

The Green Chicago Restaurant Coalition

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Project CAFÉS

CAFÉ ASSESSMENT FOR ENVIRONMENTAL
SUSTAINABILITY FINAL REPORT



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Green Chicago Restaurant Coalition:
a registered 501(C)(3) Non-Profit Organization

—Final CAFÉS Project Report —

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PROJECT INTRODUCTION

PROJECT MOTIVATION

Project CAFÉS engaged students in a “living lab” research setting to work with University faculty, staff, other students and external partners to create a model for sustainable operations in the student-run cafés on campus. The research conducted in this practicum and the resulting recommendations made by Green Chicago Restaurant Coalition are intended to be used specifically to further the University of Chicago Office of Sustainability’s agenda to make dining operations more environmentally sustainable, both in practice and in raising consciousness within the student body.

DESCRIPTION AND COLLABORATORS

Project CAFÉS was a collaborative effort to assess the environmental sustainability of student-run cafés and to make recommendations to further increase sustainable operations. In order to achieve its research and recommendation fulfillment goals, the practicum received input and support from the University of Chicago’s Office of Sustainability, the University’s Center for Leadership and Involvement (CLI), the Green Chicago Restaurant Coalition (GCRC), the Environmental, Agriculture and Food Working Group (EAF), the Chicago Studies Program, the Program on the Global Environment, and the Public Policy Studies Program in the College.



COMMUNICATIONS

This project had several outlets for communication, including partners’ shared social media, and internal [Facebook](#), [Twitter](#) and [Instagram](#) accounts, and a project blog sheltered within the new Environment, Agriculture and Food Working Group [website](#). Project updates and café-sustainability related information was relayed to the public periodically. Several times throughout the quarter, students submitted blog posts about food waste and water sustainability, a portion of which was published onto the project website. In addition to blog posts, the website contains a [project press release](#), written by the Office of Sustainability.

GCRC communicated with students via group meetings and using Google drive. Each resource group from the practicum class shared their respective Google Drive folder containing current project progress information with other members of the class and GCRC. Other specified folders held relevant photos, administrative information for the course, and resources from past projects and certification programs for students to reference throughout the practicum. Additionally, individual café leaders and the course

instructor managed communication between the class and the project's partners via weekly conference calls. These calls were held between the class and the GCRC to communicate progress and concerns. In addition, weekly progress reports, written by resource teams and compiled by the café leaders, were sent to the GCRC.

CLASS STRUCTURE

Each student in this course was concurrently a member of two teams: a café team (Cobb, Ex Libris, Hallowed Grounds or Harper), which handled all individual café evaluations, and a resource team. Each resource team was responsible for writing up a weekly progress report, in which it stated its tasks for the week, findings from the previous week, any follow-up questions and necessary resources as well as information about how the tasks contributed to the project progress as a whole. In addition to working within café and project teams, students also completed individual assignments meant to further individual understanding of sustainable practices. Students identified public sustainability signage, contributed ideas for recommendations, and submitted blog posts relating to food waste, water sustainability and food service operations. The class also participated in a field trip to Testa Produce, sponsored by Chicago Studies, to take a tour of the facilities, converse with the company's executive and visionary, and discuss the myriad sustainability initiatives underlying and being implemented within the building.

RESOURCE GROUPS

CAFÉ LEADERS were responsible for managing each café team, handling all café materials included in the Google Drive and facilitating all communications between the class and its project partners. Café leaders deliberated on and presented a project work plan and timeline in coordination with the GCRC and the instructor, subsequently ensuring that all milestones were met on time. They solicited the necessary materials from all resource groups to produce a weekly progress report for the instructor and a weekly update for the project partners. Leaders also assured the implementation of the project's final recommendations by developing a plan for a staff training program or Sustainability Manager position within each café.

COMMUNICATIONS was responsible for creating the project name and logo, managing the project website, handling all social media communication, designing physical materials for the consumer survey, designing recycling signage for the cafés and designing the final report and presentation templates. The communications manager worked with the instructor and project partners to coordinate messaging, press releases and inquiries, social media and any other outreach necessary for project success. The manager also compiled all final materials into the final presentation and report, completing all editing and final review. The communications manager worked with the EAF student coordinator to complete the final press release, presentation and final report.

CAFÉ EVALUATION worked directly with the café managers to complete the full checklist and inventory related to café operations, including but not limited to food sourcing, energy use, water management, recycling and waste management and consumer engagement. This included identifying any current

sustainability practices, gaps and obstacles to implementation and opportunities for improvement. The team surveyed food vendors to evaluate current practices, including local and sustainable food sourcing, disposables and waste management.

CONSUMER RESEARCH was primarily responsible for the research and development of consumer-facing sustainability initiatives for the cafés. This team worked with GCRC to design, implement and analyze a consumer survey for the project. Using the literature review and survey results, the team worked with the external research team to develop, design and present consumer-facing information on sustainable practices at cafés or other outlets for consumer engagement (social media, event, incentives, etc.).

EXTERNAL RESEARCH constituted a resource group to all other groups needing research on food, energy, waste, waste practices, environmental performance and return on investment. The team sought out sustainable practice examples at other cafés, including those at other colleges and universities, as well as identified and carried out research needs for the café leaders' work plan. The team also assisted the consumer team by first conducting a literature review of consumer preferences for food service sustainability and examples of consumer-facing sustainability practices in restaurants and cafés. The team also worked with the consumer research and communications team to develop, design and present consumer-facing information on sustainable practices, including signage for cafés and social media consumer engagement.



CLOCKWISE FROM TOP-LEFT: HARPER CAFÉ TEAM, EX LIBRIS CAFÉ TEAM, HALLOWED GROUNDS CAFÉ TEAM, COBB CAFÉ TEAM

CAFÉ DESCRIPTIONS

COBB CAFÉ

LOCATION Basement of Cobb Hall

HOURS weekdays 7AM-4:30PM

METHODS OF PAYMENT Cash, credit, debit, maroon dollars

EMPLOYEE STRUCTURE 18 total: General Manager, Financial Manager, Stock manager and counter staff

PRODUCTS Selection of Coffees, Teas, Hot meals from Hyde Park Restaurants, Granola Bars and other packaged snacks, bottled drinks, bagels and pastries

CAFÉ DESCRIPTIONS [CONT.]

SALES AND VOLUME 358 transactions per day, totaling \$1,761.36, or \$4.29 per purchase (February 10 Data). This higher price point, as compared to the other three cafés in question, suggests that meals constitute a large portion of its sales.

EX LIBRIS CAFÉ

LOCATION Housed within the Regenstein library

HOURS 8:30AM-11:30PM Sunday-Thursday; 8:30AM-5PM Friday; 11AM-5PM Saturday

METHODS OF PAYMENT Cash, credit, debit, maroon dollars

EMPLOYEE STRUCTURE 29 Total: General Manager, Financial Manager, Stock manager, Operations manager and counter staff

PRODUCTS Selection of Coffees, Teas, Hot meals from Hyde Park Restaurants, Granola Bars and other packaged snacks, bottled drinks, bagels and pastries

SALES AND VOLUME 1200 transactions per day, totaling \$4000, or \$3.33 per purchase (February 10, 2016 Data). This data suggests that Ex Libris Café holds significantly more traffic per day than the other three cafés.

HALLOWED GROUNDS CAFÉ

LOCATION Second floor of Reynolds Club

HOURS 8:30AM-11:30PM Monday-Thursday; 8:30AM-9PM Friday; 11:30AM-9PM Saturday; 11:30AM-11:30PM Sunday

METHODS OF PAYMENT Cash, credit, debit, maroon dollars

EMPLOYEE STRUCTURE 21 Total: General Manager, Financial Manager, Stock manager, Operations manager and counter staff

PRODUCTS Selection of coffees, teas, refrigerated meals from Hyde Park restaurants, granola bars and other packaged snacks, bottled drinks, bagels and pastries, fruit

SALES AND VOLUME 207 transactions per day, totaling \$707.94, or \$3.42 per purchase (February 10, 2016 Data). Hallowed Grounds Café serves primarily as a meeting and study space, complete with couches, work spaces and pool tables; therefore, a significant amount of daily traffic does not result in purchases from the café.

HARPER CAFÉ

LOCATION Third floor of Harper Memorial Library

HOURS 9AM-12AM Monday-Thursday; 9AM-5PM Friday; CLOSED Saturday; 12PM-12AM Sunday

METHODS OF PAYMENT Cash, credit, debit, maroon dollars

EMPLOYEE STRUCTURE 21 Total: General Manager, Financial Manager, Stock manager, Operations manager and counter staff

PRODUCTS Selection of coffees, teas, refrigerated meals from Hyde Park restaurants, granola Bars and other packaged snacks, bottled drinks, Fresh-delivered bagels and pastries every morning, fruit

SALES AND VOLUME 505 transactions per day, totaling \$1800, or \$3.56 per purchase (February 10 Data). Harper Café is the second busiest student-run café on campus.

CAFÉ ASSESSMENT CHARACTERISTICS

COBB CAFÉ

ENERGY CONSUMING DEVICES Refrigerators (6), microwave, food warmer, pizza warmer, soup warmer, water heater, coffee brewers (3), freezer, TV

WATER EQUIPMENT LIST Dishwashing sink (3-compartment), aerated Handwashing sink

WATER OUTPUT VOLUME Dishwashing: 10.7 GAL/MIN; Handwashing: 2.6 GAL/min

RECYCLING Recycling Bin (1) in front of the counter

FOOD AND BEVERAGE SUSTAINABILITY Cobb Café currently sells plastic water bottles, but it plans to eliminate this feature soon. The Cobb Café evaluator, in conjunction with Cobb Café's general manager, noticed lots of unfilled space in the fridge, freezer and food warmer. At the Cobb Café team's suggestions, the café now moves all hot meals to one food warmer after peak lunch hours and subsequently turns off unused food warmers in order to conserve energy. Recycling in Cobb remains very limited.

EX LIBRIS CAFÉ

ENERGY CONSUMING DEVICES Refrigerators (6), espresso machine, espresso grinder, coffee brewer, coffee grinder, auxiliary water boiler, ice maker (2), toaster, point of sale system (2), office computer, coin counter

WATER EQUIPMENT LIST Dishwashing sink (3-compartment), aerated Handwashing sink, aerated Utility sink, aerated Rinsing sink, espresso machine, coffee machine

WATER OUTPUT VOLUME Dishwashing: 9.9 gal/min; Handwashing: 1.84 gal/min; Utility: 2.47 gal/min; Rinsing: 4.66 gal/min

RECYCLING Recycling Bins (6) - One behind the counter and five dispersed among the seating area

FOOD AND BEVERAGE SUSTAINABILITY The Café's reusable mug program is currently not marketed to its full potential; Ex Libris has an inventory of plastic reusable mugs created specifically for this program, yet very few patrons are aware of the program, and fewer yet purchase the

reusable mugs. In addition, Ex Libris has an open-display fridge for its refrigerated meals and bottled drinks, which is an energy-intensive and unsustainable practice. The Café also operates on non-LED lights, which can be an easy and low-cost fix to improve the café's energy efficiency.

HALLOWED GROUNDS CAFÉ

ENERGY CONSUMING DEVICES Refrigerators (6), coffee grinder, coffee brewer, espresso machine, microwaves (2), point of sale system, credit card reader, air conditioners (3) speaker system, unused TVs

WATER EQUIPMENT LIST Aerated Main sink; Hand-washing sink

WATER OUTPUT VOLUME Main: 2.2 gal/min; Hand-washing: 10 gal/min

RECYCLING Recycling Bin (1) in front of the counter

FOOD AND BEVERAGE SUSTAINABILITY The hand-washing sink does not currently have an aerator, and therefore has a relatively high flow rate. This rate can be reduced by simply adding an aerator to the sink. The Hallowed Grounds windows are missing screens, and therefore cannot be opened to air out the Café or to regulate temperature. The room uses the AC system instead. Prominent signage for the reusable mug program is found on the café chalkboard, increasing patron awareness. Recycling in Hallowed Grounds remains very limited.

HARPER CAFÉ

ENERGY CONSUMING DEVICES Refrigerators (4), ice maker, toaster, coffee grinder, coffee machine, espresso grinder, espresso machine, scale microwave, point of sale system

WATER EQUIPMENT LIST Aerated Dishwashing sink, aerated Hand-washing sink, aerated Sanitizer sink

WATER OUTPUT VOLUME Dishwashing: 1.54 gal/min; Hand-washing: 1.86 gal/min; Sanitizer: 1.93 gal/min

RECYCLING Recycling bins (2): behind the counter and in front of the counter

FOOD AND BEVERAGE SUSTAINABILITY Recycling bins behind and in front of the counter are used regularly; however, the lack of recycling and trash signage generally confuses café patrons, and non-recyclable materials are often found in the recycling bins while many recyclables are placed into the trash cans.

VENDOR LIST

COBB CAFÉ Alliance Paper and Food Service; Betty's Baked Goods; Bow Truss Coffee Roasters; Cedars Mediterranean Kitchen; Rajun Cajun; Teageschwender; Testa Produce, INC; The Sit Down; The Snail Thai Cuisine

EX LIBRIS CAFÉ Alliance Bakery; Alliance Paper and Food Service; Benjamin Tea; Betty's Baked Goods; B'gabs Goodies; Bow Truss Coffee Roasters; Bridgeport Bakery; C&C Dairy; Hubert Company; Hyde Park Produce; Lifestyle Beverages; Staples; Taos Mountain Energy Foods, LLC; Testa Produce, INC; The Bagelers;; The Sit Down

HALLOWED GROUNDS CAFÉ Alliance Paper and Food Service; Benjamin Tea; Betty's Baked Goods; Bow Truss Coffee Roasters; C&C Dairy; Cedars Mediterranean Kitchen; Coca Cola Enterprises; Hyde Park Produce; Rajun Cajun; Soul Vegan; Testa Produce, INC; The Bagelers; The Sit Down; The Snail Thai Cuisine

HARPER CAFÉ Alliance Paper and Food Service; Benjamin Tea; Betty's Baked Goods; B'gabs Goodies; Bow Truss Coffee Roasters; C&C Dairy; Cedars Mediterranean Kitchen; Coca Cola Enterprises; Hyde Park Produce; Rajun Cajun; Soul Vegan; Testa Produce, INC; The Sit Down; The Snail Thai Cuisine; West Town Bakery

VENDOR INTERVIEWS

Following receipt of a comprehensive list of vendors serving the cafés on campus, the Café Evaluations team determined which vendors on the list student researchers would contact. Outreach restrictions meant excluding larger vendors such as Coca-Cola, due to the small scale of its sales to the cafés. Once a finalized list of vendors to be contacted was compiled, members of the Café Evaluations team divided up the contacts and began to contact the various vendors, subsequently filling out a comprehensive vendor questionnaire. In addition to surveying the vendors, the team also reached out to the inventory managers at the four different cafés on campus to learn about the delivery methods of all vendors to each café.

Outreach to vendors was conducted through the phone while outreach to café managers was conducted through email. The Café Evaluation team designed the questionnaire, detailed below, with input from the rest of the class and the GCRC.

1. How do you choose what packaging to use when delivering goods to the cafés? (cost, packaging company relationship, availability through distributor, materials, environmental sustainability)
2. Is any of your packaging made of polystyrene? That's either the white foam (often referred to as Styrofoam) or clear or milky plastic with a number 6 on the bottom? If you don't know, would you mind checking?
3. What about waxed cardboard?
4. Do you reuse delivery boxes?
5. Would you be willing to consider using alternative packaging that is environmentally preferable?
6. How do you deliver goods to the café? What kind of vehicle? Do you know the MPG for the vehicle?
7. How far do you travel to deliver to cafés?

8. Would it be possible to deliver less often?
9. What suppliers provide you with your food? [please list all main suppliers]
 - 9.1. How many deliveries do you receive each week?
 - 9.2. Try to gauge quantities of items coming from different sources (grocery stores, farmers markets, air shipped (important to note), etc.)
10. Any local food purchases? (Food grown or livestock raised within a 200 mile radius from the restaurant, during the normal growing cycle of the geographic location (e.g., no increased use of energy to extend the growing season - produce grown in heated greenhouses or kept out-of-season in cold storage, etc.) For operations located in a climate with a limited growing season, the radius is extended to 400 miles during the non-growing months.)
11. Does the menu change seasonally?
12. Are your meat purchases humanely-raised or antibiotic free?
13. Do you purchase sustainable seafood? (or N/A) This means that either:
 - 13.1. 80% of seafood purchases shall be from species that are not listed on the Monterey Bay Aquarium Seafood Watch® “AVOID” list and are not on the the Blue Ocean Institute’s Seafood Guide “RED” list
 - 13.2. OR sources certified by the Marine Stewardship Council or an equivalent program, with documentation that the purchase is only from certified sources.
14. Do you know if you have a program to recover and recycle grease/frying oil?
15. Vendor specific: The cafés have reported that you pick up extra food that is not sold by the end of the day. What happens to this food that the cafés sell back?
16. Similarly, what do you do with expired food / unsold food at the end of the day?
17. If they don’t participate in food donation programs: Do you know about food rescue and food donation resources? Can we put you in contact with some of those resources?
18. What do you do with food scraps (from preparation/ or post-consumption (eg left on plates)?)
19. Any other environmentally sustainable initiatives you support?
 - 19.1. USDA Organic
 - 19.2. Certified Naturally Grown
 - 19.3. Food Alliance
 - 19.4. Rainforest Alliance
20. Would you be interested in improving your sustainability ratings? (doing this, interested, not interested)
21. Are you interested in any of the following:
 - 21.1. Composting,
 - 21.2. Local food,
 - 21.3. Sustainable meat,

VENDOR INTERVIEWS [CONT.]

- 21.4.** Bio-based packaging,
- 21.5.** Green Restaurant certification,
- 21.6.** If yes, can we put you in contact with the Green Chicago Restaurant Coalition?

These specific questions were chosen to gain information most important to understanding the environmental impact of each vendor. The questionnaire was in part based on the Green Seal GS-55 green certification for restaurants and food service, which had been developed with collaboration between the GCRC and EAF groups through a previous practicum course. The first section of the research focused on vendor packaging decisions. Since the packaging of various food items can have a large impact on the environment, Evaluations also asked about the packaging itself. The team then looked into the way in which delivery was carried out to understand the environmental effect of food transportation and determine whether the impact could be decreased.

The questions focused next on food products, examining how vendors received their food and whether or not their suppliers had any environmental certifications to suggest their sustainability. Incorporating suppliers that do have environmental certifications or buying local food can help vendors to directly and/or indirectly reduce their environmental footprint.

The next questions (listed as vendor-specific) addressed the consignment system in place with certain vendors. A consignment system is one in which the vendors supply food to the cafés on the condition that any food left unsold will be collected by the vendors at the end of each day, and vendors will only be paid for the food that is sold. The class wanted to examine the fate of the unsold food on consignment along with what would be done with generally unsold food and food scraps. Wasted food could potentially be used in compost or be fed to underserved populations, rather than thrown into the trash.

The questionnaire ended with questions regarding the different environmental certifications and values currently held by the vendors along with gauging vendor interest in improving their sustainability ratings. These questions allowed the class to understand the value of sustainability practices to various vendors.

The second set of question was delivered by email to the café inventory managers, to be answered for each vendor delivering to the cafés. Asking café inventory managers instead of vendors gave the class a more reliable response rate along with a more specific overview of all vendor delivery activity. The questions were as follows:

1. How often does each vendor deliver to the café? Would it be possible to deliver less often?
2. Which vendors deliver perishable items (sandwiches, sushi, salads)? If so are they transported in coolers?
3. In what do they deliver the product (cardboard boxes, reusable crates, N/A)?
4. How often do they pick food up from the cafés?

5. How does ordering take place? Paper order form, online, over the phone?

These questions seek to establish a café-side understanding of the ordering and delivery process. The goal of this research is to determine whether sustainability can be improved through reducing the number of delivery trips and implementing use of reusable delivery packaging.

Full results from the Vendor surveys can be found [here](#).

CONSUMERS

CONSUMER RESEARCH

In designing the survey, External Research first compiled research about University and café programs aimed to reduce overall environmental footprint. Unfortunately, most of the available information focused on facility improvements, which University of Chicago students cannot implement by themselves. Therefore, External Research redirected focus into consumer practices in order to determine how café patrons can help their cafés become more environmentally sustainable/responsible. This encompassed two main types of programs. The first was a discount for using a reusable cup or mug, which is primarily implemented within national corporations such as Starbucks and Einstein Bros. Bagels, and is already available at the campus cafés, albeit in an under-advertised program. The second method was much more common on University campuses. Schools such as the University of California host an event at the halftime of a basketball game, during which different dorms and organizations compete to see who can collect the most recyclable material. Additionally, External Research researched surveys that were taken at other schools to analyze common methods of reducing waste. The team then used those surveys to help format this project's consumer survey in hopes of providing most impactful suggestions for café improvement.

CONSUMER SURVEY DESIGN

SURVEY FRAMEWORK To design a survey identifying café consumer preferences for environmentally sustainability practices at the University of Chicago.

DESIGN The survey was designed on SurveyMonkey. It consisted of 15 questions pertaining to consumer habits in the cafés, consumer buying behavior, consumer valuation of various sustainable practices along with willingness to pay for certain food characteristics. The designers of the survey opted for a primarily close-ended question format in order to keep the survey concise. An "other" option with a fill-in was also made available on most questions. Other survey design elements include:

1. The randomization of response choices.
2. Requiring answers to every question excepting those involving personal information such as gender and affiliation.
3. The application of page and question logic to ensure that people did not encounter questions irrelevant to their experience.

4. The inclusion of variables to gauge consumer perception of practices that are commonly falsely viewed as “environmentally sustainable”. These include non-GMO foods, cage-free eggs, and all-natural ingredients.

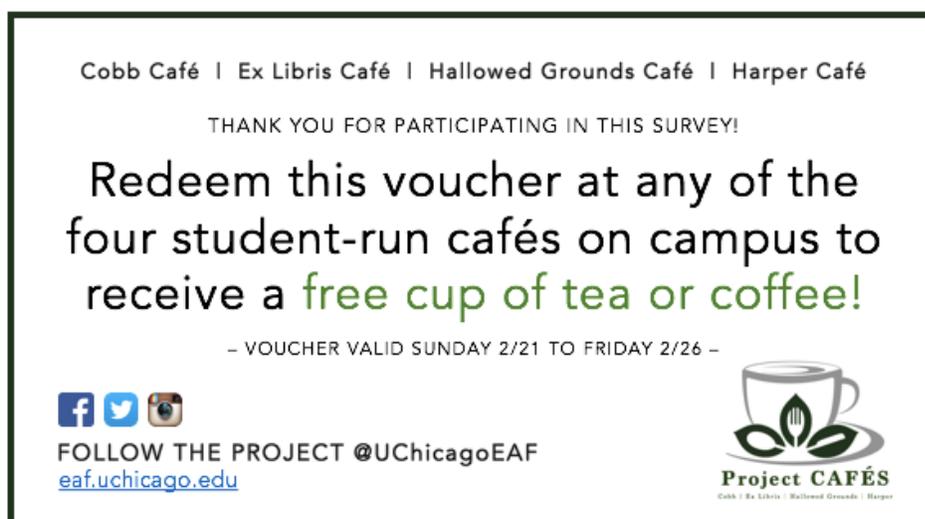
SAMPLE Café patrons at Cobb, Ex-Libris, Hallowed Grounds, and Harper.

INCENTIVE MECHANISM To encourage sufficiently representative response rates, survey participants were offered a voucher redeemable for a free cup of coffee or tea throughout the week of surveying.

FEEDBACK The survey design team solicited feedback from Survey Lab, the GCRC and a pre-test student population. The team then used this information to identify and remedy any remaining design flaws prior to the formal administration of the survey.

DATA COLLECTION The survey was launched on Sunday, February 21, 2016 and ran through Thursday, February 25, 2016. Each student in the class contributed at least two hours of data collection. All students adhered to an identical surveying procedure:

1. Customers were approached at the café entrance.
2. Students recited the following script to solicit customer participation in the survey: “Hi. We are offering free coffee or tea for your input on ways to improve the cafés. The survey only takes a few minutes and doesn’t require any personal information. Have you already taken the survey? If not, would you be willing to take it?”
3. Upon agreement, customers were presented with iPads, courtesy of the Office of Sustainability, on which they took the survey.
4. At the end of the survey, participants were handed a voucher for free coffee or tea. The funding for the vouchers came from café manager Dave McEvers. The vouchers, as shown below, was designed by Deimante Tankus of the class Communications team.

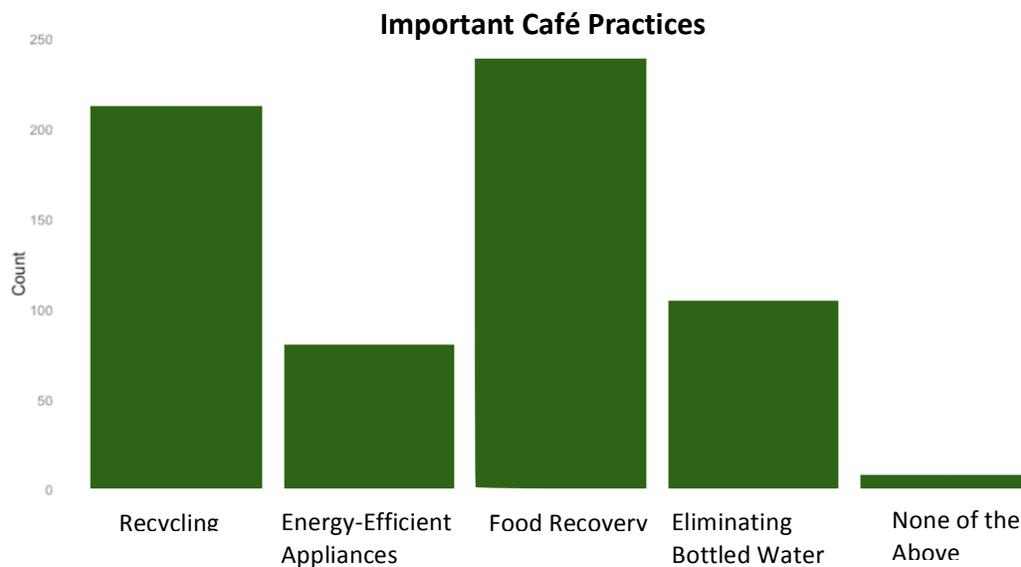


Surveying hours spanned all hours of operation across each café to capture a most representative sample of café patrons. Additional emphasis was placed on morning (9-11AM) and meal times (12-2PM)

and 6-8PM). By the end of the surveying period, the class had collectively logged 44.5 hours and collected 368 survey responses, with a response rate of approximately 76.03%.

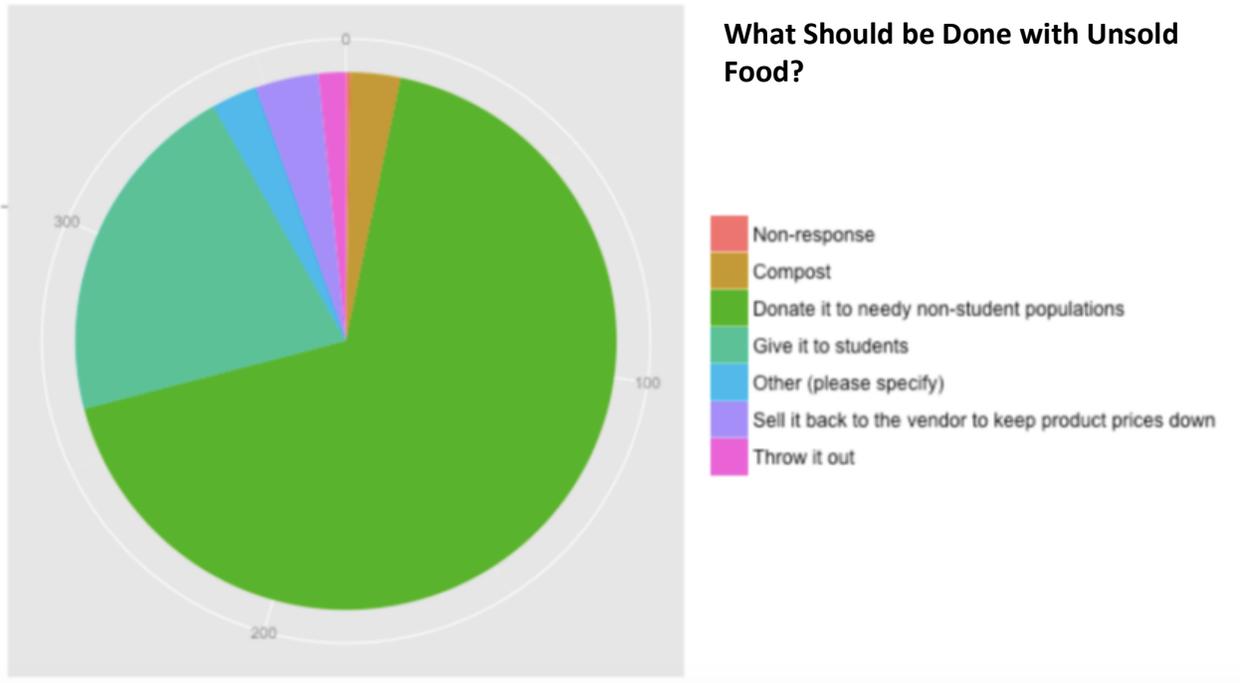
CONSUMER SURVEY RESULTS

As shown in the graph below, consumer survey results indicate a large demand for improving the existing recycling program. Over 60% of respondents ranked recycling in the top three sustainable practices to be implemented in cafés, indicating clear demand for better recycling programs. During their walkthroughs, the Café Evaluation team members noted that many of the current recycling bins contain non-recyclable items. Given these results and the findings of External Research, the best way to address the issue is to improve signage. Using photos of products in the cafés, the Communications manager has developed signage to educate consumers on what can and can't be recycled. Objects like utensils, plastic bags, and napkins, for example, cannot be recycled even if they are bio-based. This project will help to increase consumer awareness of the recycling program, and reduce the amount of trash that is brought to landfills.



Survey participants requested better food waste recovery programs, with almost 38% of respondents listing this as a top priority in the cafés. In a separate question asking what students think should be done with unsold food at the end of the day, charted below, nearly 68% of respondents answered that they prefer the food to be donated to needy non-student populations. Unfortunately, due to the current liability restrictions accompanying food donation, this program cannot feasibly be implemented in the cafés immediately. It is worth noting that it is a recommended a university-wide long-term goal to work with an organization such as the Homeless Food Runs, which gives meal packs to homeless people in Chicago, and has expressed interest in incorporating leftover food from campus cafés into their program. While such partnership cannot currently be implemented, the cafés can promote vendors who have their own food donation programs as an immediate solution to unsold food waste on campus. Most food is bought on consignment, meaning that the cafés only pay for what is sold and that all

unsold food is given back to the vendors at the end of the day. Cedar's, for example, donates this unsold food to homeless people in Hyde Park. By promoting vendors who have food donation programs, the cafés can indirectly promote sustainable food waste practices.



If the cafés were to look towards more sustainable vendors and food products, food waste practices would be an important component to consider. However, when making pricing decisions it is important to consider how customers value different characteristics. Our surveys indicated that the median student would be willing to pay up to \$0.50 more for organic foods and hormone-free dairy products, and up to \$1 more for locally sourced foods. When cafés consider new vendors, their choices of vendors and products should reflect these results. It is important not to overstate consumer preferences for environmentally preferable food sourcing, as there is evidence students, like many consumers, are generally unaware of food labeling practices. As a dummy variable, the survey asked how much more students would be willing to pay for cage-free eggs (median response: \$0.50 more) and all-natural ingredients (\$1.00 more). Although GCRC's mission works to ensure consumers are educated about substantive, meaningful, and credible labels, the general issue remains: misinformation about environmental claims is widespread, as evidenced by cafés project survey. Café managers could label locally sourced, environmentally preferable, or third-party certified foods as such to educate and encourage patrons who may not recognize or immediately value these attributes of their purchases.

Full survey results can be found [here](#).

RECOMMENDATIONS

POTENTIAL PARTNERS

It is the recommendation of GCRC to continue the work of the project during the 2016/2017 academic year and to utilize this report to outline a comprehensive campus-wide sustainable dining initiative. In an effort to implement and improve practices, such as food donation, waste management/composting, and reducing the cafés' overall environmental footprint, it is GCRC's recommendation to expand the existing project partnerships and establish new partnerships with registered student organizations (RSOs) on campus and Chicago-based organizations that might be helpful to the work. Potential RSO partnerships include Calvert House, the Catholic center on campus, as they are deeply involved in food donation efforts, and the Phoenix Sustainability Initiative, a group that works to promote and develop sustainable technologies, practices and policies within the Chicago community. The Food Recovery Network, a student movement to recover and donate food to needy populations, may be another organization to consider. Developing partnerships would likely be very effective in facilitating the development of unique and effective sustainability programs in the cafés.

APPLIANCES

REFRIGERATION AND HEATING OF FOOD It is recommended each café conduct a full energy audit to identify suitable replacements for equipment where applicable. Additionally refrigerators in each café should keep food at the 41°F maximum temperature required by the FDA. If customers prefer colder drinks, the refrigerators can be set to the maximum acceptable temperature during operating hours and set to 41°F when closed. In the case of Cobb, which has a heated food area, the food heater is recommended to be set to the FDA required minimum temperature of 140°F. Later in the day, food can be moved to one warming area and the remainder can be shut off. This has already been implemented at Cobb Café but requires standardized behavior by café employees to be effective.

INTERIOR SPATIAL HEATING AND COOLING Recognizing that the cafés do not control their own heating and cooling, GCRC recommends that cafés make an effort to use windows to regulate indoor temperatures instead of using additional heating or cooling devices (such as space heaters or AC units) whenever possible.

SINKS Given the large difference in flow identified in water tests (detailed in the Café Assessment section) it is recommended that aerators be added to all sinks. Each cafés should turn off faucets when not in use, and try to minimize extraneous water usage. We recommend continuing to use three-sink systems already in place in many of the cafés which is shown to save water by not requiring a running faucet and only using the water of a sink filled a single time. Further recommendation would be to add a sink leaks item into daily checklists to ensure that the sinks are not continually wasting water.

OTHER ELECTRIC APPLIANCES If plug loads cannot be completely eliminated by unplugging all devices, it is recommended all electric appliances are plugged into power strips and the power strips switched off at the end of the day to minimize phantom loads and the use of standby power.

APPLIANCE UPGRADES In order for GCRC to make recommendations about appliance upgrades, a comprehensive walk through with Verde Solutions is recommended, as additional information is needed from Facilities and café operations. At present, the cafés can do their best to reduce energy consumption and waste to the extent possible with current appliances, by ensuring recommended temperatures are maintained and appliances are turned off when not in use.

FOOD SOURCING AND FOOD WASTE MANAGEMENT

FOOD WASTE TECHNOLOGY External Research has started to research food waste disposal technology, which the University could potentially install in the cafés or elsewhere on campus. The team recommends looking into pulpers and shredders, dehydrators, dry compost machines and “wet” systems such as EnviroPure. EnviroPure is a self-contained, continual-feed organic food disposal system designed to convert food waste to water. It is important to note that the University of Chicago already has two EnviroPure systems on campus, but these are not used for the cafés, and the waste is not composted or reused as of yet. There is great opportunity to collaborate with Facilities, Sustainability, and Dining on aggregation and creative reuse options for the resulting water-soluble waste. The following table, compiled with information provided by the 2015 EnviroPure Comparison Brochure, details a comparison of the operating costs of different food disposal options:

	EnviroPure	Non-Organic	Dehydrator	Pulper
Capital Cost	\$20-\$65K	\$40-\$60K	\$60-\$100K	\$20-\$50K
Additive Cost	\$\$\$	\$\$	N/A	N/A

The University of Illinois at Chicago’s Dining Services currently uses three EnviroPure systems. Another alternative for food waste disposal technology includes an Eco-Safe Digester. Examples may be found at <http://biohitech.com/digester>.

External Research has also considered the use of tracking software to help manage and reduce food waste in the cafés and on campus as a whole. One tracking software to consider is LeanPath, a program that helps to document waste and provides suggestions regarding waste reduction. Examples can be found at <http://leanpath.com>. ***For both the food waste disposal technology and tracking systems, further research and investigation, as well as information from the University including but not limited to budget constraints and facility details is needed before effective implementation can occur.***

COMPOSTING For food that is no longer edible, the composting method would be beneficial and provide an educational opportunity for students. While challenges due to space, scale and smell, multiple outlets exist to facilitate campus composting. The Illinois Food Scrap Coalition works with neighboring universities DePaul, Loyola, Roosevelt, the University of Illinois at Chicago and the Lutheran School of Theology at Chicago by connecting them with the commercial vendors that supply food scrap collection services. These vendors retrieve the food scraps and transport them to a site to be composted. Many of these vendors, such as Healthy Soil Compost LLC, offer special institution pricing for their services.

DONATING Currently, unsold food in the cafés is sold back to the vendors at a discounted price. The vendors then dispose of food that cannot be sold (excluding Cedars Mediterranean Kitchen, which donates leftover food to the homeless). Establishing a method for regular food donation could greatly reduce food waste volumes. Multiple agents exist to facilitate food donation. At the University of Chicago's Calgary House, members engage in a "homeless food run" every two weeks. This run includes packaging over 60 meals and handing them out to homeless populations. Connecting the cafés with Calgary House members could facilitate the food donation process. Other sources for food donation include churches and community centers. Many of these establishments, such as the Sabeel Food Pantry, will pick up unsold food from the cafés free of charge. GCRC also strongly recommends using Zero Percent, which can connect cafés to organizations in need that will pick up unsold food. Food donation provides an educational component for students, as well as opportunities for student service.

VENDOR CHANGES The External Research group recommended the following providers to be considered for the cafés: Lifehouse Whole Food Grill, Café 53, The Sip & Savor, Robust Coffee Lounge, Jazzman's Café and Bakery, Native Foods Café and Fabiana's Bakery.

These restaurants and cafés self-identify as sustainable institutions and, although they are not third-party certified as sustainable, each claims to follow a variety of sustainable practices such as providing organic, non-GMO, local, vegan and vegetarian options, composting waste, donating to the homeless, converting fryer grease to biofuel, and offering food carrying Sustainability Certifications.

Jazzman's Café and Bakery offers Rainforest Alliance, Fairtrade, UTZ, Bird-Friendly and organic certified products. More information about Jazzman's Café and Bakery can be found at <http://www.jazzmanscafe.com/aboutus.html>.

Native Foods offers exclusively vegan options and supports both local and national environmental and animal advocacy groups in addition to educating the American youth to "eat peace". More information about Native Foods can be found at <http://nativefoods.com/our-story>.

Both Robust Coffee Lounge and The Sip & Savor offer fair-trade coffee. The Sip & Savor's coffee selection also offers certified organic and shade-grown options. More information about Robust Coffee Lounge can be found at <http://www.robustcoffeelounge.com>; more information about The Sip & Savor can be found at [http://www.sipandsavorchicago.com/about us](http://www.sipandsavorchicago.com/about_us).

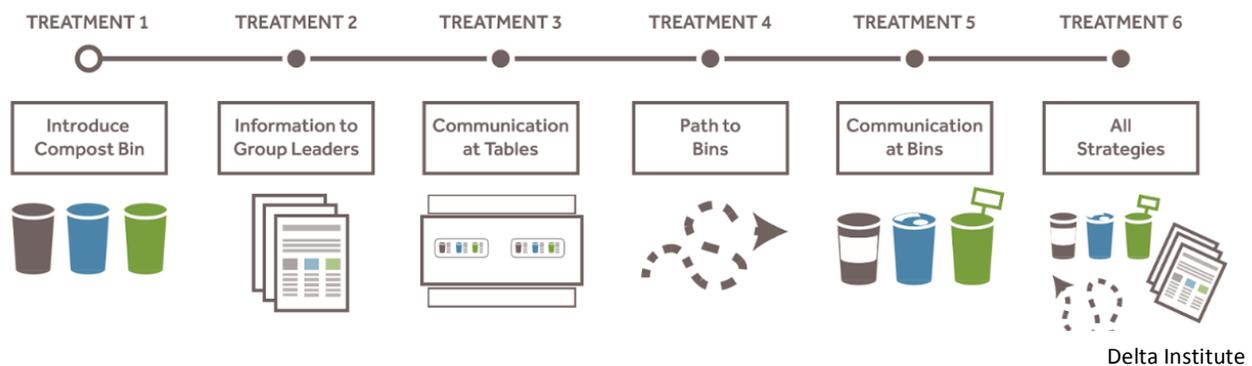
ORDERING AND DELIVERY Many of the vendors that serve the cafés cannot deliver less often because the food is made fresh every day. In light of this, GCRC recommends working with vendors to increase sustainable practices. Betty's, Cedars, Taos, Teageschwender, and Testa all expressed interest in adopting sustainability measures such as composting, offering local and seasonal food along with bio-based or more sustainable packaging. Additionally, packaging from Benjamin Tea, Cedars, and Teageschwender is left in the cafés upon delivery and is recommended it be reused. Teageschwender would also be willing to take back delivery boxes to reuse them. Benjamin Tea could be ordered less often and in greater amounts, provided that the cafés have the budget and storage space. This would save transportation resources.

CONSUMER EDUCATION

SIGNAGE Chicago nonprofit, the Delta Institute, recently conducted an experiment focused on the waste and recycling system in the Field Museum's Siragusa Center. Six experimental treatments were implemented to see which resulted in the highest waste diversion rate. The six treatments included:

1. The introduction of a compost bin
2. Information to group leaders
3. Communication at tables
4. Path to bins
5. Communication at bins
6. All strategies.

The study concluded that flyers resulted in the highest diversion rate when compared to the other treatments. A combination of all treatments resulted in 43% waste diverted; flyers, 30%; bin tops & signage, 22%; path to bins, 13%; table top signage, 10%; and compost bins, 7%.



The study recommended use of clear and direct bin signage and language along with providing group leaders with information to increase waste diversion.

Delta Institute's recommendation regarding informing group leaders about waste diversion practices contributed directly to GCRC's recommendation for a new café employee training model. By uniformly informing café employees about café-specific sustainability practices, the University facilitates the availability of resources regarding environmental sustainability, such as appropriate waste sorting, to café patrons. This may result in increased environmental awareness and may facilitate discussion about environmental issues. More information about the Delta Institute's Study can be found [here](#).

Another effective food waste diversion strategy is the creation of a variety of signs with unique messaging. A significant portion of people surveyed during this project expressed concerns about the very low number of recycling bins in the student-run cafés. In addition to increasing the number of available recycling bins, it is necessary to have appropriate and effective signage informing customers of

CONSUMER EDUCATION [CONT.]

how to properly dispose of their trash, recyclables and, potentially, compostables. Signs could express any of the following: 1) promoting proper waste sorting practices, including images of products specific to each café in addition to general products, 2) at-home tips to reduce food waste, 3) “did you know” table-top signs, 4) maps displaying food origin to emphasize local food purchases, 5) information about bio-based products used in the café, etc.

ENGAGEMENT Consumer education and increased engagement between the cafés and their customers is critical for effective sustainable practice. Consumers must be familiar with the sustainable practices implemented within the cafés, as well as the motivations for these implemented practices. Consumers must also understand how they can individually contribute positively to these sustainability efforts. Cafés must then take steps to strengthen consumer engagement and thus promote such environmental program literacy through various methods, such as effective signage, verbal communication, periodic demonstrations, and social media.

One underutilized engagement initiative that must be highlighted and widely publicized to café patrons is the student-run café Reusable Mug/Thermos program, through which customers can receive coffee for \$1 provided that they bring or purchase a reusable mug or thermos. This program exists in all four student-run cafés; however, only the Hallowed Grounds Café has taken steps to advertise the program. The potential to reduce solid waste in the cafés is significant: over 80% of Project CAFÉS survey participants claimed to carry a reusable mug or thermos. Café Leaders, however, estimate that only approximately 20% of customers use their own beverage containers. Thus, the Reusable Mug Program is currently underutilized due to ineffective consumer engagement.

Popular food providers developed sustainability campaigns to engage customers with their efforts. For example, McDonald’s McCafé focused on coffee sustainability and pledging to source coffee responsibly. Their website displays a video documenting the story of their entire coffee attainment process. Starbucks offers a \$1 reusable cup program as part of their “Big Picture Campaign,” which is geared to showing their customers how individual actions can contribute to larger sustainability efforts. The Big Picture website features a “Make the Pledge” section, as well as a “Calculate Impact” section powered by the Environmental Defense Fund. Other food providers such as Gordon Food Service release their own sustainability report that can be viewed on their website and which details their goals for environmental conservation. Their website also features a page informing vendors how to market food service sustainability to its customers.

WEBSITE MANAGEMENT The current website for student-run cafés would benefit from being further developed, incorporating sustainability related goals and/or practices for each café. Most restaurants and other food providers analyzed by the External Research team have websites with detailed information about their sustainability practices, suggesting that website marketing is an effective method of sharing the cafés’ sustainability goals and practices with their current and potential consumers.

INTERNAL EDUCATION

STAFF TRAINING Sustainability training must be incorporated into the standard training protocol that is presented to café personnel. Sustainability training will serve the twofold functions of 1) ensuring that staff are themselves practicing environmentally preferable behavior and 2) ensuring that staff are confident in their ability to educate consumers on how to engage in behavior that promotes sustainability in each respective café. It is recommended staff sustainability training is implemented and augmented to include demonstrations as well as a printed manual so that staff can refer to the guidelines when necessary.

RECYCLING In order to effectively improve sustainability practices in the cafés, café staff members need to be well-versed on what the specific recycling procedures are at each café location. This should consist of knowing what types of materials can be recycled and/or composted, in addition to where the different forms of waste is recommended to be distributed.

WATER It is imperative that café staff are informed of the best practices for minimizing water waste in their daily routine. Managers must clearly communicate to staff how to report issues with sinks and know how to take steps to request maintenance on other water related problems should they arise.

FOOD WASTE Staff must be educated on, and familiar with the locations and procedures of composting systems once they are implemented. Staff should also be familiar with the processes of food donation program partnerships once they are established.

APPLIANCE USE Staff must review proper appliance operations to ensure minimal misuse of electricity. Café managers must make staff aware of how to request maintenance work and understand the chain of command.

ENERGY Staff must be educated on, and familiar with their café-specific energy pies. In this way, staff will know what resources are being used with greatest frequency and adjust their behavior accordingly.

MUG PROGRAM The use of personal mugs by staff members must be more strongly implemented to minimize material waste among internal personnel. Staff should also be fully aware of the reusable mug program and understand how to best educate consumers on the benefits of participating in the initiative.

PEER REVIEW

Food service providers worldwide are increasing their sustainability efforts, and cafés are no exception. Starbucks, Le Pain Quotidien, Au Bon Pain, Peet's Coffee and Tea, and Coffee Bean & Tea Leaf all implement a variety of sustainable practices: organic food procurement, reusable cup programs, LED lighting, energy-efficient appliances, resource monitoring practices, etc. To assess what programs and

initiatives might be most feasible and successful on the University of Chicago campus, contextualizing the University space and the city of Chicago, External Research reviewed primarily the initiatives of peer academic institutions in Chicago.

Columbia, DePaul, Loyola, Northwestern, School of the Art Institute, Roosevelt, and University of Illinois at Chicago and Urbana-Champaign all have composting programs. The majority of compost is later used in landscaping operations. University of Illinois at Urbana-Champaign has three EnviroPure systems under Dining Services, while Roosevelt uses a Somat pulper. More information about these respective programs may be found at <http://www.housing.illinois.edu/dining/about-dining/sustainability> and http://www.roosevelt.edu/News_and_Events/News_Articles/RR/SP2013/WasteNotWantNot/RUCompostProcess.aspx. The following table lists the various program start dates and partner companies associated with the Universities' respective composting programs:

University	Starting Year of Compost Program	Partner Company
Columbia College	2011	Resource Center
DePaul University	2012	Republic Services
Loyola University	2012	Lakeshore Waste Services, Willow Ranch Compost Facility
Northwestern University	2012	Collective Resources
School of the Art Institute	-	Collective Resources
Roosevelt University	-	Resource Center
University of Illinois at Chicago	2013	Resource Center
University of Illinois at Urbana-Champaign	-	-

When food cannot be composted, some universities donate food. Northwestern donates its leftover food through the Campus Kitchens project, in which food is donated to a student-run kitchen and is converted into nutritious meals for populations struggling with food insecurity. More information about this program may be found at <http://northwestern.edu/sustainability/strategic-initiatives/food>. Depaul University's Project: Clean Plate donates leftover food to local food banks and hunger charities. More information can be found at <http://www.dineoncampus.com/depaul/show.cfm?cmd=sustainability>. At the University of Illinois at Chicago, excess dry food is donated to the local Salvation Army and any overstock of prepackaged foods is donated to the Pacific Garden Mission located in Chicago. Read more at <https://sustainability.uic.edu/campus-resources/foodandwater/>. In addition to these food donation programs, peer institutions engage in a variety of other sustainability efforts, such as providing local, vegetarian, vegan and Green Certified

PEER REVIEW [CONTD.]

products as well as implementing hydration stations, reusable mug programs, trayless dining, or energy efficient appliances.

A number of academic institutions also implement sustainability programs within or relating to their campus cafés, standouts being the UC Davis Associated Students Coffee House and the University of Roehampton Hive Café. UC Davis Coffee House opened in 1968, and re-opened its doors in 2010 with a sustainability-focused agenda. The Coffee House supports local farmers and businesses by providing organic, fair trade and shade-grown coffee along with organic and locally-grown fruits and vegetables whenever available. The café educates its customers and employees about both general and café-specific sustainability initiatives. In addition, the Coffee House conducts waste audits to evaluate the efficiency of their landfill diversion efforts for both consumer and behind-the-counter waste. A video of the process may be found at <https://www.youtube.com/watch?v=LfQurJFHi4I>. The Hive Café at the University of Roehampton in London, England is a social enterprise that supports Growhampton, a food-focused sustainability program. The café itself is made from two repurposed shipping containers and decorated with upcycled materials. Their Matthew Algie coffee is triple-certified as Organic, Fairtrade, and Rainforest Alliance. For its meals, the café partners with The Feel Good Bakery, a social enterprise that donates a free meal to a child in need for every Feel Good sandwich bought. Some of the produce sold is even produced on the Roehampton campus. More information can be found at <http://www.growhampton.com/hive-cafe/cafe>.

SUMMARY AND NEXT STEPS

SUMMARY

Although all cafés have made commitments to initialize greater recycling initiatives and create proper accompanying signage, it is GCRC's recommendation to continue the work of this project and streamline waste signage throughout the university. Through effective signage and reusable beverage container sales, the cafés hope to engage the public in a more involved way around issues pertaining to sustainability. Creating messaging that is uniform around waste is an essential step in ensuring there is consumer confusion is mitigated. The information collected in consumer surveys strongly informed GCRC's recommendations for next steps. In particular, results maintain food donation is a priority among café patrons, as are other sustainable practices, culminating in a clearer picture regarding consumer valuation of certain environmentally preferable products and practices. An important goal to strive towards is greater internal responsibility and engagement, particularly through mandatory training and general education about sustainable products and practices. As sustainability is often best tackled in an incremental manner, easy-to-implement practices are recommended in addition to long-term and investment-heavy changes, such as switching to more energy-efficient lighting and appliances.

Costlier changes will likely occur within the next few years, giving adequate planning time and room for further research. During the initial phase of implementation, café managers can also ask vendors to provide more local and sustainable products, encouraging sustainable operations not only on the UChicago campus, but also within the various vendor operations across the city.

NEXT STEPS

CAFE LEADERS Café leaders will continue to ensure that all recommendations are effectively communicated to café managers and all café employees. This will help to begin the implementation and employee education process.

COMMUNICATIONS A future goal for Communications is to develop a comprehensive café master website, which will include information about café offerings as well as all relevant sustainability information. Additionally, the team will work to finalize and implement café signage for recycling as well as consumer education.

CAFÉ EVALUATION

COMPOSTING Implementing composting in the cafés has become one of the project's main goals. Central composting site on campus is not currently feasible, however, several of the interviewed vendors compost through the Resource Center in Chicago, which picks up compost on demand. Such a model could be an option for the cafés. It is recommended the Café valuations team continue to work with the cafés, University Facilities and the Office of Sustainability to realize this goal.

ADVISING PURCHASES Utilizing all information collected throughout the quarter, the Café Evaluations team hopes to work with café managers in the future to promote smart purchasing of new products, equipment, and appliances. An easy place to start would be changing cups, napkins and cutlery to environmentally preferable alternatives. These products are used at a very high frequency, and small changes would certainly decrease environmental impact. The lids that the cafés currently use, for example, are composed of non-recyclable polystyrene plastic. Switching to recyclable or compostable lids is imperative.

VENDOR SUSTAINABILITY In the vendor interviews, Café Evaluations asked the vendors about various practices to gauge their individual sustainability. Some of these vendors have operations that could be improved. For example, some vendors may consider switching to more environmentally conscious packaging or delivery materials. While many vendors used reusable crates and hot bags, some also used disposable cardboard boxes. Rather than using boxes, these restaurants will be advised to use crates or other reusable containers to transport their goods..

The cafés are in the process of securing a new primary bakery. The café managers report that they are searching for a bakery that meets the following criteria: local, minority and/or woman owned, quality yet reasonably priced, and environmentally sustainable. Café Evaluation would

like to work with the cafés to oversee evaluation of the sustainability practices portion of the criteria.

CONSUMER EVALUATION After analyzing the results of the consumer survey, and in order to implement consumer-facing recommendations, the consumer team will focus on testing different consumer information campaigns, including signage and promotions/contests in the cafés to encourage consumers to recycle and reduce waste more effectively.

EXTERNAL RESEARCH External Research was unable to produce individual café energy pies that clearly represent the energy usage distribution from the various appliances with the current amount of information gleaned from this quarter's research. In the future, however, External Research could work more closely with University Facilities, the Office of Sustainability, and perhaps a third party to determine correct energy use allocation. Once the team has this information on hand, it will be able to calculate more accurate estimations of energy usage in the cafés and therefore provide better recommendations as to which appliances are recommended to be replaced as well as other ways to reduce individual appliance energy usage.