UCLA Sustainability Action Research

Sustainable Purchasing Team

2018 Midterm Report

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Abstract

With the widespread use of cleaning products and the significant impact they have on both human and environmental health, it is important to take into account the sustainability of the product's chemical properties, packaging, and implementation. The 2018 Sustainability Action Research (SAR) Sustainable Purchasing Team is partnering with UCLA Facilities Management to determine the environmental improvements associated with greener cleaning products. Our team has four main goals: 1) evaluate the SDS sheets of current UCLA cleaning products to see their chemical safety, 2) research and test the cleaning products of the company that UCLA Facilities Management ultimately decides to purchase from, 3) analyze the costs and benefits of switching to the new company and compare environmental impacts, and 4) work with the new company, UCLA Facilities Management, and custodians on proper training of product use. By the end of winter quarter, the team has accomplished the first goal, received a tour of the chemical warehouse, and attended meetings where companies Ecolab, Veritiv, 3M, and Diversey pitched their cleaning products, dilution control tools and training program. Going into spring quarter, we will attend a few more pitch meetings, research and analyze the new cleaning products that Facilities Management procures, and develop the educational component of our project in the form of an Earth Day Fair booth and training with the custodians. We hope to come up with research that shows the campus-wide impact UCLA Facilities Management will have upon switching to a new cleaning product line.

Introduction

With an annual budget of approximately $6.7 billion, UCLA instigates enormous economic impact in the places it chooses to spend (UCLA). This is referred to as purchasing power, which means that even the smallest decisions, when made by an institution with such a large budget, can make a big difference economically. This idea is important to sustainability because economics drive much of society, and spending in a sustainability-conscious manner has the potential to make big differences. By investigating how some of UCLA's recurring purchases can be made more sustainable, there is potential to shrink the environmental footprint of the entire institution. For example, if UCLA invested in hand driers for every bathroom instead of paper towels, the campus would consume much less paper than it currently does.

Sustainable purchasing means making a conscious effort to purchase products that are economically, environmentally, and socially sustainable, while still being comparable in price and effectiveness to non-green products. This practice takes into account the full life-cycle and net benefits of a product. The effects of sustainable purchasing are numerous. The impacts do not just benefit the environment; they have far-reaching socioeconomic benefits as well. Sustainable products often last longer and use fewer material resources, thus the extended life of a product reduces waste disposal costs (Strandberg 2007). Furthermore, sustainable purchasing focuses on not just the product itself, but also how one chooses to buy said product. By purchasing in bulk, the consumer generates savings from the supplier on high-volume orders through the reduction of transportation costs. Sustainable purchasing has many social benefits as well, such as helping build one's brand. It is becoming increasingly important for companies and individuals to think green when making a purchasing decision. Furthermore, by purchasing resource-efficient

products, the consumer is helping limit the depletion of Earth's finite resources (Strandberg 2007). Utilizing sustainable products also reduces the amount of greenhouse gas emissions that we put into the atmosphere and contribute to global warming.

Since the University of California is a state agency, it is mandated to purchase environmentally preferred products whenever they are functional and cost-efficient. Moreover, UC established their own sustainable practices policy and UCLA created a sustainability steering committee. There are sustainability policies that UCLA mandates, but according to the 2016 SAR Green Purchasing Team, they are vague and the connection between procurement guidelines and the actual staffers themselves is weak (Li et al. 2016).

The 2016 team worked on office supplies and received data on the purchasing behaviors and knowledge of the resources available to of UCLA employees through surveys. The team reviewed the EPA's and Office Max's sustainable product recommendations on their respective websites. With this information, the team created their own "Green Office Catalog" attached with SKU numbers so that the items could be easily found in UCLA' s BruinBuy system, as well as the costs and motivation as to why that product is being recommended. In spring quarter, the team held "Lunch and Learn" information sessions with purchasers that showed them how to use the catalog and explained the importance of sustainable purchasing.

The 2018 Sustainable Purchasing Team will follow a similar theme by looking at a cost-benefit analysis, but we will turn our gears toward cleaning products instead of office supplies. By focusing on green cleaning products and the purchasing decisions made in Facilities Management, we hope to research how the products used every day to keep UCLA clean can have a smaller environmental impact. Additionally, adding a training and educational

component for the custodial staff could also contribute to greener cleaning. By discussing how sustainable purchasing works, what really makes a cleaning product "green," how to find these products, and how to ensure the safety of these products, we hope to develop a strong background knowledge. Our four main goals are: 1) evaluate the SDS sheets of current UCLA cleaning products to see their chemical safety, 2) research and test the cleaning products of the company that UCLA Facilities Management ultimately decides to purchase from, 3) analyze the costs and benefits of switching to the new company and compare environmental impacts, and 4) work with the new company, UCLA Facilities Management, and custodians on proper training of product use.

Methodology and Progress

Goal 1: Evaluate current chemicals

One of the most important sources of data on the environmental safety of chemicals comes from their SDS sheets, which contain personal health, ecosystem, and proper handling data. Our team received a current list of cleaning chemicals from Facilities Management and evaluated the sixteen "core chemicals" which Facilities uses to conduct most on-campus cleaning (Appendix 1). The chemicals vary widely in environmental impacts (from safe hand soap to a metal polisher that is a class 1a carcinogen), and we now have an effective baseline to assess sustainability once a new cleaning supplier is selected. We will evaluate the SDS sheets of different chemicals from new vendors to assess the overall change in sustainability and inform our recommendation on more sustainable suppliers. Much of our work since evaluating the core

chemicals has been attending meetings between UCLA and potential suppliers to see what alternatives exists and how suppliers can offer sustainable cleaning solutions.

Goal 2: Research and test products of new company

On March 7th, several members of the Sustainable Purchasing team made their way over to the Strategic Sourcing and Bruinbuy Trade show that hosted over 70 suppliers for UCLA in Ackerman Grand Ballroom. This event was directly tailored for UCLA faculty with purchasing power, so we were lucky to have a first hand sight at how various companies marketed their products, and which ones UCLA has strong ties with. Focusing on sustainable purchasing of cleaning chemicals, we made our way over to Waxie Sanitary Supply. Waxie is America's largest privately-owned distributor of sanitary maintenance supplies.

UCLA and Waxie's relationship is so strong that Waxie was bestowed the job of restoring Royce Hall's hardwood floors in 2013. The representative from Waxie recommended that UCLA replace all chemical dispensers with dilution control mechanisms – he noted that UCLA has been aware of this technology for years, but they have been slow to implement it, like other UCs. The implementation of this technology would reduce packaging and the frequency of orders. Additionally, it would solve the problem of janitorial staff over-sanitizing because Waxie gives both online and in-person training on proper techniques and concentration amounts to use for multiple products. This information has inspired the Sustainable Purchasing team to survey the janitorial staff and educate them on sustainability in green cleaning during spring quarter.

Our main focus right now is to sit in on the bidding process as several cleaning supply companies pitch their brand in meetings to become UCLA's one and only sanitary products supplier. We want to attend these meetings because we feel it's necessary to know what

Facilities is looking for out of their suppliers. Facilities wants to choose one single vendor to supply their cleaning products to make the process more streamlined. In the past, Facilities would receive bids from companies for individual products and choose the most affordable and sustainable option. Therefore, it is of utmost importance that our team conduct final analysis on the hazards that these chemicals may cause to the environment and the workers.

On March 13th, the Sustainable Purchasing team sat in on a sales pitch from Ecolab to Facilities Management. Ecolab is a multi-faceted company involved in water, hygiene, and energy technology and services. Their goal is to provide products and training to their partners in an effort to preserve the environment in an efficient and sustainable manner. During the meeting, we learned that proper training is of paramount importance. One of Ecolab's main selling points was that they provide online and onsite training for all of their products. There seems to be a gap between purchasing and application when it comes to cleaning products, as the team has heard that janitorial staff would often apply unnecessary amounts or the wrong chemical as a whole. Moreover, Facilities asked about their green certifications and sustainability savings programs, thus recognizing the three-pronged approach to sustainability: social, economic, and environmental.

On March 20th and 22nd, the team sat in on pitches from 3M and Diversey, two large cleaning chemical suppliers. 3M also emphasized training as a route towards a green cleaning system and stressed that proper dilution control reduces chemical exposure to workers, results in monetary savings from using product efficiently, and saves the custodial staff time. They designed a dispensing mechanism that is resistant to calcium buildup so that the correct amount is dispensed regularly. One of the head custodians informed us that in his experience, he and his

staff has preferred this dilution control system because it led to less need to mop up areas where soap accumulated because of improper dilution control. This was important information for us as we understand that custodial staff on the ground must also find the product usable and effective. Another concern was with training sessions and related to the potential for infrequent trainings not being able to account for high turnover in this field. If a company only trains two times a year, much of the custodial staff will not have had these trainings and may not properly dilute the chemical. We hope to discuss the training frequencies with our stakeholders next quarter to get a better understanding of each company's trainings, and we may attend a training as well.

Goals 3 and 4: Analyze costs and benefits, train with custodial staff

After sitting in on our first round of pitches, it is now our duty to survey the janitorial staff to see if their wants align with UCLA's purchases, and collaborate with facilities to see that various companies' sustainability initiatives can be implemented, such as the dilution control system. We will continue to attend these meetings and take careful notes, so that we may conduct further research and eventually make a recommendation to Facilities Management on the most sustainable and cost-efficient sanitary supply company to go with.

Challenges and Difficulties

The sheer nature of UCLA makes it a very difficult campus to clean. There are currently 77 chemicals in use across over 100 buildings. Any updates or alterations to the list of chemicals will have a lasting impact upon several parts of the campus. These sections of campus also often seem disjointed, as UCLA is inherently decentralized, making any chain of command in these situations difficult to follow.

Additionally, there are several factors at play when making a selection of even a single chemical. The cost of labor is the most expensive aspect of cleaning the campus, so productivity is key. Any product selected for the campus must be efficient, yet there must also be consideration for the possibly harmful components of most fast-acting cleaning supplies. UCLA, along with many other campuses with ambitious sustainability goals, is trying to strike a balance between productivity and environmentalism. Some methods that do not necessarily affect the actual effectiveness of the chemical but may help environmentally include packaging, transport methods, and proper training of the involved staff. Facilities Management is currently in the process of choosing a new supplier, meaning all these considerations must be taken into place in the coming weeks as a selection is made for the campus at large.

Despite all of these considerations, the largest task ahead in the procurement and implementation of new chemicals is the effects any new selections will have upon UCLA's custodial staff. Many chemicals that are eco-friendly are perceived as slower and less efficient than the more powerful name brands. This presents a challenge as the workers will on occasion engage in risky behavior when given chemicals that seem slower and less effective. These behaviors include self-diluting, often to make a more concentrated version of the product, or bringing their own chemicals from home. Part of the challenge that Facilities Management faces is the discouragement of such practices, while trying to still take into account the input or frustrations of the staff. Any new chemical or product needs to be accompanied by significant training, often in Spanish, to ensure that the staff is using it to its maximum effect. If there are remaining problems with the product or it is still not deemed to work fast enough, the staff will be the first to know – their opinions must be included in the selection process.

Our team hopes to work as an advisory committee to Facilities Management, assisting in the selection of a new supplier – one that will strike the balance between being eco-friendly and efficient. Additionally, we may consider becoming involved in the discussions or trainings with UCLA's custodial staff to ensure a smooth transition between supplies or methods. We also may work to solve confusion over the chemicals at hand by create information resources to be stored in several of the storage closets, providing an immediately accessible wealth of information on the components and effects all the supplies to be used across campus.

Plans for Spring Quarter and Conclusion

Throughout winter quarter, our project goals and the scope of our research have developed as we learned more about sustainable purchasing, green cleaning, and Facilities Management. Initially, we were very interested in green cleaning and the impacts that changing the chemicals used on campus could have on improving human health and the environment. However, with efficiency and effectiveness the ultimate priorities for Facilities Management, we have shifted our focus onto the sustainability of other aspects of cleaning products, such as the packaging used and the reduction of waste through dilution control. We have also realized the importance of training and best practices for cleaning chemicals, as this contributes greatly to their effectiveness and efficiency. Although the specifics of our project and the scope of our deliverables have developed, we have maintained our focus on using purchasing to improve the sustainability of UCLA, and capitalize on the immense purchasing power of the university.

As we move forward with our project in the coming months, we plan to continue meeting with vendors, learning more about their products and sustainability efforts by their companies.

Through our initial meetings we have learned more about the purchasing process and the importance of aspects such as customer support, training for custodial staff, and patents on certain technologies. We have also learned which questions are most important to ask vendors, and which aspects of their companies are most relevant to improving sustainability at UCLA. After meeting with all of the companies, we plan to assess the sustainability of many aspects of potential products. Assessment will include metrics on the waste involved in packaging, transportation costs, the efficiency of dilution control, and other criteria that will be determined in the future. Through our preliminary findings about high turnover rates of custodial staff and issues with improper and unsafe cleaning practices, we will also assess companies on the quality of their customer service and commitment to effective training and continued education. As we have learned, using the correct procedures for each chemical is one of the most important aspects of green cleaning. To ensure the continued efficiency and sustainability of the new chemicals that will be introduced at UCLA, we will work on an educational component of our project involving custodial staff. This component will focus on making the transition to new chemicals smooth for custodial staff, especially for those who have spent many years using the same chemicals and may be reluctant to learn new techniques. We will also survey custodial staff and building managers to receive any feedback they may have about the chemicals they currently use, and receive insight to what kind of educational outreach will be most effective.

After Facilities Management has determined which new chemicals to purchase, our team will work on a final report and/or presentation describing the sustainability of cleaning products used at UCLA, and the impact these purchasing decisions will have on UCLA's sustainability as a whole. We will also be interested in quantifying the effect of UCLA's dollars on sustainability.

With this final deliverable, we will provide Facilities Management with a comprehensive assessment of the products that will be used as they transition to new chemicals.

Although we have been faced with challenges and uncertainties in the beginnings of our research, we are confident that with the continued support of our stakeholders and our colleagues in Sustainability Action Research, our project will make a substantial impact on sustainability at UCLA. We are eager to move forward with our many ambitious ideas and excited for what we will learn in the coming quarter.

Works Cited

Li, Mochi, et al. "2016 Sustainability Action Research Housing Team Final Report: Environmentally Preferred Purchasing," UCLA Institute of Environment and Sustainability, 2016.

Strandberg, Coro, and Amy Robinson. Guide to the business case & benefits of sustainability purchasing. Sustainability Purchasing Network, 2007.

UCLA. "About UCLA: Fast facts." *UCLA Newsroom*, newsroom.ucla.edu/ucla-fast-facts.

Appendix 1

Product Name	Manufacturer	Warehoused (Y/N)	If yes, SKU
Best Bet Liquid Crème Cleanser	BETCO	Y	485-001-0072
Rip Saw Stripper	Buckeye	Y	485-055-0045
RPM Floor Enhancer - High Speed Burnishing	Buckeye	Y	485-020-0022
Destiny HS 25 Floor Finish	Champion Chemical	Y	485-020-0023
Lemon Furniture polish	Champion Chemical	Y	485-020-0014
Ajax	Colgate-Palmolive	Y	485-001-0011
Purell	Gold industries	Y	485-085-0007
GREEN CONCEPTS- Graffiti Remover	Green Concepts	Y	485-001-0073
Royal-Furniture polish Lemon Scented	Royal	Y	485-020-0014
Refresh Foam Soap	Stoko	Y	485-001-0038
Furniture polish Lemon Scented	Triple S	Y	485-020-0014
Metal Brite Cleaner (Metal Polish)	Waxie	Y	485-025-0006
Rotokleen Carpet Cleaner	Waxie	Y	485-030-0001