

Team Charter

Broad Team Goals

Duration and Time Commitment:

- Beginning of assignment to the assignment due date.
- Time committed to every essential collection or compilation of data.

Desired End Result:

- Relevant data that defines a process to improve waste management.
- Accurate and effective documents for the process.
- Commit every effort to compile and collect data.

Rules:

- Commitment to team and project.
- Collection of relevant and accurate data.

Measurable Team Goals

Data collection:

- Communicate about meetings and apply time to complete data collection.
- Accurate and measurable approach to the collection of data.

Meeting Minutes

1. Meeting #1: 20 February 2020
 - a. Present: Alaysha, Jerry, and Ngabo
 - b. Decisions:
 - i. Interview with Joanna
 - c. Next Week:
 - i. Come up with interview questions
 - ii. See if we can contact the Big Blue Recycling Crew
2. Meeting #2: 27 February 2020
 - a. Present: Alaysha, Jerry, and Ngabo
 - b. Working On:
 - i. Survey
 - ii. Finding Secondary Research
 - c. Next Week:
 - i. Plan for data collection: Tuesday, March 3rd 12:30
3. Meeting #3: 3 March 2020
 - a. Present: Alaysha, Jerry, and Ngabo
 - b. Working on:
 - i. Observations in the student center
 - c. Goals
 - i. Have observations done this week (March 2-6th)
 - ii. Start organizing everything to start writing the paper
 - iii. Contact recycling team and determine how much recycling is being done (during game days)

4. Meeting #4: 12 March 2020
 - a. Present: Alaysha, Jerry, and Ngabo
 - b. Working on:
 - i. Assigning the different sections
 - ii. Entering all the data into the team schedule
 - iii. Finishing all the components of the team charter
 - iv. Finalizing everything for the paper
 - c. Goals:
 - i. Finish all the last touches for the assignment before the deadline

Individual Commitments

- Jerry: Commit to every effort to commit data and summarize the process of the collection to determine an approach to improve the waste management process.
- Alaysha: gathering data, set up guidelines to and set up for final project Ngabo: gathering data for final project

Individual Concerns

- Jerry: Fairly confident with ideas, and communication. Not confident in writing and documentation.
- Alaysha: Confident in organization and staying on task. Not as confident in writing ability.
- Ngabo: confident in research and collecting data but not in writing.

Conflict Resolution

If conflicts arise, a third party unbiased person will be asked to assist in the resolution of the conflict. The team shall openly converse and decide upon a resolution.

Missed Deadline

If a deadline is approaching and work has not been completed by a team member assigned with doing the task, the team shall remind the team member of their obligation and the deadline. If the deadline is missed and another team member must complete the assignment, the team member that missed their deadline will make every effort to justify and the reason for the missed deadline and appropriately compensate for the work.

Unacceptable Work

If work is deemed unacceptable, it will be up to the team members to deliberate and reconcile the work. The team members' work will be evaluated by fellow team members, upon proofreading of the document. Each team member herein, agrees to have their work proofread and agree to comply with the majority rule on a conflicting decision about acceptable work on the document. If the team cannot resolve the conflict, the determination of work will rely upon a third party with appropriate credentials.

Team Schedule

Dates	Tasks	Team Member	Contribution Value
Ongoing	Maintain Minutes	Alaysha	3
20 February 2020	Email Joanna to conduct an interview	Jerry	3
24 February 2020	Create a Survey and send it to Dr. Osborn	Jerry	5
25 February 2020	Interview with Joanna	All Team Members	5
3 March 2020	Observations at the Student Center	All Team Members	5
4 March 2020	Observation at Intermezzo (PTO)	Ngabo	5
3 March 2020	Email to receive game day recycling data	Ngabo	3
11-12 March 2020	Write Executive Summary	Alaysha	3
11-12 March 2020	Write Introduction	Alaysha	3
12 March 2020	Write Methods	Alaysha	3
13 March 2020	Write Results	Jerry	4
13 March 2020	Write Conclusion	Ngabo	4
13 March 2020	1st read through	Jerry	1
13 March 2020	Revisions	Jerry	2
13 March 2020	2nd read through	Alaysha	1
13 March 2020	Revisions	Alaysha	2
13 March 2020	Final read through	Ngabo	1
13 March 2020	Final edits	Ngabo	2
13 March 2020	Turn in Assignment	Jerry	1
	<u>Team Members:</u> Jerry Montgomery Ngabo Mudenge Alaysha Williams	<u>Total Contributions:</u> 26 25 25	

UK Recycling Program and Students' Involvement Towards Zero Waste



Jerry Montgomery
Ngabo Mudenge
Alaysha Williams

Executive Summary

The Sustainability Strategic Plan aims to improve sustainability on the University of Kentucky campus in Lexington, Kentucky. With this in mind, this document contains information pertaining to the observation of material management on campus. By observing UK students and faculty, we were able to gain a perspective of how far this plan has come over the last two years. Recycling is an important aspect of sustainability. The amount of material that is diverted away from the landfills keeps waste out of the ocean and off the streets. Even though people are using products that can be recycled, the real goal is to focus more on reducing material and finding ways to reuse material instead of just recycling. Rather than thinking about buying something recyclable, it is important to think about how one can reduce the number of products they are using daily.

We believe that improving education about proper and efficient ways to recycle can help the issue. The majority of the students who answered the survey said they would be willing to help improve recycling on campus. To improve the amount of recycling on campus, students have to be more informed about the changes that are taking place. Currently, the university has a companion program in place, where students can receive different incentives (rewards) by scanning a QR code for every time they refill their water bottles. However, few people have heard about this program or know where the QR codes are located. Spreading more information about recycling and the programs that are in place, can help students stay informed, which could increase their participation in helping manage materials on campus. The information in this document can be useful to not only the sustainability strategic plan committee but

UK students as well. With a new viewpoint, the sustainability committee can find new things that can be done in order to help fulfill their goals by the year 2022.

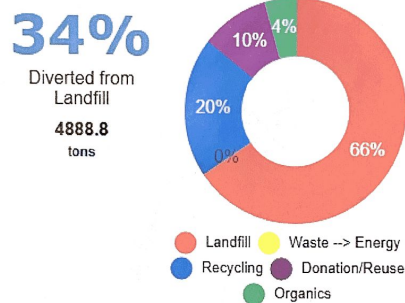
Introduction

In order to benefit the Lexington community as a whole, the Sustainability Strategic Plan committee works hard with the different tactic teams to “develop lists of potential tactics for their respective areas” (“Sustainability Strategic Plan.”). The seven teams: Waste Management, Energy, Food and Dining Services, Transportation, Buildings and Grounds, Greenhouse Gas Emissions, and Water, each has its own actions to try and improve the community. A great place to start with improving the community is material management; however, in order for it to improve it needs to be taken seriously.

Recycling is the process of taking material that is typically thrown away and breaking it down in order to create new material. It helps decrease the amount of waste that is sent to landfills. It is important to remember that “human health is intertwined with the health of the environment,” and the public has complete control over how they choose to contribute to helping the environment (Riedel, 2011). Becoming familiar with the importance of recycling and its effects on the environment is crucial to make a change. The majority of waste material goes into landfills and piles up; however, UK has found a way to collect and transform the recyclable material into something that can be reusable, such as food waste, which gets turned into organic fertilizer that the campus uses for landscape and to boost crops.

The UK currently has a system in place to collect and send recycled materials to “Rumpkeys, recycling facility located in Cincinnati,” to turn it into new products (Ashford, 2020). Over the past year, the diversion rate for UK has increased to 34%, and 15% of

Recycling/Diversion Rates	2018	2019	Percent Change	Tonnage Difference
Landfill waste	10,262	9,347	-9%	-915
Recycling	2,467	2,847	15%	380
Organics	526	629	15%	103
Donation/Reuse	797	1,353	72%	568
Waste to Energy		2		
Total Diverted	3,790	4,888	26%	1041
Total Waste	14,052	14,178	-1%	-126



the waste was collected through recycling (Ashford, 2020). This rate represents all of the waste that does not go to the landfills and is either broken down, reused, or donated to someone who needs it. By working with the food services on campus and initiating a

companion program, the recycling committee hopes that this rate will continue to increase.

According to the Sustainability Tracking, Assessment, and Ranking System (STARS), the UK has plenty of room to grow over the next couple of years. STARS is a way for colleges and universities to keep track of their sustainability performance over the course of a school year. Schools like Colorado State University and the University of Louisville are ranked higher than UK when comparing waste management and diversion scores. CSU has a score of 5.17 out of 8.00 points, U of L has a score of 2.56 out of 8.00 points, and UK has a score of 1.06 out of 8.00 (STARS Participants & Reports). After looking at these scores, we wanted to figure out why there was a significant difference between these colleges, and what things they were doing differently than UK.

The University of Louisville has programs like the Surplus Property Exchange Program, which “allows staff and faculty to swap reusable departmental items”, and Weigh the Waste, a once a month event where students go to dining halls and weigh people's food waste “ to increase awareness over the lunch periods” (“Waste Reduction.”). Similar to the University of Louisville, Colorado State University has a campus-wide event called RecycleMania, where students and faculty compete with other universities to see who can collect the most recyclable material. For ten weeks, faculty and staff participated in fun contests and activities while “increasing awareness of campus recycling and waste minimization” (“Trash & Recycling.”). Through programs that require the whole campus or through interactive activities, recycling and waste management awareness increases and people become further educated on the issue.

By looking at the way the message of recycling is conveyed to the UK community, our purpose was to determine how well the Sustainability Strategic Plan has worked towards its goals and if there are any improvements that can be done to help further the plan's success.

Methods

Through the use of primary and secondary research, the group collected data to determine how recycled products are organized, collected, and the students' involvement with recycling on campus. This information is crucial to the achievement of the sustainability committee's objectives and mission to “divert 50% of its waste from the landfill by 2022.” (Meg)

Interview

Due to the new topic about sustainability, it is best to talk to a professional who spends their time trying to improve the recycling resources on campus. Through a one hour interview with Joanna Ashford, the recycling coordinator in the UK, we were able to obtain valuable information that would help to further our purpose and give us a better perspective of the recycling process here in the UK. Joanna was very professional and a huge advocate for improving recycling on campus.

When talking to her, we learned that the main concern about recycling is the lack of education involved in recycling. Trying to inform everyone about the resources offered to them can be difficult, due to how big the campus is and how many students there are. Some of the information is only available to small groups of people at a time instead of the university as a whole. Most of the ideas that were brought up during the interview, namely analysis of the placement of containers and incentive programs were discussed.

When installing the recycling bins, there was a lot of thought put into the placement. They looked at “the proximity of the recycling bins to entrances and exits and whether they were paired with trash containers” (Ashford, 2020). It was important that each bin was placed in proximity to an entrance or an exit, for those are the areas where people are normally looking to throw something away. The majority of the recycling bins were paired with a trash can to take away the option “of throwing away trash in the recycling bins or placing recycling in the trash containers” (Ashford, 2020).

This idea of reusable containers to eliminate the amount of total waste generated seemed to be an efficient route for improvement for the program. Right now, the dining halls have reusable containers where students can take some food to go and if they want they can bring the container back to be washed and switched out for a new one. Another route for improvement could be the implementation of another program that incorporates an incentive to receive reusable containers or drink vouchers for recycling properly.

Observation

Taking the information that was collected from Joanna, we decided to go out and test the use of the recycling bins. The students and faculty at the University of Kentucky campus served as subjects for this observation. The locations that were selected were based on the number of people that walked through the area. It is imperative that the areas with a high population of people are the areas that have visible and effective recycling bins. If more people are in these areas than the probability of excessive waste being produced is higher.

One of the locations selected as the Gatton Student Center. This location is used continuously throughout the day and hundreds of students walk through the student center to meet up with friends, relax between classes, or to grab a quick meal. With the diverse selection of dining options provided on the first floor, it was a great choice to observe the use of the recycling bins. For intervals of 15 minutes starting from 12 o'clock to 1:30 pm, the main entrance trash/recycling bins of the student center were

observed and two different trash/recycle bins were observed near Chick-fil-a and Panda Express. Since the trash can and the recycling bins are placed right next to each other, we observed how many people threw things into the trash can vs the people who used the recycle bins to recycle material. Noon is typically the time when there are several massive crowds of people coming through the student center to grab food or using it as a shortcut to go to their classes. Another area that was observed was the Intermezzo in the Patterson Office Tower. This location's dining option is used frequently by the faculty and students who are in that area. For one hour and thirty minutes, Ngabo observed the number of times people were throwing away everything in the trash can or if they were recycling the recyclable material.

Survey

The final method used to obtain data was through a survey administered to students through an anonymous google form. This allowed students to answer truthfully to the questions asked. Through a link, the survey was available for any of the faculty or students to answer the questions. With a total of 39 responses, we were able to take the data and analyze the information. In the results section, it will explain how all of this information was used and how it helped lead to some improvements that would increase participation in recycling.

Results and Applications

From the data collected in the student center, it was clear that the majority of trash was disposed of in the landfill containers. This further illustrates that the downside or shortcoming of the UK's waste management problem is inadequate education about recycling. The majority of waste collected from the restaurants is not recyclable, but with the material that can be recycled patrons often squish everything together and dispose of it in landfill containers. This data is only relevant to this location, it seems that every location or event would propose its own unique set of challenges.

Although, this data was sort of inconclusive for the volume of foot traffic and placement of the containers. It points out all the factors that lead to recycling, it's not only the placement of the containers. This made us realize it's the vendors that are near, the items that are sold, the container openings and many more factors. If vendors are selling products that can only be thrown away, then people create a habit of throwing everything away.

This points out that education of recycling is the most essential asset for improvement, essentially involved in the promotion of efficient and proper recycling. The survey was a tool to gain input and opinions about recycling, this helped us point out weaknesses and strengths in our endeavor. The survey told us that 80.5% of people that took the survey felt good about recycling. This is great but, it's only a small factor from people that took the survey to people that attend the UK. More importantly, it told us that 91.7% of people would use reusable drink containers, which would be an efficient alternative to bottles, cans, and cups. Although most people were neutral in the idea of UofL being ranked higher than the UK in waste management, a competition

between the two schools could increase the awareness of waste management and teach students about recyclable ways.

One of the things we wanted to look at was the factors that determined if someone would recycle. From the data collected below, 36.1% of people knew that they would be more likely to throw away recyclable objects in the trash if the recycling bins were in an inconvenient place; however, 58.3% of people mentioned that they felt that the placement of the recycling bins was efficient for people to use. It showed that most of the time, whether someone decided to recycle or not was based on convenience. This data is similar to a study conducted on college students in the 1990s. Surveys were emailed to students to gather information about the student's beliefs on recycling. They had a positive attitude when answering questions about recycling and they believed that it was an important thing to contribute to; however, their action proved differently. The researchers found that one of the major factors for these students' actions was based on whether or not recycling was convenient for them or not. Some believed that recycling was "not their responsibility. . . [and] it was the job of the university " (Barker, 1994). This same mindset can be seen in the students today, for it only takes a second to separate recyclable products from products that got to the landfill. By educating the students more and telling them about the importance of recycling, their mindsets can be changed and they may realize how important their actions are to the rest of the community.

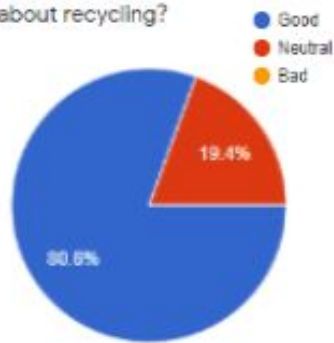
The reinforcement of the UK education program to reach out to many students of their presence in recycling and waste reduction programs can be done through different

channels; social media or media advertisements on campus. By engaging everyone, the chance of people contributing increases and increases the protection of the environment. The last question from the survey showed that 77.8% of people that took the survey were willing and interested in helping, this should be the focus. To be effective and productive, the focus should be on overall involvement and education of the recycling process. Perhaps, an incentive to promote more students to pack reusable drink containers and allow access to stations for a refill at vendor locations would be a great starting point. Also, incentives on discount drink refills for using the same container or recycling properly. It is apparent that efficient recycling is a team effort and it requires the interest and involvement of everyone on campus for this process to work.

Graphs From Survey Questions

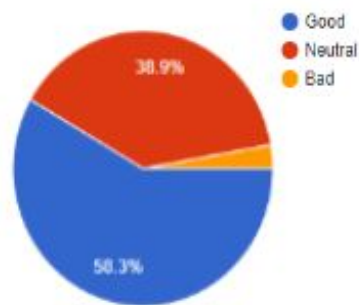
How do feel about recycling?

36 responses



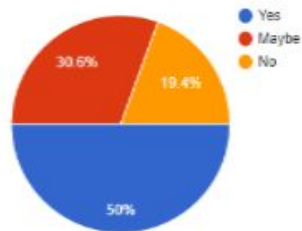
How efficiently placed do you believe that recycling containers are?

36 responses



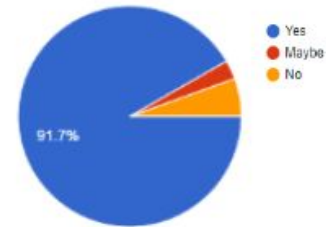
If it was more convenient to access a normal trash can opposed to recycling container, would you be more liable to use the normal trash can to dispose of recyclable waste?

36 responses



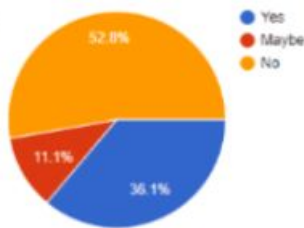
Would you be willing to carry and use a reusable container for drinks?

36 responses



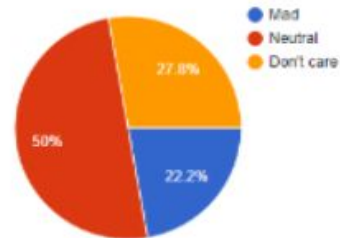
If it was more convenient to access a recyclable container, than it was to access a normal trash container. Would you be more liable to dispose of non-recyclable waste in the recycling container?

36 responses



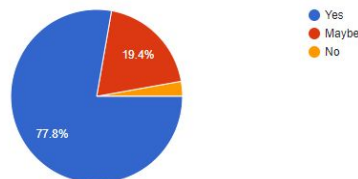
How does it make you feel knowing that UofL has a better score than U.K. in waste management?

36 responses



It take us as students to improve this problem. Are you willing to help the University of Kentucky?

36 responses



Conclusion

Recycling is the action to cover waste and reintroduce it to the production cycle. The University of Kentucky has put in place a Sustainability Strategic Plan, to play a role in solving the global issue, towards zero waste. Different resources and transportation servers collect waste all around the campus with the collaboration of volunteer groups like Big Blue Recycling Crew, who reduce waste by providing recycling bags and interacting with fans about recycling on game day.

A survey was conducted to see how students are aware of the recycling program on the campus, students know about it and they would help to improve it and put into action any change that is taking place to provide a safe environment. More effort is needed to increase awareness and keep students updated. The implementation of the reusable containers will have a positive impact on reducing waste. Recycling is a call to everyone, our participation in the program will keep the University of Kentucky a clean and safe environment, and also provide social and economic benefits.

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