

CHAPMAN UNIVERSITY ENVIRONMENTAL AUDIT 2018: EXECUTIVE SUMMARY

The Chapman University Environmental Science and Policy Capstone Course conducted the annual Environmental Audit, focusing on Procurement and Recycling Audit in the spring semester of 2018. This audit focused on collecting and assessing data from various campus departments, Chapman students, faculty, and staff, and outside sources to provide insight into ways the University purchases and discards of goods, materials, and services on campus. The authors of the audit provided background historical information, conducted assessments of current practices, identified opportunities for improvement, and made focused recommendations on the specific topics that were examined. The following are summaries of the twelve chapters included in this report.

Chapter 1: Sustainable Purchasing Policy

KC Hoppel

Chapman University maintains its commitment to a “campus culture that promotes a sustainable future” in its Sustainability Policy, which was implemented in 2014. However, the University has no mechanism to ensure this sustainable decision-making process occurs. One of the surest ways to guarantee this change is to enact a University-wide sustainable purchasing policy that ensures consistency between departments. Understanding the costs and benefits throughout a products life-cycle will allow the University to make the most socially-optimal decisions regarding procurement practices.

Recommendations include:

- Implementing a sustainable purchasing policy to prioritize environmentally-preferable products when they can be acquired at similar total value (taking into account quality and Life Cycle information).
- Prioritizing products that are third-party certified

Chapter 2: Procurement of Furniture in Newly Renovated and Newly Constructed Buildings

Courtney Bonilla

Chapman University is currently planning the construction of two new buildings, the Keck Center and the Villa Park Orchards Residence Hall. Chapman takes pride in its campus’ beauty; however, it has not formally developed a way to ensure that this beauty is sustainable and environmentally-conscious. As of the 2013 Environmental Audit, Chapman had no specification policies for sustainable designs and construction of new additions to campus. In order to work towards more sustainable design on campus, this chapter focuses on the ways we can purchase more sustainable furniture, as well as design new spaces on campus using used furniture and sustainable design techniques.

Recommendations include:

- Improving disposal and storage of furniture through cradle to cradle programs and developing an inventory system for the storage facility
- Implementing a formal sustainable purchasing plan that includes:
 - Usage of facilities furniture storage
 - Chapman’s commitment to sustainable design

Chapter 3: A Better Life for Furniture

Matthew Sahli

This study focused on the purchasing and use of furniture, with the aim to reduce the amount of new furniture purchased by the university as replacements for broken items. Chapman University currently uses the Villa Park Orchards Packing House for storage of used items but does not have a way to successfully monitor the pieces. Furniture stored in the warehouse is grouped and stored with minimal labeling and protection. The warehouse will soon be remodeled, and the current storage space will be lost. Furniture purchased by the university is very good quality but needs to be replaced on a regular basis. Knowing the life span of the furniture and creating a plan for its replacement would allow the university to better prepare for the expense and keep the design of the building consistent. Future research into surplus furniture could start with a clean slate in the new storage facility.

Recommendations include:

- Implementing a step in the purchasing process that would include a check of Facilities Storage for a sufficient replacement
- Implementing a plan for Facilities Storage that includes storage and handling procedures to protect and categorize items for future use
- Creating an online database that staff and faculty could access to better know what is available in storage before making purchasing decisions

Chapter 4: Procurement of Furniture in Residence Halls

Hailley Coleman

Chapman currently owns thousands of furniture pieces across multiple residence halls. Each hall has variations in furniture, which makes extra pieces unusable in different buildings. Research of sustainable furniture options along with current purchasing data will help reduce the amount spent on new furniture each year, and push Chapman towards its sustainability goals.

Recommendations include:

- Joining the Sustainable Service Program at Sustainable Furniture Inc. to remanufacture old furniture and decrease the amount of non-recycled materials used on campus
- Reducing the amount of carpeting purchased by switching to carpet tiles in all of the residence halls

Chapter 5: Local Food Procurement

Lauren Sandler

Food acquisition intended to meet the demand of developed countries encourages poor agricultural methods and creates resource-extraction trends that far exceed recharge rates. Consumer preference drives the demand for meat and produce that is not seasonal and not local, making behavioral shifts imperative for change. This research quantifies student, staff, and faculty preference for local and sustainable food in the effort to motivate Chapman University to define and increase the percentage of locally sourced food on campus. This chapter analyzes local food procurement through Chapman Sodexo, OC Homegrown, locally sourced restaurants, and similar universities in the effort to set feasible standards for campus food procurement initiatives.

Recommendations include:

- Defining the term 'local' and quantifying the percentage of locally procured food to develop and advance local food initiatives
- Incentivizing shifts towards willingness to consume local food and seasonal produce
- Hosting a quarterly farm-to-table event

Chapter 6: Plastic Water Bottles

Dina Sabatelli

This study analyzes single-use plastic water bottles on Chapman's campus and provides information regarding how plastic water bottles adversely affect the environment. This chapter includes efforts Chapman has implemented to lessen the impact of plastic bottles, as well as looking at solutions of peer institutions.

Recommendations include:

- Increasing the amount of water bottle refill stations in Residence Life
- Giving all students a reusable water bottle during orientation as an incentive
- Starting a "Ban the Bottle" campaign on campus

Chapter 7: Waste Management - Disposable Paper Cups

Winnie Woo

Coffee is a big part of college life for most students. However, examination for the daily waste management practices on campus regarding the hundreds of paper and plastic disposed cups is lacking. To embrace Chapman University's commitment to sustainability, a cradle-to-grave material such as disposable cup should be carefully evaluated, and alternatives must be considered.

Recommendations include:

- Considering alternatives to disposable cups by providing reusable coffee cups for on-campus consumption, similar to practices in Randal Dining Hall and outside cafés
- Considering alternatives to non-recyclable cups by procuring biodegradable coffee cups and coffee-related consumer products
- Increasing awareness of disposables and potentially reduce total waste by providing reusable tumblers for incoming freshman

Chapter 8: Pralle-Sodaro Recycling Management

Brooke Bradford

This chapter focuses on recycling management within the residence life communities at Chapman University and aims to improve recycling habits among first-year students. Small recycling bins were placed in the dorm rooms of 2nd and 4th floors of Pralle-Sodaro hall, while the 1st and 3rd floors were used as controls. Data for this chapter was collected through two waste audits using waste accumulated over a 48-hour period in the residence hall. This study aimed to measure the impact on diversion rates in the dorms when a recycling bin is placed closer to the residents.

Recommendations include:

- Providing and leaving small recycling bins in dorm rooms year-round
- Permanently labeling small bins with recycling information
- Implementing recycling education in residence hall programming

Chapter 9: Davis Waste & Recycling

Jennifer Ascencio

Proper recycling habits can be confusing and there aren't many easily accessible venues to gather that information. By conducting waste audits and adding visible signage in key locations, we can create consciousness each time we dispose of something.

Recommendations include:

- Displaying and distributing physical and digital educational signage on proper recycling and tips
- Creating long-lasting educational signage such as magnets for fridges, as well as making sure each apartment has at least one recycling bin
- Ensuring Residence Life provides mandatory sessions that inform Davis residents on proper recycling practices and provide them with resources to reduce, reuse, and recycle

Chapter 10: Hazardous Materials Procurement and Disposal

Kellen Twomey

Chapman University purchases hazardous materials such as corrosives and biological agents, for use in research and student instruction. The office of Environmental Health and Safety oversees the procurement, storage, and eventual disposal of these hazardous materials. Students living in residence life facilities also produce household hazardous waste that is currently disposed of with normal solid waste. The implementation of practices employed by peer and aspirational schools, as well as private businesses, can help minimize the amount of hazardous materials brought into Chapman, and ensure that all hazardous waste is disposed of properly.

Recommendations include:

- Increasing student education regarding household hazardous waste accompanied by signage in waste collection areas on campus
- Increasing funding to the office of Environmental Health and Safety to allow more precise records regarding the types and quantities of hazardous waste generated by the university
- Constructing an on-campus household hazardous waste collection center that would accept student, staff, and faculty waste

Chapter 11: Comprehensive Recycling and Research Facility

Colton Greene

With the \$150 million expansion of Chapman's Katella Grand residence hall and new construction on campus, now is an opportune time to redesign waste management streams that could help divert 100% of Household Hazardous Waste (HHW) with little to no additional effort by on-campus residents.

Recommendations include:

- Providing space for sorting priority waste to increase diversion rate

- Making tracking campus waste more accessible to target areas of improvement
- Opening up research possibilities for Environmental Science and Policy students

Chapter 12: Regalia

Vina Nguyen

Each year, hundreds of proud Chapman University graduates walk across the commencement stage wearing graduation gowns made from approximately 23 recycled plastic bottles; however, 33% students said they do not plan on keeping their gowns after graduation. In a graduating class of 2000 students, that is 15,180 plastic bottles that will end up in our landfill coming from Chapman University alone per year. By implementing a graduation regalia rental system, Chapman will not only divert these plastic bottles away from the landfill but also guide the school one step closer to becoming a zero-waste campus.

Recommendations include:

- Enrolling in a rental system with the campus's current regalia distributor, Balfour
- Creating a rental system that is managed in-house by recirculating gowns from one graduating class to the next
- Purchasing gowns that can be rented by students every year, free of charge