

2011

Macalester Plastic Waste Reduction Plan: Focus on the Grille



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December 13th, 2011

Introduction

Whether or not we realize it, Americans use nearly 10 pounds of plastic products every day (Freinkel 5). If a product isn't directly made out of plastic, it probably came wrapped in plastic. Regardless, it probably took plastic to make it, ship it, or store it. The food people eat, the items they purchase, the clothes they wear and the way they live all relate to the pervasiveness of plastic in today's culture.

While there are ways for plastic to be recycled, the percent of it that actually is recycled remains quite small; of the 30 million tons of plastic waste produced in the U.S. in 2009, only seven percent was recovered for recycling (USEPA). On top of this, plastic production requires fossil fuels to melt down the material and turn it into new products. Most plastic waste ends up in landfills, where it will remain for hundreds of years before it decomposes. In fact, it takes 450 years for a plastic beverage bottle to decompose, according to the U.S. National Park Service.

When someone throws away a plastic item, he or she is not likely to think about how it will interact with the environment for the next several thousand years. Humans are so removed from their waste in society today that it seems nearly impossible to remember that when plastic is thrown away, it doesn't disappear when the garbage truck turns the corner. This lack of connection humans have with their trash is something Jennifer Clapp, one of the authors of *Confronting Consumption*, refers to as "waste distancing"—the physical and cultural distance that exists between people and their stuff once they throw it away (Princen et al.155). Clapp argues that this distance represents a key problem with modern

consumer culture because as it increases (both in physical and metaphorical terms), the creation of waste also increases.

How can humans put an end to the cycle of consumption and waste?

Unfortunately, this question is not one that can be tackled by consumers alone. As much as people would like to think that their spending practices have a profound impact on the amount of waste in the world, this is not always the case. As Jess Worth writes in an article in Choices for Sustainable Living, “if we get seduced by the idea that the market will respond to our ethical and environmental concerns, adapt accordingly, and the woes of the world will be solved, then we are making a huge mistake” (Princen et al. 48). Worth has a valid point - people’s purchasing choices as consumers alone are not enough to effect permanent social change. However, even though consumers alone have little means to override the economic system entirely, their choices represent a key step in initiating economic and environmental change. To do this, Americans can each make an effort to consume less, as well as come up with creative ways that limit the amount of waste they each produce.

Macalester College

College campuses make excellent case studies for projects in sustainability due to their social nature, making it easier to conduct surveys and projects. Macalester College represents a model case study location because despite the wide use of plastic (especially in food-related areas like Cafe Mac and the Grille), it is located in an urban area, which offers waste reduction resources. Further, it boasts a

community that is socially conscious and environmentally aware. Students take pride in the campus wind turbine, MULCH community garden, green roofs, LEED Platinum building, sustainable landscapes, and free swap programs. Macalester's administration has also made a commitment to sustainability, with a goal to have zero waste by 2020. However, there are many improvements that can and should be made to help Macalester be more sustainable, especially when it comes to plastic waste production. Even though the Bon Appétit Management Company is committed to sustainability, Macalester's plastic waste from food production and sales can be decreased significantly.

To help better our community, our group has decided to look at how plastic use is connected to the food service at Macalester, and how to reduce excess and unnecessary plastic waste. We did this by focusing on a sustainability initiative that is already in place – the Eco-Clamshell program – and figuring out how to make it more effective and more widely used. We also assessed the reusable coffee mug program, and tweaked it to make it more accessible to students. Finally, we introduced the idea of plastic wrap recycling at Macalester. Together, these programs will help the Macalester community achieve their existing goals of sustainability, zero waste, and a healthier planet and community.

Psychology of Sustainability

To understand how we can help students reduce their plastic use at Macalester, we need to understand how to approach them. It is not merely a matter of convenience or simplicity that causes humans' plastic consumption. It has become

an ingrained and mostly unavoidable part of American society (in part because of the existing infrastructure that promotes the use of plastic, such as bottled water). To address this issue, we need to start at the root of the problem: understanding how people think, specifically, how they think about plastic waste. Using psychological principals to understand sustainable behaviors at Macalester could greatly increase the effectiveness of our proposed programs.

Almost 45% of everyday behaviors are habits, and tend to be “repeated in the same location, almost every day” (Neal et al. 198-202). In other words, almost half of humans’ decisions are not really decisions at all. With this in mind, it is easy to understand how choosing products or services based on the amount of plastic used in that good or service is widely overlooked or ignored. Further, the societal infrastructure has made it nearly impossible to make it a habit to think about plastic use; media, advertising, corporations, and even the college lifestyle have all made the most readily available option the one wrapped in plastic. Xcel energy, among other energy companies, offers consumers the chance to use various amounts and kinds of renewable energy, but because it would take conscious and deliberate action on the part of the consumer, that box often goes unchecked on energy bills (Pichert & Katsikopoulos 63-73).

In a contrast of two theories about what drives behavior, one study found that context change spurs the likelihood that behavior is guided by individual values. One of the theories, the habit discontinuity hypothesis, proposes that context change disrupts normal habits and provides a window of opportunity where “behavior is more likely to be deliberately considered,” while the other hypothesizes

that personal values are most likely to guide behavior (Verplanken et al. 121-127). Together, they prove that context change provides a unique opportunity for people to use their value system to create habits or take action in ways that better reflect their values. For example, we could look at a person with a strong environmental identity who grew up in a rural area and had to drive a car everywhere and then moves to Saint Paul, where they find that biking is not only more affordable and accessible than a car, but is also more in line with their environmental values. This context change provides the window of opportunity for a habit to change.

At Macalester, we can learn from this general example by understanding that much of the student body is made up of students who come from a wide variety of backgrounds, countries, climates, infrastructures, and values. Macalester as a college creates a context change for the whole student body. That being said, the college should seize the opportunity to help students develop sustainable habits upon arrival, rather than just after their freshman year.

Social norms create a drive to be considered “normal” in society, and normative feedback expresses how “normal” a behavior is in society. Injunctive feedback expresses how a behavior is received, positively or negatively, by society. (Shultz et al. 429-434) In a 2007 study, 290 households received normative feedback about how their energy use compared to their neighbors printed on their monthly energy bill, but half of them also received injunctive feedback in the form of a ☺ or a ☹, depending on if their energy use was above normal (☹) or below normal (☺). This prompted non-normative energy users to increase or decrease their

energy use respectively, but with the addition of the injunctive message, below-average users did not increase (because they also received positive feedback) (Shultz et al. 429-434). This study shows that people are constantly seeking societal normative approval, and if they see people (especially people they know) being more sustainable than them, it might encourage them to change their own behavior.

This normative feedback needs to go hand in hand with injunctive feedback; otherwise conservative waste-producers might feel that it is okay to produce more waste, since they consume less than average. This type of feedback could be used at Macalester to help inform students about their waste habits. At the moment, there is no figure, no measurement, no picture, and certainly no communication of waste production advertised to students to give them normative or injunctive feedback on their plastic consumption. How are students supposed to regulate and *reduce* their plastic use if they aren't even able to quantify their current use? This led us to experiment with visual prompts, in the form of posters and reminders, both at the Grille and around campus, reminding community members about the Eco-Clamshell and reusable coffee mug programs. We also worked with Grille employees to use more verbal prompts, like asking customers which container they prefer, as well as giving injunctive feedback, like a smile, if the customer asked for a Clamshell.

We want to change the precedent at The Grille so that the norm of food and beverage containers becomes reusable rather than disposable. To see the effects of this strategy, one can look at the differing levels of participation in organ donor programs in Austria versus Germany. In Austria, 99% of citizens are organ donors.

In Germany, despite it being similar to Austria socio-economically, only 12% of citizens are organ donors (Pichert & Katsikopoulos 63-73). Why the difference? In Austria, the program is opt-out, whereas in Germany it is opt-in. There are a number of factors at work here: one, it is the social norm to do what everyone else does; two, it would take deliberate action and going out of one's way to switch to the "other" option; and three, people often feel that their lives are very busy, so the less active decision making they have to do the better.

Right now, customers at the Grille automatically receive a disposable container unless they *ask* for the Clamshell. We propose to switch this so that the customer is verbally and visually prompted with the Clamshell option, which will hopefully not only increase the use of the containers but also the development of using them as a habit. It will also hopefully create a social norm of using them, and prompt others to join the Eco-Clamshell bandwagon because they see their peers doing it. Overall, we want to make it easy, habitual, normative, and rewarding to be a more responsible steward of the earth by choosing the Eco-Clamshell over the disposable plastic food container. We hope that the same model works for using a reusable coffee mug for tea and coffee, with the addition that there is also a monetary discount when you bring your own mug.

Plastic Use at Macalester

In February of 2010, Minnesota Waste Wise put together a report accessing the solid waste produced by Macalester College (Worley). MN Waste Wise focused on solid waste produced between January 2009 and December 2009. The results,

shown below in Figure 1, show that although Macalester recycles about half of its waste, trash makes up the other 52% of the waste. Trash includes both organic products (which currently do not get composted) as well as non-compostable goods.

Graph 3.22: Solid Waste Versus Recycling Jan 2009-Dec 2009

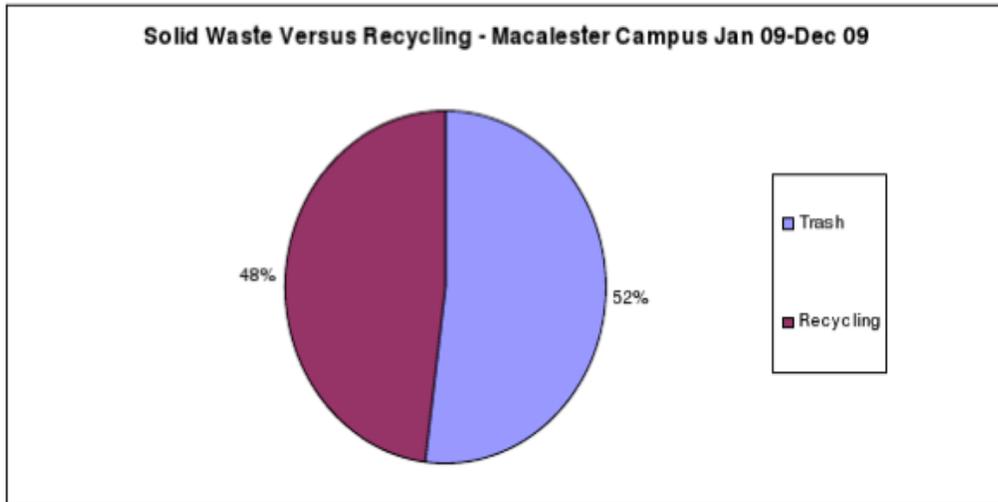


Figure 1: Solid waste versus recycling at Macalester College from January 2009-December 2009

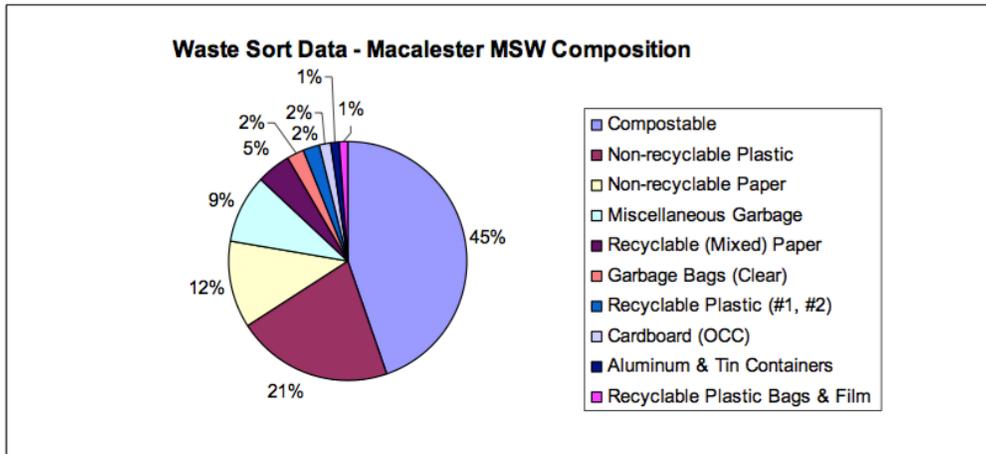


Figure 2: Breakdown of waste at Macalester College. Source: Waste Sort Data

Surprisingly, according to the Waste Sort Data Graph released in the document, the highest percentage of waste sorted (45 %) is considered organic waste, shown above in Figure 2.

Other significant figures included in the Waste Sort Data Graph include non-recyclable plastic (21 % of the trash) non-recyclable paper (12 % of the trash). Along with Styrofoam, which takes millions of years to decompose, most plastics take millions of years to decompose (U.S. National Park Service). At Macalester, much of the non-recyclable plastic comes from food-related products such as plastic cups and containers.

According to the Minnesota Waste Wise report (Worley), non-recyclable plastic included mostly food-related packaging items such as Styrofoam coffee mugs, yogurt cups and microwave meal plates. Further, a large amount of disposable utensils and cups were found from a recent staff luncheon (Worley). Of course, food purchased by individuals and not directly by the school (some of the yogurt cups, for example, probably came from individual student and faculty purchases) adds to these figures. Even so, in terms of direct plastic purchases made by Macalester College, much of the purchased plastic relates to food production and consumption.

Plastic Waste at the Grill

Some of the sources of plastic waste produced at the Grille include plastic coffee cups, smoothie cups, utensils and food containers, as well as stretch wrap used to cover sandwiches, cookies and fruit from the bagged lunches. None of the plastic containers used for to-go food at the Grille are recyclable and of the four main beverage cups used (smoothie cups, coffee cups, Styrofoam fountain cups and plastic fountain cups), only one is compostable. Reduction of plastic waste at the Grille, therefore, could significantly reduce the percentage of plastic waste produced as a whole by Macalester College.

Reasons for Focusing on the Grille

We chose to focus our efforts on the Grille for several reasons. First, the Grille's small size seemed manageable for a group of three students. Second, unlike Café Mac, students can see the materials that their food items come in, so they will recognize the switch to reusable containers.

Existing Sustainability Programs at the Grille

The Grille is an example of a place on campus where sustainable practices are available (the Eco-Clamshell and \$ 1 coffee programs), but not widely used. The Eco-Clamshell program allows students to get their food in a reusable take-out container that they return after each use, and the \$1 coffee program allows students to get a discount on coffee if they bring their own mugs. The policies for these programs have already been implemented, and the school has purchased the necessary materials. However, these programs are not advertised well. For example, no signs exist around the Grille promoting the services, and cashiers do not inform customers about the programs. One of the key goals of our project is to promote the existing system of Eco-Clamshells and \$ 1 coffee at the Grille, as well as change the norm from disposable plastic to reusable.

Action Taken

In order to put our project into action, we developed three goals and the methods needed to achieve them.

1. Promote Eco-Clamshell use at the Grille

- Encourage cashiers to ask customers if they want to opt in to the Eco-Clamshell program (**completed**)
- Create a poster explaining the Eco-Clamshell program (Appendix A) (**completed**)
- Place posters near Grille and on bulletin boards around campus (**in progress**)
- Write short piece for the Daily Piper explaining Eco-Clamshell Program (Appendix B) (**written, not submitted yet**)

2. Promote \$1 coffee reusable mug system

- Change the program so that a student with any reusable mug can get \$1 coffee (not just with a Bon Appétit mug) (**completed**)
- Create a poster promoting the reusable mug program (Appendix C) (**completed**)
 - Place posters near Grille and on bulletin boards around campus (**in progress**)
 - Write short piece for the Daily Piper explaining the Eco-Clamshell and reusable travel mug programs (Appendix D) (**written, not submitted yet**)

3. Start plastic wrap recycling at the Grille and Café Mac

- Contact “It’s in the Bag,” a local plastic wrap recycling firm (**completed**)
- Communicate with manager of Café Mac about the possibility of setting up plastic wrap recycling at Macalester (**in progress**)

Conclusion

Through these goals and this project as a whole, we have learned more about plastic waste at the Grille as well as the process of changing policies and advertising at Macalester. We hope that posters at the Grille will educate students about the Eco-Clamshell and reusable coffee mug programs.

While making different choices in consumption and limiting individual waste is one very important part of the path to preventing environmental degradation, it is important to keep in mind that it is not the *only* part. Many people operate under the assumption that their actions as individuals will have a significant impact on the Earth's well being, one of these people being Michael Maniates. In his article in *Confronting Consumption*, he calls this “individualization of responsibility” (Princen et al. 45). and describes how this “characterizes environmental problems as the consequence of destructive consumer choice” (Princen et al.45). Yet, individual waste makes up only about 20% of the waste in landfills (Princen et al.157). Additionally, individuals are not the cause of most air and water pollution. The much bigger contributors to these issues are industries. This is not to say that consumers have no impact on the state of the environment. Instead, it is simply a reminder that consumers do not have the *only* impact on the environment. With this in mind, we hope to make an impact on the amount of worldwide plastic waste by advertising sustainability programs at Macalester. Even if the difference is minor from a global standpoint, the project will hopefully act as a gateway for further plastic reduction projects at Macalester, in addition to providing an example for other colleges trying to implement sustainable practices.

Appendix A: Eco-Clamshell Poster

Eco.Clam.Shell

[ˈkoʊklam.ʃel]
(Noun)

A durable, hinged lid to-go container that is reusable and eliminates the need for disposable, non-recyclable take-out containers



**NEXT TIME YOU GET
FOOD AT THE GRILLE,
ASK FOR AN
ECO-CLAMSHELL,
ESPECIALLY IF YOU'RE
EATING RIGHT HERE IN
THE CAMPUS CENTER!**

Eco-CLAMSHELLS AT A GLANCE

Traditional plastic take-out containers may seem like the easy way to go, but they require fossil fuels to make, are expensive to purchase and add to landfill waste. You can help reduce trash *and* help Macalester reach its goal of becoming Zero Waste by 2020 by using Eco-Clamshells when you purchase food at the Grille. The good news: Eco-Clamshells are FREE for all students!

Appendix B: Daily Piper Article for Eco-Clamshell

Did you know that you can use an Eco-Clamshell when you get food to go at the Grille? An Eco-Clamshell is a reusable, hinged container that you can ask for at the Grille and then return the next time you visit. It's easy, and it saves plastic! Ask the cashier for more information!

Appendix C: \$1 Coffee Poster



Bring your own reusable mug and pay just \$1 per cup of coffee! It's an easy way to save money and protect the planet.

With a Bon Appétit mug, pay just \$1 per day for unlimited coffee refills. Bon Appétit mugs can be purchased for \$ 5 at the Grille. Ask the cashier for more information.



Appendix D: Daily Piper Article for \$1 Coffee

Did you know that you can get coffee for only \$1 at the Grille? All you have to do is bring your own reusable mug! When you bring your own mug, you can save money and help prevent plastic waste from being created. Ask the cashier for more information!

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