ Email/ Phone ___________________
Does the dining establishment have a dedicated electricity, natural gas, and water meter, or is it metered as part of a complex?    YES    NO

Where is it located? (Describe)

________________________________________________________________

Key information from Building Manager Sustainability Survey (source: Office of Sustainability, contact prior to survey)

• _______________________________________________________
• _______________________________________________________
• _______________________________________________________

B. Food Audit Checklist
(Questions for kitchen staff or manager)

On Site Retail Dining

Food & Drink
1. Does the establishment have sustainable food purchasing guidelines or stated preferences for local, organic, humane, fair and direct food?
   Yes     No

2. If so, are kitchen staff members trained to understand and communicate them to customers?
   Yes     No

3. Are vegan and/or vegetarian entrees and other meal options available?
   Yes     No

4. Is tap water available to customers?
   Yes     No

Serviceware
5. Does the establishment offer reusable serviceware, including, but not limited to, cutlery, plates, bowls, and cups?
   Yes     No
6. Are disposable serviceware items, including, but not limited to, straws, stirrers, portion cups, drink cups and all to go containers compostable?
   Yes   No

7. If yes, are all compostable serviceware items certified by the Biodegradable Products Institute (BPI)?
   Yes   No

8. If compostable serviceware is used, are staff members trained to understand and communicate the intended disposition of compostable serviceware?
   Yes   No

**Composting & Waste Management**

9. Does the kitchen operation compost food scraps?
   Yes   No

10. Are compost bins available in the eatery?
    Yes   No

11. If yes, are they clearly labeled and differentiated by color?
    Yes   No

12. If compost bins are available, are there any trash bins located in isolation / in the absence of a companion compost bin?
    Yes   No

13. Do compost bins, including those in the kitchen, have Biodegradable Products Institute (BPI) certified compostable liners?
    Yes   No

14. Are the compost bins, including those provided by Peninsula Sanitary Services Inc (PSSI), contaminated with non-compostable items?
    Yes   No

15. Does the establishment have a regular working program to donate usable leftover food to SPOON (Stanford Project on Hunger)?
    Yes   No
**Kitchenettes, Common Indoor Areas, and Outdoor Patios**

**Events**
16. When catered events are held on premises, does the event planner / planning committee follow Stanford University’s Green Event Guidelines?  
   Yes  No

**Food & Drink**
17. If coffee and tea are provided, are they certified Fair Trade?  
   Yes  No

18. If the building has vending machines, are they stocked with low sugar or all natural beverages and “healthy” food and snack options (i.e. fruits, nuts, dry fruit, salad?)  
   Yes  No

**Serviceware**
19. Are kitchenettes stocked with reusable serviceware, including, but not limited to, cutlery, plates, bowls, and cups?  
   Yes  No

20. Are disposable serviceware items, including, but not limited to, straws, stirrers, and drink cups compostable?  
   Yes  No

21. If yes, are all compostable serviceware items certified by the Biodegradable Products Institute (BPI)?  
   Yes  No

**Composting & Waste Management**
22. Are compost bins available in kitchenettes, common indoor areas, and outdoor patios?  
   Yes  No

23. If yes, are they clearly labeled and differentiated by color?  
   Yes  No

24. If compost bins are available, are there any trash bins located in isolation / in the absence of a companion compost bin?  
   Yes  No

25. Do compost bins have BPI certified compostable liners?  
   Yes  No
C. Green Action Menu Creation

- Review the kitchen manager survey (this document)
- Consult the individual level survey (if conducted by building manager)
- Meet with staff in Office of Sustainability and the Dining Operation to create a list of actionable recommendations (Green Action Menu) as a part of the Building Level Sustainability Program to improve the operational sustainability of the building.

D. Food-Energy-Water Nexus Action Checklist

(Optional for Students, for action by kitchen staff or manager)

- For student sustainability coordinators to implement these actions, additional training by campus staff would be necessary. This will be left to building or kitchen managers’ discretion.
- This list, adapted from the Fisher-Nickel Food Service Technology Center, can be used during an audit, as well as given to the kitchen or building manager.

Ventilation

1. Turn off kitchen exhaust and make-up air fans when appliances are off.
2. Consider variable speed drives for kitchen exhaust and make-up air fans.
3. Regularly inspect and maintain make up air units “swamp coolers.” Points of inspection include: 1) float valve, 2) water reservoir pan, 3) water recirculation pump, 4) filter pans, and 5) fan belt.
4. Decommission exhaust fans that are no longer needed.
5. Install side panels on exhaust hoods that fail to capture and contain.*
6. Move four-way diffusers away from exhaust hoods.*
7. Rebalance older ventilation systems.*
8. Set make-up air duct thermostat to 55°F.
9. Place appliances completely under their exhaust hoods.
10. Place heavy duty appliances (ranges / charbroilers) in the center of the hood.
11. Reduce fire hazard by repairing or replacing damaged grease filters in exhaust hood.
12. Clean grease filters.
Hot Food Preparation

1. Follow an appliance start-up and shutdown schedule. Emphasize attention to broilers, ovens, griddles, rotisseries, pasta cookers and fryers.
2. Turn off plug loads when possible. Emphasize attention to heat lamps, coffee warmers, holding cabinets, steam tables, plate warmers and conveyor toasters.
3. Clean and repair range tops—replace missing knobs, fix air shutters and adjust flame.
4. Align oven and steamer doors and replace missing gaskets.
5. Repair leaks in gas lines and valves.*
6. Establish monthly equipment maintenance schedules.
7. Turn off dishwasher exhaust hood when kitchen is closed.
8. Countertop steamers: specify energy star & PG&E rebate-qualified boilerless steamers (versus boiler/steam generator-type steamers).
9. Chinese Ranges (Woks): Rigorously control appliance water use. Water used to cool the deck around the burner wells use up to 5 gpm, costing $6000/year.

Water

1. Install a low-flow pre-rinse spray valve at the pot-washing sink.
2. FSTC flow rates > 0.65 gpm. Stanford WE Performance Goal: 1.15 gpm.
3. Install hand sink aerators to reduce consumption from 2.2 to 0.5 gpm.
4. Repair all water leaks—especially hot water.
5. Set water heater at proper temperature (usually 120°F to 140°F).
6. Examine for leaks on the water heater Temperature Pressure-Relief (TPR) valves. TPRs are the safety mechanism that prevent heaters from exploding when they are heated. These devices can fail over time and leak hot water.
7. Insulate hot water lines.
8. Turn off hot water recirculating pumps when kitchen is closed.
9. Survey hot water hose usage and reduce if possible.
10. Consider installing a high-pressure nozzle or water broom on hot water hose.
11. Turn off hot water to scoop wells and/or drip wells when not needed.
12. Encourage proper defrosting—don't use hot water.
13. Change water filtration filters
15. Avoid tank heater failure—inspect elements for corrosion. Periodically draining the tank of a few gallons of water will prevent sediment buildup and ultimately extend the life of the storage tank.
16. Fully load dishwasher racks.
17. Regularly maintain dish machines. Points of inspection: 1) rinse pressure gague, 2) rinse nozzles, 3) gaskets, 4) manual/automated solenoid valves, 5) rinse bypass slats, 6) wash tank & booster heater set points.
18. Conveyor Dish Machines: Specify EnergyStar qualified machines, which can use ½ the water of their non-qualified predecessors, and $3000/year.
19. Turn off conveyors and water troughs when possible.
20. Turn off dishwasher tank heater when kitchen is closed.
21. If brooms cannot be used, use “water brooms” (<2.0 gpm) instead of garden hose nozzles or industrial wash down sprayers (<7.0 gpm). Water brooms have a wider spray arm with multiple jets and clean more effectively than single stream nozzles.

Refrigeration

1. Replace damaged refrigerator door gaskets.
2. Install strip curtains—replace damaged strip curtains.
3. Install door closers—repair or replace damaged door closers.
4. Align refrigerator doors—ensure they close properly.
5. Keep refrigerator doors, ice machine and prep table covers closed.
6. Maintain good airflow around the evaporator—remove boxes from front and any objects (plastic bags) from rear.
7. Replace and insulate faulty condensate drain line heater wire.
8. Install an evaporator fan controller in walk- in. * Or install high efficiency ECM motors on evaporator and condenser fans.
10. Clean evaporator coils.
11. Check defrost time clocks and set properly.
12. Check evaporator for icing. (If ice is present, call a service company.)
13. Check walk- in cooler and freezer temperatures. Adjust temperature to proper setting.
14. Check refrigerant level and recharge if necessary—sight glass clear = full charge.*
15. Turn off door heaters if no ice.
17. Specify air-cooled ice machines: Typical machines use 200gal/1lb ice. Air cooled machines can save $700/year.
Reference:

Energy and Water Efficiency Calculations

Estimate Consumption
Now that you have completed a visual inspection and undertaken preliminary questioning and investigations, estimate energy and water use for the large consumption areas of the dining establishment. It will be helpful to make a graph to show how different uses compare with one another.

Summarize Recommendations
Check your energy and water audit against a utility bill, keeping in mind that utility usage will vary throughout the year, depending on weather and operation scheduling. Compare audit results with consumption data from the same month from previous years.

- Stanford Dining is eligible for rebates offered through the Pacific Gas & Electric Rebates and the Food Service Technology Center. For rebates and lists of qualifying equipment, visit Fisher Nickel at www.fishnick.com or call (925) 886-2844.

- Develop a plan in conjunction with staff in the Office of Sustainability and the Dining Operation to implement a savings measure. Keep in mind the feasibility of the retrofit, in relation to how it will affect dining operations and occupants.

Measure and Verify (with staff)
One month after installation of any energy and water conservation measures, measure water consumption at the building-level meter to verify whether savings measures are reducing water consumption as expected. Compare audit results with consumption data from the same month from previous years determined from your baseline. If reductions are lower than expected interview the building manager or occupants to determine any significant changes in use patterns and how to remedy them.
DEFINITIONS FOR REFERENCE

- **All Natural**: Products that contain only natural ingredients, as defined by the FDA
- **Biodegradable Products Institute (BPI)**: A third party verifier of resins and manufactured items that make representations or claims of being “compostable”.
- **Compostable**: Any organic material or “compostable plastic” that meets the ASTM D6400 standard definition of materials that “will compost satisfactorily in commercial and municipal composting facilities”
- **Conventionally Grown or Raised**: Produce that has been grown with the aid of non-organic fertilizers and pesticides or animals that have been raised in confinement, given antibiotics, hormones, and/or non-organic feed
- **Direct Purchase**: A purchase transaction that occurs directly between the producer, or an agent hired by the producer, and the buyer
- **Ecologically Grown**: An unofficial designation for crops that have been principally grown without the use of pesticides, although such crops may have been grown using Integrated Pest Management (IPM), which would not necessarily ensure that no pesticides were used
- **Externally Owned**: A publicly traded enterprise or a privately held enterprise whose principal shareholders reside outside the state of California
- **Externally Produced**: Products that been grown, raised, or processed outside the state of California
- **Fairly Produced**: Food items that have raised, grown, and processed by organizations who provide safe conditions, reasonable hours, and fair compensation for their employees and workers
- **Free Range or Pasture Fed**: Animals that have been raised on pasture and/or that have been allowed to express their natural instincts and behaviors for the entirety of their lives
- **Highly Processed**: Processed items that include significant quantities of additives, fillers, preservatives or artificial ingredients and that experience extremes in temperature and pressure in the manufacturing process
- **Humanely Raised**: Animals that have been allowed to fully express their natural instincts and behaviors for the entirety of their lives and that been handled and slaughtered according the Animal Welfare Institute’s animal husbandry protocols
- **Indirect Purchase**: A purchase transaction that occurs indirectly through a distributor, wholesaler, or reseller
- **IPM – “Integrated Pest Management”:** Agricultural practice where pesticide use is only incorporated as a last resort when pest damage would otherwise impair a crop and result in a profit loss for the grower
- **Locally Produced:** Products that have been grown, raised, or processed within 150 miles of campus
- **Locally Owned:** A privately held enterprise whose principal shareholders reside within 150 miles of campus
- **Minimally Processed:** Processed products that do not include significant quantities of additives, fillers, preservatives or artificial ingredients and that do not experience extremes in temperature and pressure in the manufacturing process
- **Organically Grown or Raised:** Products that have been certified organic by the USDA
- **Regionally Produced:** Products that have been grown, raised, or processed within the state of California
- **Regionally Owned:** A privately held enterprise whose principal shareholders reside within the state of California
- **Vegan:** A diet consisting of no meat or animal byproducts (variously defined)
- **Vegetarian:** A diet consisting of no meat (variously defined)

Source:
Matthew Rothe, Sustainable Food Coordinator, Stanford Dining
As demonstrated in the various pilot projects, the value of organization and planning cannot be underestimated. It takes a lot of time to complete the various steps outlined above, yet maintaining momentum and eliminating “down time” should be a goal for every Green Team engaged in a building-level project. To assist with the timeline for a BLSP deployment, from “commitment” to “recognition and reporting” a **minimum of six months** is required. This six month duration assumes both an **active and organized Green Team and full endorsement from building-level decision makers**.

The sample schedule included below represents an ideal project scenario. It can be fully customized and tailored to a specific project upon request. The local Green Team, as “owners” of the project, should be involved in the creation of this schedule, and provide information such that the schedule can be updated frequently during the course of the project. It should function as a living document to record the project’s current status. An accurate / up-to-date schedule serves as a tracking and accountability tool that helps guide the Green Team throughout the project.
**Toolkit 5B: Creating Green Action Menu**
(Generic Example Below)

1) Enable power management settings on all computers (Turn monitors off, and put into standby if possible)
2) Install smart power strips
3) Set reduced sleep settings on network printers and copiers (recommended at 60 minutes or less);
4) Install timers on printers, copiers and other electrical equipment such as water dispensers and coffee pots (for example, set for “off” at 7 pm and back “on” at 6 am; use power strips to turn off completely for weekends);
5) Enable two-sided copying;
6) Purge/unplug unnecessary equipment (and replace inefficient equipment with Energy Star models);
7) Correctly set occupancy sensors for lighting (and install where appropriate);
8) Reduce over-lighting (such as by selective partial debulbing), and encourage turning off lights when rooms not in use;
9) Turn off computers, printers, copiers at night (and encourage backing up during the day to facilitate this practice);
10) Replace incandescent bulbs with CFL’s;
11) Implement effective recycling program (e.g., in-office recycling containers and pick-up, clear labeling of central bins, composting, printer cartridge recycling, battery and e-scrap);
12) Adopt green procurement practices (e.g., recycled-content copier paper, etc.);
13) Choose reusable (or at least compostable) dishes, cups and serviceware for kitchens and eateries;
14) Follow green event guidelines. Use this guideline developed by PPSI
   A comprehensive events guideline is expected Fall 2009.
15) More...specific to the building.
In addition to the communication needed for the coordination of a pilot, we recommend a department wide message is sent to the pilot participants to kick off the pilots. This will help bring purpose to the effort as well as establish goals the team can revisit.

School of Earth Sciences

1. Initial Launch Email
Dear Mitchell & Braun Colleagues,

As many of you are aware, Mitchell and Braun have been selected by Stanford’s Office of Sustainability as participants in the Building Level Sustainability Program. Over the last month several student interns, our Building Managers, and the Office of Sustainability have audited the building, surveyed the occupants, researched the IT needs, and crafted a targeted Green Action Menu that addresses the areas you helped identify as high priorities for our buildings. Working together, we believe we can reduce our electricity consumption by 5% compared to last year, and drastically reduce the percentage of recyclable/compostable materials in the buildings’ waste streams. Outlined below are both short-term and long-term programs.

WASTE MANAGEMENT

A waste audit of both Mitchell and Braun reveals we are throwing away a large percentage of items that can be recycled.

- 95% of survey respondents indicated a desire for composting—we will now have composting bins in each shared kitchen and on the 4th floor of Mitchell near the mailboxes.
- New slim recycling bins will be deployed on each floor to help facilitate collection of cans and bottles.
- Each user will receive a desktop paper recycling tray (made from recycled cardboard).
- E-waste stations will be located conveniently and prominently in each building.

LIGHTING

- Many common spaces are over lit and will be partially delamped this week.
• Many individual offices are also over lit, and we would encourage you to consider partially delamping your office. Remember, if you chose to be aggressive with your reduction, you can always set it back at a later date if it doesn’t meet your needs.
• Audits and survey results revealed that many personal task lights have incandescent bulbs installed—we’re going to offer a CFL swap program in the lobby of Mitchell. The time and date remain TBD, but stay tuned for a follow-up announcement.

COMPUTERS & PRINTERS

• Only half of the university-owned machines in the School of Earth Sciences have BigFix power management enabled—we will enable this feature on all machines. Rest assured we are taking research and lab machines into careful consideration and will be communicating with groups to determine “opt out” machines. Please stay tuned for a more detailed email from Phil regarding power management on your computers. Deployment will occur in early July.
• CRC will install timers on all printers and copiers to ensure they turn off at night. The team will work with your group to determine the best timer settings. Please note that one machine in each department will be selected to have more generous “on” hours to accommodate the needs of students and faculty working overnight. Stay tuned for further communications.
• Two dozen individuals have been identified as ideal candidates for Smart Strips (a power strip that automatically turns off peripherals when the computer is turned off). Smart Strip delivery and installation will occur in mid-June.

REFRIGERATORS

The building audit identified more than 30 personal mini-refrigerators in Mitchell and Braun. Each of these uses at least 200kWh of electricity each year (based on metering installed on one such unit in Mitchell). We have a long-term plan to institute an incentive program to remove these units from operation. Here are our initial plans—we welcome your input:
• Increase the cleaning frequency in our existing shared refrigerators to a weekly cycle.
• Phase out the existing shared refrigerators for Energy Start rated models
• Launch mini-fridge swap out incentive program

I greatly appreciate your participation and engagement in this exciting project.
If you have any questions about this program, feel free to contact your local Green Team or Jiffy Vermylen in the Department of Sustainability and Energy Management (jiffy.vermylen@stanford.edu).

Thanks!

Best, Pam
Pamela Matson
Dean, School of Earth Sciences

2. Update/Momentum Email
Hello Mitchell and Braun Occupants,

Thank you for participation in our building sustainability efforts. As I mentioned in my earlier emails, we’re participating as a pilot in what we hope will be a university-wide effort to save energy and resources. We started working over the summer, and the office visits and audits of the last few weeks are just the latest step in the series of conservation measures.

The student interns and your local Green Team accomplished the following:

- 22 incandescent desk lamps replaced with CFL bulbs
- 55 printers identified as suitable for timer installation-10 installed, remainder on order, override instructions will be pinned up this week
- 60 users identified as good candidates for Smart Strips
- 17 offices volunteered for additional delamping
- Composting signage installed at all locations

The Smart Strips have arrived, and student interns are in the process of returning to identified offices to guide users through installation. Please remember that the installation of Smart Strips is a critical component of our conservation efforts, and use them! FYI—we will not be eligible for our full rebate if installation cannot be verified. Thanks in advance for your participation!

Much of our progress is thanks to our building’s Green Team. These individuals are the local representatives for the Building Level Sustainability Program, and are leading the conservation action items. Feel free to contact any of them with questions related to the ongoing sustainability efforts:

- Felicia Morales
- Tom Koos
• Lauren Nelson
• Robin Maslin
• Phil Farrell
• Juanita Castro
• Solomon Seyum

Through the measures identified above, along with the common area delamping, removal of personal refrigerators, and other efforts started in June, we hope to reduce the electrical consumption in Mitchell and Braun by at least 5% compared to the same time period last year. That may not sound like much, but it would be an amazing accomplishment for individual action, and would add up over time and across the university. Please continue to support the Green Team and our School’s goal to be a leader in individual-action-based resource conservation.

Many thanks!

Best,
Pam
Pamela Matson
Dean, School of Earth Sciences
Green 170 Introductory Message

**From:** Fenner, Thomas W  
**Sent:** Monday, February 09, 2009 6:42 PM  
**To:** OGC Plus  
**Subject:** FW: The Green 170 Pilot Project

Dear colleagues,

As many of you have heard, Building 170 has been selected by the university’s Sustainability Working Group (*OK, I confess, I volunteered us*) to pilot a new program aimed at saving energy as part of the university’s Energy Conservation Incentive Program (ECIP). All four floors of the building are participating, and our collective goal is to try to reduce the building’s electricity consumption by at least 10-15 percent, when measured against electricity use in February and March 2008. The pilot project hopes to learn lessons that can then be applied to other campus buildings. Under ECIP, any money we save going forward we get to keep.

At the same time, Building 170 is also joining approximately 55 other buildings on campus in a new trash reduction/ increased recycling program. That program is described in the email below, and several of the key actions we are taking under both the energy and the waste reduction programs are listed in the attached.

Thanks in advance to all of you for your efforts. Our expectation here is that -- once we get the electricity results from this two month period -- we will challenge Building 10 to match them. So let’s put up some big (or, more precisely, small) numbers!

Captain Compost

PS: And any suggestions for further savings or competitive strategies are most welcome.

[THE FOLLOWING IS A SLIGHTLY MODIFIED VERSION OF THE ORIGINAL EMAIL - THE OGC IS IN THE PROCESS OF DISTRIBUTING NEW BLUE RECYCLING CONTAINERS]

To: 01-170 building occupants

The university has implemented a new program designed to increase our waste diversion from the landfill and increase our recycling volume. Effective Wed. 2/11/09, your ABM janitor will begin emptying the recycle bin in your individual offices and work stations once a week on the day prior to the PSSI pickup day. As of Thurs. 2/12/09, your janitor will then be able to reduce
the trash pickup in the individual offices and work stations to Thursdays only. Please note the reduction

in trash pickup impacts the office and workstation areas only; trash pickup in the kitchen area will continue to be daily. The janitors are being instructed to empty the cardboard PSSI desktop bins and blue plastic recycle bins only for recycling. If you currently are using other types of recycling boxes these will not be serviced. If you drink bottled or canned drinks in your office, please use a separate PSSI cardboard bin for those and the janitor will empty them at the same time (or you can simply take them to the recycling containers in the kitchen area).

If you eat at your desk and have food waste you don’t want left until your once-a-week office pickup, you can either put it in your kitchen or restroom as these will continue to be serviced 5 days a week. Note also that you can place clean plastic bags and bubble wrap in the paper recycling bin. Window envelopes are also recyclable, and the rule of thumb as to paper is “if you can tear it, you can recycle it.” Please do not recycle pizza or donut boxes as the grease contaminates the “mixed paper” recycling -- though these items are compostable.

As you get used to using your recycle bins more, we believe that you will notice (as others on campus have noticed) that your office trash can has little or nothing in it most days. This will confirm the success of our program and we will see the waste diversion from your building increase.

Thank you for your participation in our newest sustainability program,

Contracted Services Manager

Facilities Operations
The following communication fliers and audits are available upon request to be used at a building-level pilot or rollout. The content and branding are approved by the program partners and the Office of Sustainability.
**Flier 1: Green Action Menu**

- **7 Key Actions**
  - Use power management on your computer
  - Turn off your computer when not in use
  - Install Smart Strips
  - Turn off lights when leaving a room
  - Replace incandescent light bulbs with CFLs
  - Minimize trash - RECYCLE
  - Look for opportunities and lead by example

- **2 Key Goals**
  - Cut electricity use by at least 10 - 15%
  - Reduce trash and increase recycling

[Visit sustainable.stanford.edu for more information]
Flier 2: Door Signs

last one out?

Switch off lights and electronic equipment when not in use to save energy.

- turn off lights
- turn off printers and copiers
- turn off computers

sustainable.stanford.edu
Flier 3: Bottles and Can Recycling Chart

**bottles & cans**

**OK to recycle**
- glass bottles and jars
- aluminum and tin cans
- aluminum foil
- milk and juice cartons/boxes
- plastic bottles #1 - 7
- plastic #1 - 2

**Not recyclable**
- mirrors and vases
- foam
- styrofoam
- plate glass
- Pyrex
- aerosol cans
- plastic packaging #3 - 7
- unlabeled plastics

sustainable.stanford.edu
Flier 4: Composting Chart

- OK to compost:
  - all food products
  - tea bags
  - coffee grounds
  - pizza and donut boxes
  - compostable service ware, napkins
  - plants and flowers

- Not compostable:
  - paper towels
  - tissues
  - non-compostable coffee cups
  - non-compostable plastic
  - styrofoam
  - metal or glass (place in recycling bins)

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Flier 5: Mixed Paper Recycling Chart

mixed paper

OK to recycle
- clean paper that tears
- newspapers
- magazines and books
- cardboard
- frozen food packages
- plastic bags
- bubble wrap

Not recyclable
- paper with food or oil (place in composting bin)
- pizza and donut boxes (place in composting bin)
- paper cups
- paper towels
- paper plates
- tissues
- laminated paper

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Flier 6: Trash Chart

Trash
- laminated paper
- paper towels and tissues
- styrofoam
- chip bags and food wrappers
- aerosol cans
- plastic packaging #3-7 & unlabeled plastic

Recyclables
- cardboard
- clean paper
- aluminum and tin cans
- glass
- plastic #1&2
- plastic bottles #3-7
- plastic bags & bubblewrap

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Toolkit 8: Evaluation - Assessment & Recognition

- After the rollout period, **check the metrics against the baseline** or targeted conservation.
- **Compare audit results with consumption data** from the same month from previous years determined from your baseline.
- For energy, IT and water conservation items - One month after installation of any energy and water conservation measures, measure water consumption at the building-level meter to verify whether savings measures are reducing water consumption as expected.
- If reductions are lower than expected **interview the building manager or occupants** to determine any significant changes in use patterns and how to remedy the gap.
- **Document and share lessons learned** with the Green Team.
- Work with the Office of Sustainability so their staff can:
  - Calculate the Return on Investment (see main report)
  - Record the case study of and business case
  - Share success with campus media and sustainability governance
  - Record the reduction towards overall campus goal
  - Present a token of appreciation!
  - Discuss and implement next steps with appropriate department

**Recognition:**

- **Arrange for Department or building level recognition for the team, as appropriate for the group.**
- **Publicize success to the building occupants, recognize team and individual efforts**
- Rest...(coming soon)