

Business and Financial Services

Draft Sustainability & Climate Action Plan

Overview

In Fall 2015, Business and Financial Services was audited and assessed by PACES (Program for the Assessment and Certification for the Environment and Sustainability). Information was compiled using a Business Officer survey, notes from a departmental walkthrough, and a survey completed by building occupants. The results of the assessment as well as recommendations for future action are outlined in the report below. Furthermore, it is entirely up to the departments which of the suggestions below are implemented. Our hope is to present a menu of possible options from which your department can choose what works best for you.

Transportation

According to the Business and Financial Services (BFS) building occupant survey, 90% of employees are aware of UCSB Transportation Alternatives Program (TAP), however, only 35% of staff use this service. For faculty and academic staff, this program offers a variety of resources including discounts on bus passes that provide unlimited MTD bus use, vanpool subscriptions, and pre-tax pay-roll deduction. TAP also offers 6 complimentary emergency round trip rides per year. For carpooling, TAP offers great benefits such as 57 hours of complimentary parking per quarter, 50% price reduction for carpool permits (that's \$225 of savings), and the Carpool Match Services' to accommodate diverse schedules. By taking advantage of the TAP program, the department's total gas usage for transportation can be greatly reduced.

Another method of environmentally-preferred transportation is biking. To encourage staff to bike to work, PACES recommends the staff participate in the CycleMAYnia annual Bike Challenge event which lasts the whole month of May. During this event hosted by Traffic Solution's, volunteers from the community's agencies, organizations, and businesses participate in the team-based competition to replace as many car trips with bike trips. Last year, approximately 698 individuals rode their bikes for a total of 248, 537 miles. This prevented 106,898 pounds of pollution. To sign up, please visit <http://cyclemaynia.ning.com/>. For rules and more information on the event, please visit <http://www.trafficsolutions.info/bike-challenge.htm>.

Energy and Atmosphere

According to the surveys, 77% of Business and Financial Services (BFS) staff turn off their equipment when they leave their desk. During the walk through, PACES was glad to see that BFS does well in centralizing much of its equipment and appliances such as the printer and microwave. Only 11% of those that completed the building occupant survey stated that they have a personal printer at their work space. Thus, fewer appliances are being purchased and less cumulative energy is required to power the department's appliances. PACES also noticed that Power Strips are used which increases the convenience and likelihood of building occupants turning off a large cluster of electronics and appliances at once. For lighting, BFS uses task lamps on some work desks which is a very efficient and ergonomically healthy way to focus light and energy effectively to areas that specifically need it. As learned in the MSO interview, PACES was happy to hear that the department emphasizes accountability and stewardship when

turning off equipment and saving energy. However, PACES recommends taking this initiative further by ensuring that EnergyStar settings are enabled on public equipment such as printers.

For individual desk lighting, PACES recommends BFS to increase the number of task lamps in the department. Doing so will give employees the opportunity to control the amount of light used for each task, enabling them to effectively focus just the right amount of light to the specific areas that they need. This will increase the departments' energy efficiency and create an ergonomically healthy environment for staff. We recommend partnering with Julie McAbee, UCSB's ergonomics coordinator (Julie.mcabee@buss.ucsb.edu, 893-3283) to assess how the task lamps could be better situated to ensure that this recommended change fits with the work activities of each employee.

PACES also noticed that some halls and cubicles in the department face a large window that make natural light available. This availability of ambient light has the potential to reduce the amount of overhead lighting needed for a space. PACES encourage BFS to consider taking advantage of the ambient lighting by turning on just enough lights to comfortably light the room. The availability of ambient light also provides potential for delamping. Delamping is a simple way to reduce energy. As the name suggests, it is done by removing unnecessary light bulbs in areas that are producing greater-than-needed illumination. To do this, submit a work order to Facilities Management and ask them to delamp the department where necessary.

For current and future refrigerators, PACES recommends defrosting the freezer units within the refrigerators when there is more than ¼ inch of ice buildup for optimal efficiency. According to the walkthrough data, there was a small amount of ice buildup at the top of the freezer. The ice build-up causes more heat to be held within the appliance, requiring more energy to keep the refrigerator at the desired temperature. To begin the defrosting process, unplug the refrigerator (to power off the light bulb along with the refrigerator), and leave the door open. Place an old towel or cloth on the floor where the water from the melted ice will drip off after 1-2 hours. It is helpful to plan the defrosting process a few days before in order to remove all the non-perishables from the container and to allow 5-8 hours for the defrosting process to be completed.

In addition, the sealing on the refrigerator is old and should be replaced when feasible. Older refrigerators tend to be more inefficient. PACES suggests doing a rebate program through Southern California Edison (SCE) to receive money back and replace the old refrigerator. SCE will haul away the old refrigerator for free, dismantle it in an environmentally safe manner, and give you up to \$50 for recycling. When you are ready to purchase another refrigerator, SCE will rebate your purchase of an EnergyStar refrigerator with up to \$75. That's a potential of \$125 on top of \$105 per year of energy savings. For more information, please visit the link SCE's incentives to [recycling](#).

When purchasing new equipment, BFS does well in purchasing Energy Star products and enabling the Energy Star features, meaning they are certified as energy efficient. During the walk through, PACES spotted power strips that are used in this department. This is a very effective and convenient tool to reduce power usage by centralizing the energy source and enabling users to easily shut down power on the specific products plugged into it, rather than just having them on standby. PACES recommends hitting that off switch on those power strips at the end of the

work day to reduce energy use. Cell phone chargers and other devices with a charging block should be fully unplugged or plugged into a turned off power strip when not in use. These are called “Vampire” plugs and will still use power when “off”. To remind office occupants to turn off the lights and appliances when leaving the room, increase the amount of signage and/or stickers next to the light switches, appliances, and electronics. PACES will provide these signs for you.

The most environmentally-preferred option is for building occupants to turn off their computers completely when they leave the office. This will decrease the ‘vampire load,’ unused electronics that consume electricity. The second best option is for the individual building occupants to tailor their own energy settings on their computers to their schedule. Altering computer settings to shut down individuals’ computer’s based on individual needs can be done with the help of IT department if necessary. For those who have security concerns or receive nightly updates, there is variety software available that turn computers on and off when needed. For example, a good energy saving software is TaskForceCO2. This software could potentially bring the 77% of staff that have their equipment shut off when they leave up to 90%. If this interests the department, PACES suggests looking into the following list of software that EnergyStar rated.
https://www.energystar.gov/products/low_carbon_it_campaign/implementation_resources_enterprises/commercial_software

When computers are in use, PACES encourages all building occupants to turn the computer screen brightness down to each person’s own comfort level. The added brightness of a computer screen can be more harmful than helpful to your eyes. Also, contrary to popular belief, screensavers often do not save energy. According to EnergyStar, some screensavers use twice as much energy, and may prevent a computer from entering sleep mode. Particularly problematic screen savers are those with rotating images and/or bright graphics. Therefore, rather than setting the monitor to go on standby when it is not being used for a certain amount of time, PACES recommends setting all department monitors to turn off after a certain period of time while not in use, and disable the screensaver.

Finally, during the walk through, PACES noticed a lot of personal heaters and fans, indicating that employees are opting to bring in their own equipment in due to temperature discomfort. Staff comfort is always very important. Therefore, for personal heaters and fans that are necessary, PACES suggests alternative heat sources that use less energy and are non-hazardous. We do not recommend a specific brand of space heater, but definitely do discourage the use of ceramic space heaters or any personal space heaters that use convection (i.e. hot coil and fan). A better option is circulating oil type heater. In this case, instead of heating air and blowing it around, the heater acts like a true radiator. A heater of this type may be purchased on Amazon, for example, this portable [oil radiator](#). Utility and Energy Services suggest using warming [foot pads](#) for under the desk use.

PACES advises continuous communication with Facilities Management about temperature comfort concerns and working with them to monitor and record building occupants temperature preferences. This way, when BFS is ready to make renovations, Facilities Management can better address the inefficiency and inaccuracy of the HVAC systems heating and cooling.

However, before any renovations it is important to consider interim solutions. For example, staff should wear appropriate clothing and layers according to the weather.

There was also a lot of survey feedback that the central heating and cooling system in the BFS does not work properly. PACES suggests that BFS use window film to keep the heat out but still allow plenty of ambient light in so building occupants can take advantage of natural lighting. There are many different options for window film on the market that focuses on solar heat gain factors. When shopping for window film, look at two factors: the visible transmittance (VT) and the solar heat gain coefficient (SHGC). Both are ratios from 0-1, which means that a VT of 0.85 means it lets in 85% of light, and a SHGC of 0.85 means it lets in 85% of heat gain. To reduce solar heat gain, purchase window film with low SHGC. For the light-to-solar-gain ratio, (VT/SHGC), purchase film a VT/SHGC value greater than 1.0. This means the film will transmit more light than heat. If window film is already being used, be sure it fits into these ranges for maximum benefits.

Materials and Resources

According to the MSO Interview, BFS strives to purchase office products online. This is a good move toward sustainability by using Gateway, which makes electronic paperwork and pathways instead of piling up paper documentation. Furthermore, PACES encourages the department to bulk in trips by picking up all necessary supplies in one shipment or trip rather than multiple separate trips.

The department also uses sustainable materials such as paper that is 100% Post-Consumer Waste and whiteboards, averting excessive use of paper or non-reusable products. Furthermore, BFS does a great job at investing in products with replaceable parts to prevent the need for throwing away and wasting an unnecessary amount of material and resources. However, when the department chooses to renovate the carpet, it is important to consider replaceable carpet tiles (by Interface). This allows for flexibility in changing out specific areas rather than the entire floor -- preventing the creation of large amounts of waste.

Solid Waste Management

BFS employees make many efforts to reduce their waste stream. PACES was impressed to see that, according to the survey, 84% of the department staff uses reusable mugs and 68%, reusable dishes and cutlery. This is very effective in reducing the cumulative amount of department waste going into the landfills. Another way to reduce BFS' waste stream is to encourage the use of Eco-clamshells for those who dine at Coral Tree Café and Courtyard Cafe. PACES suggests having 2-3 Eco-clamshells for departmental staff to borrow when they choose to dine at these restaurants. Patrons initially buy the reusable container with a meal and subsequently exchange rinsed, used containers for sanitized ones with next meal purchase. This is much more sustainable than using Styrofoam containers or products that constantly need to be reproduced

The department also does well in its efforts to reduce paper use by setting the photocopier and main printer to print double-sided, and placing a recycling bin right beside the main printer and each desk as convenient points of access. To further reduce paper waste, PACES recommends

designating a tray for “GOOS” paper (Good On One Side) for those who to print one sided and make printing mistakes.

PACES are excited that BFS staff show interest in the topic of recycling and, as a result, have a conscious effort to recycle. However, only 50% of BFS staff knows to contact Central Stores about recycling broken furniture and 20% know who to contact about e-waste. Electronic waste is a growing problem in an increasingly technologically focused world. Devices go obsolete quickly, and many consumers simply discard old equipment. When e-waste isn't recycled properly it ends up in a landfill, often in very poor countries where it may be burned or just left in or near poverty-stricken communities. All of those wires and circuit boards are filled with heavy metals that leach into water and come in contact with local people and wildlife. These compounds can cause cancer, reproductive disorders, and many other health problems. It is important to clarify where and how to recycle e-waste. AS Recycling runs a free electronic waste collection program for members of the UCSB campus. You can drop off your e-waste at any of AS Recycling's e-waste collection bins. If multiple bins are present, please sort your waste according to the signage. If there is no battery or ink cartridge bin, these items can be placed in the general bin. Do not place CFL lightbulbs anywhere other than in a lightbulb bin; a broken bulb leaks mercury and is dangerous for building occupants and our student workers.

By inviting AS Recycling in to do a workshop on recycling, BFS staff can learn about and discuss many recycling topics including the ones mentioned above. This can also provide an opportunity for BFS staff to give feedback on the departments recycling program.

Furthermore, the infrastructure in the office can also be improved to support this endeavor. During the department walkthrough, PACES noticed that many of the recycling bins and trash bins were not paired next to each other. Occupants tend to use the waste management system most effectively when; all of the options are present each time they go to dispose of an item. When not all options are available, employees may throw recyclables in the landfill bin rather than finding a more inconveniently located recycling bin. Therefore it is important to always have a pair of trash and recycling cans -- one solely dedicated to recycling and the other for trash. It is also important to maximize signage visibility so that material is placed in its designated location. PACES will provide the department with signage to assist staff when choosing whether to recycle or dispose of paper, wrappers, and other products.

Food System

BFS can improve on their food orders for events and meetings by purchasing from more local and sustainable options. Sustainable options may include fair trade, organic, and humane food choices. For example, UCen Dining's sustainability efforts achieved 26% of sustainable purchases in the 2014-2015 school year.. Choosing to purchase produce locally reduces environmental impacts of shipping, keeps food fresher, and supports our local economy and community. UCen Catering, IV Food Cooperative's Catering program (an approved caterer for times when neither the UCen nor Special Events are available to cater), and Silvergreens all support local and sustainable options.

Furthermore, implementing a composting system in the department would allow building occupants to compost their food waste such as fruit peels, compostable dining ware, and

compostable eating utensils when they finish their meals. Compost bins can be placed in the department for special events and meetings or for long-term use in the break room. PACES has contacted AS Recycling and one compost bin has been reserved for the department. The AS Recycling team will pick up the bin three times a week if the department chooses to receive a compost bin.

Water

About 80% of staff are aware of whom to report a dripping faucet to and do so when necessary. Being proactive as a building occupant is significant to the sustainability of the building as a whole and PACES is proud that the department collectively makes an effort to report leaks or wasted water to fix the problem. It is important to continue doing so, educating and advising staff to continue speaking up when water appliance issues arise and need to be fixed.

PACES was excited to see a Hydration Station located in the department. Not only is it ergonomically healthy to get up from sitting after every hour to walk around, but it is much more sustainable to use the Hydration Station to get water. Also, using reusable cups and mugs to drink at Hydration Stations help keep plastic waste off of our beaches, decrease UCSB's carbon emissions by over 32,000 pounds each year, and reduce water waste. Furthermore, refraining from using single-use water bottles' reduce greenhouse gas emissions that occur in the production, transportation, and recycling of single-use plastics.

To prevent office injuries, BFS can improve on promoting stretching exercises and healthy living. Programs are offered through the RecCen, however, a simple and less costly activity would be to request staff to step away from their desk for a few minutes a day to complete a group exercise. The exercises can be metacarpal stretches or simple yoga poses to keep individuals healthy and more productive.

BFS is also aware of and utilizes services that Julie McAbee, UCSB's Ergonomics Program Director, provides to assess and improve the ergonomics of workspaces. Feel free to invite her back periodically to reassess the office space. As mentioned in the Energy section of this report, great task lamps are being used in this department but there is room for improvement. With newer services such as lighting assessments to support the use of task lamps, Ms. McAbee can assist in assessing which staff members and spaces can best benefit from an office lamp. She can make recommendations or/and help cover the cost of new equipment. Contact her at extension 3283 or at Julie.McAbee@buss.ucsb.edu.

PACES is glad to provide free Star Spray, a nontoxic, Green Seal certified STAR-cleaning spray. The inhalation and ingestion of this Star Spray is of low risk to human health because it does not have harmful chemicals. Not only is this Star Spray safer for the office occupants' health, but it is also environmentally preferred. It is important to be aware that VOC's (volatile organic compounds), which are often found in paints, cleaning supplies, pesticides, office equipment (ex copiers and printers) are highly toxic organic chemical gases that can cause a variety of issues from eye and nose irritation to cancer. To restock on green chemicals, please contact PACES.

For tasks that BFS is currently using bleach for, PACES recommends replacing this VOC-rich chemical with low-VOC alternatives like Suprox-D, Oxivir tb, Oxivir Five 16, and Quat-64.

It is also important to keep VOCs and all potential pollutants away from food preparation, and food storage areas to prevent ingestion of harmful particles and toxins. BFS has done this well by having a dedicated kitchen and stationing the copier machine on the side of the hall opposite of the majority of the staff work spaces. For further precautions, staff members who change printer ink and toner should wear gloves because the ink can be carcinogenic. PACES also suggests that, since employees currently are not given safety advice on handling printer and copier ink cartridges, BFS include this warning in staff training and/or orientation. Furthermore, PACES recommends BFS send used toner and ink cartridges to AS Recycling or Central Stores for remanufacturing; then purchase remanufactured ink cartridges as an alternative to the standard ink cartridges.

Another measure BFS can implement to reduce the need for VOC's in the work environment is encouraging staff members to refrain from eating at their desk. According to the building occupant survey, 80% of staff eat lunch or breakfast at their desk at least three times a week. Refraining from this will decrease the chance of food particles lingering in the work space which decreases the chance of having pests. This will overall decrease the likelihood of needing to use toxins and harmful chemicals for extermination that can potentially harm building occupants in the aftermath of the extermination process.

Communication and Training

In order to foster building-wide environmental awareness, BFS staff members should be informed of the current environmental excellence BFS administration has strived for. Communication about the department's sustainability goals and successes can be encouraged once a month during meetings and integration of sustainability into staff trainings can be done with a few PowerPoint slides during orientation training.

It is important to engage and encourage all staff to give regular feedback on how the office is operating because they understand their space and its functionality the best. By setting aside time and a space for staff to provide insightful sustainability suggestions, staff comfort and productivity can be improved. We recommend setting up a method to collect suggestions on an ongoing basis. This can be during a quick "check-in" time slot each meeting or an email inquiring for any comments and suggestions to the office operations.

If BFS is interested in additional workshops or trainings, PACES can offer these workshops or if the topic is outside of our scope, can help to identify trainers who can. Institutionalizing this effort through an education plan and consistent communication will benefit the departments' overall efforts to promote and excel in sustainability.

For additional suggestions or comments, please contact:

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PACES Assessment Checklist

- Increase peer to peer encouragement for more use of alternative transportation options by learning more from <http://www.tap.ucsb.edu/>
- Increase signs and reminders to turn off light and equipment at night
- Set up a reassessment of BFS w/Julie McAbee to a review placement of task lights as well as reassessments for ergonomics.
For ergonomic revaluations, please contact Julie McAbee at extension 3283 or at Julie.McAbee@buss.ucsb.edu
- Purchase task lights as the primary light source after having a more detailed energy audit
- Contact Facilities Management to assist in delamping areas with ambient lighting after having a more detailed energy audit
- Instead of multiple mini-refrigerators, make use of one main, EnergyStar refrigerator for all department staff to use
- Defrost the mini-refrigerators that are lined with a quarter inch of ice or more
- Request PACES can provide signage to put around light switches and appliances to remind staff to *turn off/power off/unplug* lights and electronic appliances when not in use
- Request IT Department to personalize energy settings on individuals' computer to turn shut down at the approximate time each individual leaves the office
- For upcoming BFS renovations, refer to carpet purchasing guide
- Encourage the use of Eco-Clam Shell To-Go Boxes for those who dine at Coral Tree Café and Courtyard Cafe
- Refrain from purchasing alkaline batteries and purchase rechargeable batteries instead
- Invite AS Recycling to provide a comprehensive Recycling Workshop and/or a workshop on establishing zero waste practices, metal recycling, and e-waste recycling
- Encourage monthly feedback on the BFS recycling program
- Increase education and use of AS Event Recycling Services
- Pair trash and recycling bins together
- Increase signage of recycling bins throughout the office.
- Encourage staff to bring 2-3 reusable mugs and increase use of reusable cups and mugs

- Refrain from and eventually stop using single-use plastic water bottles
- Request PACES to provide a departmental compost bin to implement composting in the kitchen
- When ordering from UCen Dining, request for even more sustainable options such as Fair Trade Organic, Organic Food, Local Food, Humane Food (ethically raised, handled and produced meat)
- Increase peer-to-peer encouragement of Hydration Station usage
- Replace Lysol wipes, Bleach, and Purell with eco-friendly and VOC-free products (like Suprox-D, Oxivir Tb, Oxivir Five 16, and Quat-64 instead of bleach)
- Advise and provide staff protective gloves for changing printer ink and/or toner
- Recycle ink cartridges and toner

- Purchase remanufactured ink cartridges and toner

- Encourage staff eat not to eat at their desks
- Request PACES give a presentation on specific sustainability topics to the staff as formal information or training for the department's environmental efforts
- Integrate a sustainability portion to initial staff trainings.

- Establish a way for staff in the department to give feedback on sustainability efforts