

**Removing Styrofoam Packaging in the Food-Service Industry:
Development of a Campaign Strategy and Materials**

by

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ABSTRACT

I examined the current climate in Ames to see if and how restaurants actively work to decrease the amount of single-use product waste they currently generate. To do this I conducted a focus group with restaurant managers in the community who could benefit from the use of these alternatives. After transcribing and analyzing focus group results, I created campaign materials including a website, logo, infographic, etc., to be shared with local restaurants to provide them with the resources and knowledge they need to transition towards eco-friendly and sustainable packaging solutions. The primary goal of this work is to help these restaurants decrease the amount of single-use Styrofoam they use and begin using alternative packaging products and methods instead.

INTRODUCTION

Every year in the United States alone, three million tons of Styrofoam are produced, and it is predominantly used by the food service industry in the form of foam cups, cartons, other containers, and packaging materials (Chandra et al., 2016). Styrofoam is cheap and has the correct insulation properties necessary to make it the most popular choice for restaurants as a sanitary single-use food packaging option. However, Styrofoam cannot be effectively recycled without being economically feasible to transport, it must also contain zero contamination (Chandra et al., 2016). Transporting and thoroughly cleaning all of the distributed Styrofoam containers is simply not a feasible option for many restaurants.

In order to adopt more sustainable materials, restaurants will need assistance, both with understanding their options and to communicate their choices to customers. Therefore, the purpose of this project is to create a sample campaign that could be offered to restaurants with the intention of promoting more sustainable packaging options and the removal of Styrofoam. Sustainable campaigns focus on affecting positive changes within the environment (Green Office Movement, 2019; Jankowski et al., 2017). These campaigns offer tangible social, economic, and environmental solutions to a variety of environmental issues spanning from zero hunger to responsible consumption and production (United Nations, 2021).

I created this campaign for restaurants in Ames, Iowa. Ames makes for a great location for this project because there is a lack of examples of campaigns in smaller, midwestern cities. Instead, other campaigns exist in larger metropolitan areas near bodies of water, which make pollution more visible. That doesn't mean there isn't a need in Ames, however. In 2019, *Business Insider* reported that the average Iowan spends \$2,117 a year on eating out and that the average menu price for a meal inside the state is \$9.74 (Olito, 2019); to put this in perspective

that is 217 meals a person. What makes this fact relevant to my campaign's development is that for each meal brought out of the restaurant either by take-out or as leftover food, restaurants are required to provide containers for customers. With over three million residents in the state of Iowa, that computes out to be 651 million meals a year that could potentially involve disposable packaging. There is an advantage for restaurants to choose packaging that is cheap to produce and has the necessary insulation properties, the standard materials that make up EPS food service ware are plastics including Styrofoam (Wagner, 2019).

LITERATURE REVIEW

The Need for Sustainable Alternative Packaging Options

Some might argue that such packaging is not problematic because it can be recycled. However, Styrofoam is incredibly difficult to effectively recycle. In order to ensure that the containers are properly disposed of, customers would be required to first thoroughly clean them (Zhao, 2020). Often these containers are provided while consumers are on the go, and a far distance from the necessary tools they'd need to completely wipe down the food containers and dispose of them in the desired location.

In 2007, Commissioner Kathryn Garcia from the New York City Department of Sanitation (DSNY) found that 42 jurisdictions in both the US and Canada claimed to recycle foam containers. After DSNY investigated eight of the largest jurisdictions on the list, it was found that they were collecting foam, but rarely actually recycling it. None of the reviewed jurisdictions recycled Food-Service Foam after learning that it broke apart during sorting and could not be cleaned affordably (Garcia, 2017). There is no place in our current social and environmental climate for Styrofoam to continue to hold its enormous role in the food service industry.

However, sustainable packaging is on the verge of transitioning from an option for food enterprises, into an obligation due to consumer desires. Restaurant consumers are demanding the reduction of single-use containers and packaging materials and the increase of more sustainable ones. In a 2019 study conducted in the United States and United Kingdom, the Director of Packaging Works found that over half of people surveyed were transitioning towards more environmentally conscious choices when choosing disposable versus sustainable products than

they were the year before (Young, 2019). This is yet another clear-cut reason for restaurants to start thinking about the transition to alternative packaging options, even if it means slightly altering their current operations.

From a financial standpoint, it's clear that restaurants want the cheapest option when choosing packaging, because they are given to customers free of charge. Restaurants may believe that alternative packaging options are too expensive, it turns out alternative packaging options are not a significant increase in cost. While one of the qualities that make Styrofoam such a popular choice is its low-cost properties (Colton, 2018). Clean Water Action – California (2012), reported in *Polystyrene Foam Take-Out Packaging and Price Comparable Alternatives* that the average cost difference for non-foam alternatives made from recyclable plastic and paper on the market today that could replace the need for Styrofoam cups, bowls, plates, and containers is just \$0.01.

The Organization for Economic Co-operation and Development (OECD) determined that a benefit of introducing sustainable food-service packaging design and declaring recycling as end-all opposed to incineration or landfills. The benefit is calculated at \$2-\$3 billion annually across the nations included in OECD (Lacy & Spindler, 2019, Wagner, 2019). The OECD is an intergovernmental economic organization of 37 countries including the United States, Canada, United Kingdom, and Mexico, who work together to stimulate economic progress and world trade. This price break, with the headlines made by the companies opting to commit to sustainable packaging options, may be why more restaurants and communities are beginning to commit to the transition, as the monetary rewards have proven repeatedly to outweigh the monetary costs.

Sustainable Alternative Packaging Options

Stine (2019) put together a list of 25 example companies who have successfully developed sustainable packaging solutions for the food industry. Likewise, Terry (2020) has compiled a list of product suppliers that are working to help us reduce the number of plastics in the waste stream. Those who focus specifically on improving or replacing Styrofoam are listed below:

Agilyx: Created in 2006 in Oregon, Agilyx successfully began producing a fully recyclable foam material called styrene monomer (PSM), made out of the same material as red Solo cups. (Stine, 2019; Agilyx, 2021).

Tag Packaging: Based out of Los-Angeles, TAG Packaging developed 100BIO, a technology made out of plant-based polylactic acid (PLA). It's biodegradable and made without carbon. dioxide, heavy metals, or methane. It uses fewer raw materials than all standard paper or plastic products. This alternative can compost in less than nine weeks and is green, safe, and sturdy (Stine, 2019; 100BIO, 2017).

TIPA Sustainable Packaging: Established in 2010, an Israeli startup began manufacturing bio-based, transparent, durable, and fully compostable food-service packaging. It offers certified containers for fresh, dry, chilled, baked, and frozen goods. Similar to the orange peel, it decomposes within 180 days in the average compost conditions (Stine, 2019; TIPA, 2019).

Ecovative Design: Created from the root structure of mushrooms that take place of Styrofoam, Ecovative Design grows materials that are sustainable, durable, bio-based and 100% compostable. (Terry, 2020; Ecovative Design, 2021).

As stated, there are numerous alternatives for Styrofoam packaging that have been or are being developed around the world, some within our own country's borders. If industries, specifically restaurants, do not begin to take a good look at their packaging practices, they may fall behind. "Packaging itself [has become] a product which needs to be handled intelligently to reduce its impact on the environment" (Ahmed & Alam, 2013, p. 337). It is no longer acceptable for restaurants - one of the largest consumers of Styrofoam - to respond to this call-to-action without claiming partial responsibility.

Strategies to Reduce Styrofoam

There are successful examples of partnerships and interventions made on behalf of city governments that are put in place to encourage waste reduction and product substitution (Wagner, 2019). Sometimes these partnerships involve policies. One example of an American success story comes from Seattle, Washington, a major metropolis in the Pacific Northwest. In 2009, Styrofoam was banned across the city. Businesses were able to apply for exceptions from this law during the transition period; today the city has an enforcement policy with a penalty of up to \$250 per violation (Wagner, 2019; Seattle Public Utilities, 2018; City of Seattle, 2018). An up-to-date comprehensive list of enacted Styrofoam bans and proposed legislature can be viewed on the National Caucus of Environmental Legislators website (National Caucus of Environmental Legislators, 2021).

Sustainability campaigns are also part of the solution, either to help achieve compliance with bans or to promote sustainable packaging in places without bans. Sustainability campaigns are created to effect changes in people's and business' daily practices. To develop content that can reach the recommended audience at a large enough scale to influence companies and the individuals who use their services to alter their actions, there needs to be an emotional connection between the target audience and the content they view. This emotional connection is directly "associated with a campaign's viral success, and it is dependent on finding and executing one-off non-replicable creative ideas" (Jankowski et al., 2017, p. 8).

For this project, I reviewed examples of sustainable pro-environmental and anti-foam campaigns, to replicate their best practice, and further develop a campaign that will specifically serve as a function to Ames, Iowa. The two specific campaigns that were put under the microscope are Surf Rider and Plastic-Free MKE. Surf Rider's Ocean Friendly Restaurant Program was chosen because of its national recognition and use. On the other hand, Plastic-Free MKE was selected as an example because the campaign is based out of the Midwest and is of similar size to my proposed campaign.

Surf Rider is a national foundation with partners in over half of the states in the continental U.S. The foundation helps restaurants, "one customer at a time," increase awareness, change behavior, and create "scalable impact to reduce our plastic footprint" (Surf Rider, 2020). The Surf Rider Foundation currently has 672 restaurants nationwide that are a part of the Ocean Friendly Restaurants program. Out of these restaurants there are just under a dozen in the Midwestern region of the United States. Iowa currently has just one Ocean Friendly Restaurant in Carlisle, Iowa (a suburb of Des Moines). The Ocean Friendly Restaurants program is one of the largest of its kind in the United States that specifically focuses on the restaurant industry.

Using a website, they map out “Ocean Friendly Restaurants” in the United States and have an online system available for restaurants to register and receive the resources necessary to be recognized as an “Ocean Friendly Restaurant.” To participate, each restaurant must pay a membership fee based on the number of employees at the restaurant. The restaurants must follow specific mandatory and optional criteria that are explained in a Quick Guide and Ocean Friendly Food Ware Guide. According to their website they are as follows:

Surf Rider Foundation mandatory criteria.

- No expanded polystyrene use (aka Styrofoam)
- Proper recycling practices are followed.
- Only reusable food ware is used for onsite dining.
- No plastic bags offered with take out or to-go orders and utensils are provided only upon request.
- Paper straws are provided only upon request.

Surf Rider Foundation optional criteria (choose at least 2).

- No beverages are sold in plastic bottles.
- A discount is offered for customers with reusable cup, container, bag, etc.
- Vegetarian/vegan food options are offered on a regular basis.
- All seafood is “Best Choice” or “Good Alternative,” as defined by Seafood Watch, or certified as sustainable.
- Water conservation and pollution mitigation efforts are implemented.
- Energy efficiency efforts are in place.

The tangible benefits of participating include an array of marketing materials, including window stickers, table-top placements, logos, and bill inserts. These show a business’ dedication to the Surf Rider campaign’s mission and goals. Additional benefits include listing on their website, a launch party, discounts on restaurant to-go packaging, tax-deductions, and a relationship with Surf Rider’s Ocean Friendly Restaurant Program and its members across the country.

The other campaign I examined was Plastic-Free MKE, a Milwaukee, Wisconsin based coalition that partners with community members, small business owners, engineers, agencies, and local nonprofits that work towards eliminating single-use plastics in the city. Instead of registration, businesses and individuals take a pledge in order to reduce single-use plastics in Milwaukee. The easy-to-use and free pledge shows the Milwaukee “community and elected representatives that [they] care about the damage plastic is doing to the city and are committed to making a change” (Plastic-Free MKE, 2020). With this pledge, Plastic-Free MKE reports that every business or restaurant that takes the pledge will benefit from increased business from their eco-friendly customers, acknowledgement as part of a larger movement, posting on the Plastic-Free MKE website, promotion through social media, Plastic-Free MKE marketing materials, logo use, and a printable flier to help commit one to the pledge. According to their website, the required and optional pledge criteria are listed below:

Plastic-Free MKE mandatory criteria.

- Provide reusable tableware.
- Stop using Styrofoam.
- Follow proper recycling practices.
- Provide degradable straws/stirrers only on request.
- Provide compostable to-go packaging.
- Stop using plastic bags.
- Encourage patrons to bring their own to-go containers.

Plastic-Free MKE optional criteria (choose at least one).

- Compost all back of house waste
- Compost all front of house waste.
- No beverages sold in plastic bottles.
- Provide and display discounts for customers bringing their own container.
- Install and maintain a Hold on to Your Butt MKE cigarette butt receptacle outside of your business.

This coalition has similar requirements for businesses to join as does the Surf Rider Foundation. However, when a business takes the pledge, all that is required is that you submit a checklist of what your business would like to pledge; the site is unclear as to whether there is a minimum or maximum number of boxes that must be checked when pledging. However, of the optional criteria listed on the bottom of the Lake Friendly Certification page, Plastic-Free MKE businesses are required to choose one item. The impression the website puts forward is that the checklist is not mandatory, but through the similarities between the Surf Rider Foundation and Plastic-Free MKE, it is assumed that the pledge checklist includes required criteria.

Surf Rider's Ocean Friendly Restaurant campaign and Plastic-Free MKE's Lake Friendly campaign have strong branding and clear identities which are crucial to any successful campaign. Both tackle big ideas with materials designed with the intention to initiate change across their target audience. British advertising tycoon, David Ogilvy, is quoted as saying "unless your campaign contains a big idea, it will pass like ships in the night" (Wheeler, 2013, p. 182).

I will use these successful campaigns as an inspiration for my campaign. My campaign will imitate the high value they placed on design in order to reach my target audience of Ames restaurants. To elevate content retention, the big idea will be paired with color, layout, and typeface decisions that will ensure each item is understood and encourages viewers to think about their daily waste production. Understanding information is not enough to change behavior, however, so for my campaign, I also incorporated theory. I considered the Theory of Planned Behavior (TPB) to develop focus group questions to help me learn what Ames' restaurants and businesses specifically would need from a campaign. I also considered the Elaboration Likelihood Model (ELM) as I created materials. Both theories will be discussed in the following sections.

Initiating Behavior Change

Before trying to change an individual's or restaurant's behavior and subsequent action through campaign materials, we must first understand the factors that lead one to behavior change. For this we look at a behavior change theory: the Theory of Planned Behavior (TPB). The TPB, first presented by Icek Ajzen, proposes that one's attitude towards a behavior, subjective norms, and perceived behavioral control shape behavioral intention and subsequent behaviors. The TPB runs on the assumption that human beings "are rational and use a variety of information when making a decision to act" (Ajzen, 1991, p. 191). The TPB is used to identify the social and behavioral factors (attitude, subjective norms, and perceived behavioral control) that predict the intent to perform a variety of behaviors, including sustainability-related behaviors (Ajzen, 1991).

Whether it be energy conservation, sustainable alternatives for everyday products, or sustainable consumption and purchase intentions, the TPB model has been employed to research pro-environmental and sustainable behaviors in the past. In a 2018 study conducted in Shanghai, China, researchers used the TPB to determine whether there was a positive or negative relationship between sustainable consumption and consumers' purchase intention through the lens of China's Double-11 shopping festival (the Chinese equivalent to Black Friday). The survey utilized the TPB factors of attitude, subjective norms, and perceived behavioral control in relation to Double-11 attendance and consumption. It was concluded that due to the high-level of air pollution produced at the event, consumers had negative associations toward the shopping festival (Yang et al., 2018).

In a 2013 study focused on the restaurant industry in the United States, Kim et al. (2013) asked students at large Midwestern universities to evaluate their restaurant selections in terms of

eco-friendly practice and found that “subjective norm was the best predictor of behavioral intentions to select an eco-friendly restaurant” and that a participant’s attitude had significant predictability. Conversely, perceived behavioral control was found to be non-significant in its ability to predict behavior (Kim et al., 2013, p. 260).

Although helpful to showing that the TPB can be used to predict sustainable behaviors, the difference between the previous studies and my work lies within the considered behaviors and the respondent demographic. Yang et al. (2018) and Kim et al. (2013) surveyed participants on an individual level to understand behavior change in a consumer context, but in my project I am considering behavior change with a different audience: restaurant managers and owners. The restaurant managers and owners may require substantial amounts of help before changing their behaviors.

Creating Effective Materials by Considering the Elaboration Likelihood Model

For this project, it is important to focus the website and material design on the audience and what they are likely to use. My primary audience is restaurant and business owners, managers, and employees. Another audience segment also considered was the consumers who are serviced at these restaurants and businesses. To develop materials useful to both audience segments, I turned to ELM.

ELM breaks down the path that we choose to take when absorbing information. Coined in the late-1970’s by college roommates Richard Petty and John Cacioppo (Petty & Brinol, 2011), the theory differentiates two separate processing routes that people take when they are presented with a persuasion attempt: central and peripheral. There are specific processes of change that operate along the “elaboration continuum” (low or high degree of thought). ELM factors in an individual’s level of motivation and ability. When ability and motivation are higher,

then the elaboration of information is also likely to be high; these individuals will take the central route and resulting attitude change tends to be more stable. In contrast, when motivation and ability are low, the chances of someone effortfully processing the information is low; these individuals are the ones who take the peripheral route. An audience member's level of distraction, prior knowledge, and ease of message comprehension are all factored into ability. If an audience member is tired, stressed, preoccupied or believes the message to be difficult to grasp, they will either choose the peripheral route, or ignore the message altogether. People who process information peripherally can still undergo attitude change, though the change tends to be less long-lasting.

While the routes can function separately, it is also likely for audience members to process information using both routes. The placement of a person's ELM factors (motivation and ability) along the "elaboration continuum" will vary, just as individuals within an audience segment will always remain distinct and unique in their knowledge, beliefs, and emotions. In addition, factors that might be considered heuristic cues could also enable deeper processing: Using functional and eye-catching designs can motivate the audience to look at the materials for a longer period, increasing the likelihood of information-processing.

Research shows ELM matters to campaigns like mine. Of interest, a 2018 study utilized ELM to investigate the dynamics of online persuasion to determine whether website design contributed to the participant's involvement specifically with the Keystone XL pipeline and whether or not their beliefs regarding the issue changed. Four-hundred and three completed survey responses were gathered across Canada and the United States (77.7% had a college education or higher). Next, after browsing the Keystone XL oil pipeline website, participants were asked to complete a survey about the website's "argument quality, image appeal,

navigation design, social presence, and connectedness” (Cyr et al., 2018, p. 809). These factors were chosen by researchers after reviewing previous studies that researched online persuasion and website design; argument quality being a cue for the central route, and “image appeal, navigation design, social presence, and connectedness” (Cyr et al., 2018, p. 809). being peripheral cues. Participants were then asked again about their involvement and attitudes related to the Keystone XL pipeline to determine their potential change . It was found that argument quality, “image appeal, navigation design, and connectedness” (Cyr et al., 2018, p. 809) all had a positive influence on involvement and that if respondents were more involved with the Keystone XL pipeline, that would later positively change the respondent's attitude (Cyr et al., 2018).

For the materials I created, I believe that generally restaurant owners and consumer who care about sustainability will utilize the central route, and those who are less interested in sustainability are likely to take the peripheral. It’s also crucial to create materials that cater to an individualistic audience. Each viewer is bound to have their own rationale and reasons for the way they process information. Materials were created for people likely to use both processing routes.

Materials were created for individuals who take the peripheral route such as stickers, table-top advertisements, etc. These resources were developed to emphasize the peripheral cues that Cyr et al. (2018) found positively influenced involvement (image appeal, navigation design). The branding and aesthetic of the presented materials could motivate viewers to be persuaded to the value in the sustainability campaign, and to form attitudes more supportive of alternatives to Styrofoam.

Individuals who take the central will be more involved in the dissemination of the messages regarding packaging’s environmental effects. For them, the materials created included:

1) a password protected communication forum where users are given the chance to discuss the transition towards sustainable packaging solutions and other industry specific topics, 2) contact lists for restaurants, Ames and ISU sustainable leaders, and sustainable packaging providers, 3) links to scientific research on Styrofoam waste effects as well as the benefits of transitioning, 4) a detailed infographic on transitioning away from Styrofoam in Ames, Iowa, 5) testimonials for Ames businesses and restaurants who have fully transitioned away from Styrofoam, and 6) all developed marketing materials related to the developed campaign.

Best Practices for Designing in Sustainability Contexts

Given how important peripheral cues will be to this campaign, the campaign's brand and logo will be especially important. A good place to start when designing any logo is reviewing the two previously mentioned campaigns working towards a similar goal to see tangible examples of what is worked and what has not. The two campaigns reviewed were Surfrider's Ocean Friendly Restaurant Program and Plastic-Free MKE. Surfrider's icon includes a fork, knife, and waves and the color blue is used. Plastic-Free MKE's icon is also blue and includes a sun, wave, and Milwaukee's skyline as graphic elements. While waves literally represent waterways around us, the connotations we attach to symbols beyond the literal will differ between audiences through social and cultural experiences (Davis & Hunt, 2017). Some audience members can further interpret waves to represent freedom or transportation of energy or things. The color blue within design might be interpreted differently by different audiences, but common interpretations from western culture include clean, responsible, and calm. This works for their campaign audiences because both Surfrider and Plastic-Free MKE centralize their goals and mission around keeping plastics out of waterways (transportation of waste out of waterways). The color blue and wave symbols work well for logos, programs, and campaigns that are created for cities and states

surrounded with water and have a broader range of focus than my proposed campaign. For a campaign to be effective in Ames, the design must be more applicable to Ames' audience and surrounding environment, but it must also be interpreted as eco-friendly.

The use of color or a combination of colors can be used to symbolize and convey a message or arouse certain feelings and emotions. It's critical to have an understanding of what color(s) signify so that your design's color aligns with the message or emotions of the design as a whole (Wong, 1997). Evidence for color being especially important comes from a 2020 study, where researchers Ranaweera and Wasala examined how the colors in a brand's logo "evoke consumer perception about a retailer's eco-friendliness" (Ranaweera & Wasala, 2020, p. 129). Research suggests that green emits balance and harmony; it's also attached to comfort, cheer, and good health. Red on the other hand evokes intense, angry, and violent emotions and is considered to have a weakly linked to eco-friendliness. Data was gathered in two experiments; 166 participants were asked to rank two logos (same design, one red, one green) on a seven-point Likert scale ranging from 1 = not very eco-friendly to 7 = very eco-friendly. All participants were from the United States; so, while the following results are relevant for this projects application, it's important to note that the interpretation of a color's message will vary depending on social and cultural contexts. The results showed that the using the color green gave the impression that businesses are more eco-friendly, while red gives off the impression of low eco-friendliness within a business. This combined with literature linking the color and the environment make green the popular choice when designing for sustainable and pro-environmental efforts. (Ranaweera & Wasala, 2020) This suggests that color should be used as a marketing tool when designing materials that are eco-friendly.

So, the designed materials should be green, now what? To take it a step further, information was gathered about eco-friendly color within design. A study performed by Pancer et al. (2017) delved into additional pro-environmental cues in the form of color and labeling. Three studies were conducted to analyze the function of color and label as signals for eco-friendliness. Like Ranaweera and Wasala (2020), the study again reaffirmed that green-colored products are publicly perceived as more eco-friendly. This study used three product designs (one purple, one green, and one black and white). Moreover, the products that used environmentally friendly labelling were also recognized as more environmentally conscious than their counterparts (a non-eco-logo, and no logo). This study also noted “that the color green and eco-labels independently function as signals of environmental friendliness” (Pancer et al., 2017, p. 170). This further suggests that eco-friendly logos are positively perceived when the audience views the color green and an eco-friendly label.

In Keramitsoglou et al. (2020), researchers examined environmental logos for factors beyond color from all around the world and discovered the following relevant insights: 1) most are round and generate positive emotion, 2) the common components pictured in the designs were “birds, leaves, sun, and the globe” (Keramitsoglou et al., 2020, p. 1210), 3) shades of green, white, and blue pass on ecological assurance across societies and 4) “absolute abstraction in the design of some logos makes it hard for the viewer to grasp their meaning” (Keramitsoglou et al., 2020, p. 1210). This study had professional designers create 60 logos for Renewable Energy Sources (a sustainable effort) and participants evaluated the logos on a scale from 1 to 6. The winning logo was comprised of a green circle with leaves attached to a sun and crescent moon (Keramitsoglou et al., 2020).

The research I reviewed demonstrates that green is a popular and respected choice when it comes to designing eco-friendly materials (Ranaweera & Wasala, 2020; Pancer et al., 2017; Keramitsoglou et al., 2020). Because of this, my design will emphasize green. The visual association one has with a leaf within a design guides the audience towards a pro-environmental interpretation of the design, therefore, I will also incorporate a leaf. My aim is for consumers to view my public's evaluation of our marketing materials (logo, website, flyer, etc.) and 1) associate the materials provided with eco-friendliness and sustainability and 2) desire to learn more about the information the materials are providing them. My materials will make it clear that the goal of the materials is to act and reduce the amount of Styrofoam in the Ames waste stream.

Campaign Setting: Ames, Iowa

Ames, Iowa makes an interesting choice for my campaign for several reasons. For one, a campaign is needed here because policy changes are unlikely to happen. Unlike many cities, states, and countries that have bans in place that decrease or completely diminish plastic and/or Styrofoam use, in 2017, a piece of legislation preventing Iowa cities or counties from banning plastic bags was signed by Iowa Governor Terry Branstad (Rood, 2017). While the war against plastics in Iowa cities is currently halted, Styrofoam brings about a potentially more difficult challenge. With policy changes unlikely to happen, this highlights why a campaign is needed. Ames restaurant owners, business managers, and residents must start the conversation about alternative-packaging amongst themselves to give reason to those within the community that may not feel strongly about sustainable practice.

Ames is also a unique place to do a campaign because of two additional reasons. An unfortunate truth is that many of the states, cities, and localities have been able to successfully ban single-use plastics and Styrofoam because they are situated on a coast where Styrofoam

pollution is “prevalent in the waterways and more people [see] this pollution first-hand on a daily basis” (Chandra et al., 2016, p. 34). Iowa is landlocked, so the waste that gathers in waterways, rivers, lakes, and oceans around the country is not something that is a part of our daily viewing consumption. A campaign could help bring visibility to the problem; When the shredded Styrofoam materials from The Arnold O Chantland Resource Recovery Plant (RRP) is given to the landfill, its lightweight make-up can be blown around and end up in the surrounding ecosystems where its only option is to either wreak havoc as a carcinogen to humans and animals or break down over the span of roughly 500 years.

Because of Ames’ unique approach to recycling, many community members are not familiar with the system, and therefore do not know how much of their solid waste is handled and ultimately where it ends up. This leads to residents to believe just throwing everything we use away is an acceptable norm. Merry Rankin, director of sustainability at Iowa State and sustainability coordinator for the City of Ames, believes that since Ames’ and Iowa State’s recycling process is different from what residents are used to, it causes thorough confusion (LaViolette, 2020).

The process of waste reduction in Ames, Iowa is unique in the way it separates and utilizes the garbage/refuse materials received from their own and surrounding communities. All garbage/refuse that is received from Ames and surrounding cities by The RRP is separated into three distinct groups. The ferrous and non-ferrous metals are removed by magnets and then sold to scrap dealers for recycling. After metals are extracted, the remaining garbage/refuse is shredded by machines and falls into one of two categories: burnable and non-burnable material (City of Ames, n.d.). The burnable portion of the garbage/refuse is piped to the City’s power plant in the form of supplemental fuel in order to generate electricity; the non-burnable material

is sent to the landfill. Styrofoam has proven to be extremely difficult to properly recycle, especially after it has been used by a restaurant or consumer as food packaging; “recent evidence further indicates it may also be carcinogenic” (Ivanova, 2019). While the laborious process of recycling Styrofoam is possible, it would take the effort of the public to thoroughly clean the container. New York City banned Styrofoam in 2017 and Garcia (2017) found the sanitation department believed polystyrene could not be recycled in any economically feasible or environmentally effective manner (Ivanova, 2019).

Because Ames in particular has a unique approach to solid waste management and recycling, this campaign will be particular in the methodological perspective that it employs to persuade the audience. One of the big challenges is that restaurants may want to change their habits, but owners and managers do not know how or where to begin, that is where this campaign comes into play.

FOCUS GROUPS

To understand more about the unique challenges to Ames' restaurants, I wrote a focus group protocol (see Appendix 1) and received IRB approval (see Appendix 2). I then recruited restaurant or food service managers to participate in a focus group. In order to recruit participants, I sent several rounds of Facebook messages and emails to restaurants around the Ames community. To further increase participation numbers, in-person visits were made to those who didn't respond to the messages. All five participants attended a single online focus group. Though the number of participants was small (due to reopening after the COVID-19 pandemic), these business owners and managers provided rich responses. I facilitated the focus group, and Dr. Laura Witzling was also in attendance to ensure IRB protocol was followed and to assist in the matter of any technical difficulties. Table 1 summarizes the participants. I then transcribed the focus groups and coded the content for themes. My evaluation of the themes also utilized TPB, by specifically keeping an eye out for themes in relation to TPB factors (attitudes, subjective norms, and perceived behavioral control). This helped to determine which areas our primary audience believed would require the most attention.

Table 1. Focus Group Participants

Participant Pseudonym	Type of Business	Types of Known Packaging Used
Anna	Grocery Store	Compostables Cardboard Plastics
Brandyn	Restaurant	Styrofoam Cardboard
Carly	Restaurant	Styrofoam Paper bags Aluminum foil Plastics
Justin	Restaurant	Plastics
Shane	Restaurant	Styrofoam Cardboard Plastics Aluminum Containers

To begin, one theme I observed was that the participants see themselves as helpers. When the participants discussed what drew them to the restaurant industry and what it is that encourages them to continue, they said they enjoyed the opportunity to serve their customers and make them happy. Participants even highlighted the energy that interacting with their customers gives them daily.

“I think just providing food to people, it’s one of our basic needs and so it feels good to be able to do a job where I’m meeting basic needs for people.” - Anna

“I love our customers, I love people, I love serving people.” - Justin

“The biggest thing that I like about the business is that I get to interact with the customers and introduce them to maybe new flavors that they’ve never experienced before.” - Carly

Participants view the general public’s attitude towards sustainability to be high as well as public approval (subjective norms) of said behavior. However, as participants reflected further on the packaging products that they currently use and what’s appealing about them, it was clear that they themselves view the transition as difficult. A common theme for the remainder of the focus group was that participants have a desire for their restaurant or shop to be more sustainable, but that barriers within their current operation stand in the way. Participants emphasized that they would like to transition to the sustainable packaging options on the market, compost more of their kitchen waste, and recycle as much as possible. But perceived behavioral control among participants is low; they agreed that things including cost, function, availability, and storage space are all reasons that they perceive the transition to be difficult to perform.

“Some of our supplies are compostable, so we try to do that where we can, although cost is a barrier for that for certain materials... Alternatives are hard to find that would hold up to moisture. You can certainly pack some things that are dry enough in like a cardboard type of material, but if it’s like a salad - it’s too moist” - Anna

“The reason for the Styrofoam and not [cardboard box] only is the cost. It is also because of its function. Sometimes we want the food to cool down faster, we can punch holes easily in it.” - Brandyn

“Depending on kind of form and function, like what food’s going in it, we’re going to use for certain things for Styrofoam, like soups. For plastics, for lids, for other things... We try to choose them based on food quality, which is going to hold the product best, the longest. And cost as well does come into play quite a bit.” - Shane

“The one thing I will add that is important to us is trying to minimize the lines we have, for storage space and reordering complexity. I’ve always tried to reduce the total number of items. But constantly looking to get away from plastics and foam but having the same constraints as everybody else has like cost.” - Justin

Another finding that reaffirmed the low level of perceived behavioral control previously mentioned, was that when participants were asked about the perceived benefits of transitioning to sustainable packaging options, they proposed another area they would require assistance in. They would require help communicating a sustainable commitment like this to their customers.

Participants also noted that while a customer may care about the environment, many might not want to pay more for their meal, so a restaurant can afford more sustainable packaging options.

“I think our greatest challenge is trying to convince the guests that they’re going to have to pay more. Cause at the end of the day, a case of biodegradable is three to four times more expensive than anything else, ya know. We’re not going to eat that, that cost has to be passed on otherwise it just doesn’t work.” - Shane

“We could have a “committed to sustainable packaging” sticker, or something that lets people know what’s going on without having to think too hard about it is kind of the key, then having an avenue for information if they want to know more.” - Shane

“Maybe a way to let people know that regularly use delivery services, if it’s coming to your house, you don’t need napkins, spoons, forks, plates, and those sorts of things.”
- Carly

Throughout the focus group it became clear that many restaurant owners in Ames are often struggling with the same problems, participants were asked if there was a general line of communication for restaurant owners and managers in Ames could communicate with one another about these problems that may be affecting them. Participants were interested in a more regular grouping of restaurant owners and workers so that they could easily communicate about topics (including packaging).

“There’s some in other states who will share what their successes are or what their challenges have been, that kind of thing, but not locally, that’s a good question.” - Anna

“If we could make a sort of group that would make communication about packaging easier. We could also communicate about other topics.” - Brandyn

“Make something a more regular grouping of restaurant owners and workers where they can discuss things like this. I think that would be fantastic.” - Justin

Offered as a potential remedy to the previously mentioned barriers, it was brought to my attention that the participants would gladly receive help from outside sources. They agreed that at the end of the workday, they lack the time or energy to research alternatives while also running a successful operation; they would appreciate something informative and convenient to access. If the knowledge and materials were readily available and at their disposal, it's believed that many barriers could then be overcome, increasing the likelihood of a transition.

“I think that some of these things need bigger forces behind them in order to make them work, rather than leaving people to their own devices.” - Justin

“I don't know how many of us have time to [go online] and do our own research.”
- Brandyn

“We don't have a lot of time to do things, to have a central place for us as restaurant owners to get information about what resources are out there for us to help minimize our footprint.” – Carly

CAMPAIGN STRATEGY AND MATERIALS

After completing the focus group and narrowing down themes, it was time to decide what campaign materials would be developed, and the function that they would serve. The previous campaigns mentioned, Surf Rider's Ocean Friendly Restaurant Program (Figure 1) and Plastic-Free: MKE (Figure 2) and were reviewed again in order to be reminded of what's worked for campaigns with similar goals to ours, as well as best practices of graphic design for environmental entities were followed. This generated a baseline group of materials and aesthetic to build upon and modify to best serve the restaurants and businesses within the Ames community.



Figure 1. Surf Rider's Logo



Figure 2. Plastic Free MKE's Logo

Logo Development

I began by sketching out ideas that incorporated food ware packaging, leaves, circles, arrows, and Iowa's outline in various forms (Appendix 3). I narrowed down the symbols I wanted to be included in the final design to 1) a type of packaging to signal the topic of my campaign and 2) a leaf to convey that the campaign is sustainable and eco-friendly. I asked friends and family members what they pictured when they think about restaurant to-go packaging and got the overwhelming response of the Styrofoam hinged containers that we are all too familiar with. Once I knew more about the practical pieces of the design it was easier to

narrow down which sketch (Figure 3) I could redesign and use. I chose Figure 4 to be the logo for this campaign. I used Adobe Illustrator to create a recreation of the sketched logo, then added a circle element to represent the balance within the environment. As I mentioned previously, while other campaigns used blue to signal its viewers to steer away from Styrofoam and plastic pollution, green was used. Green has positive environmental associations and is more representative of Ames' rural landscape, not to mention the City of Ames logo is also primarily made of the color green, furthering the connection between campaign viewers and the Ames community.

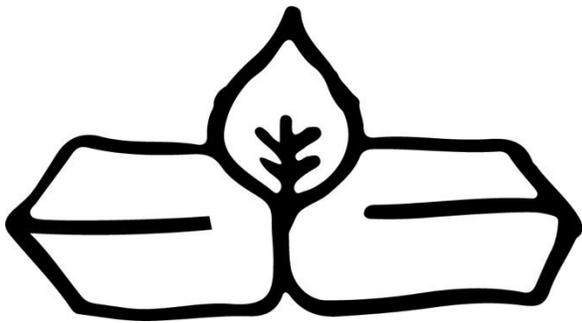


Figure 3. Logo Sketch



Figure 4. Campaign Logo

Campaign Name

The next step in my campaign and material development was to think of a name. I wanted the campaign to show a green, sustainable, and eco-friendly initiative. The search for a name consisted of several web generators, thesaurus searches for environmentally friendly, and head scratching. Finally, as I was scrolling through City of Ames Instagram account and that's when I got the idea for EcoAmes (Figure 5). I came across a post from The City of Ames about their virtual and monthly EcoChats. In this series of monthly meetings, discussions feature "local

experts talking about topics related to sustainability” (Ames Public Library, 2021). Not only will the prefix eco- create a fast connection for audience members between our campaign and the environment, but because this is an Ames based campaign, the more localized the branding is to the City of Ames, the more the audience will feel an affinity towards the campaign’s goals.

Tagline

The last piece of the final development of the brand was a tagline. I wanted to think of something that could inspire action for any member of the community. My focus group results showed that although restaurants may want to change, their consumers must also match this interest so that restaurant owners aren’t swallowing the monetary costs of the alternative packaging options. “Lessen your waste, better your community” was chosen (Figure 5) because from early in this project’s development, when others asked me about the project’s goals, my response stayed consistent and focused on reducing Ames Styrofoam waste and in turn bettering our community. The tagline shows a sense of community and togetherness while staying focused on the topic of reducing Styrofoam waste.



Figure 5. Logo with Tagline

Materials

Immediately after the conclusion of the focus group it was evident that restaurant owners and managers are looking for something that is both easily accessible and comprehensive. The

internet is one of the fastest ways to provide information to a large audience. An eclectic website, infographic, stickers, flyers, table-top advertisements were created with the purpose of being a resource for not only my primary audience (restaurant owners and managers) but could be beneficial to the entire Ames community. Two broad focus group themes led me to choosing these materials; the fact that restaurants do not have the time or resources to do the research required and that they need help learning about and communicating this initiative with their customers. Throughout the materials, it was important to maintain focus on the Ames community and EcoAmes' brand. Included throughout the materials, I included images of Ames, a vector rendering of the Ames Resource Recovery Center, and Iowa's state borders.

Table-Top Advertisements:

A common advertisement that we see in the industry is table-top advertisements. When customers come to dine-in at their restaurant or business, they typically are seated at a bar or table to wait for service from restaurant employees. Even once they order, they remain seated, waiting for their food and drinks. During this period customers observe their surroundings, one of which is the advertisements sitting on the table. This advertisement (Figure 6) has the phrase "This restaurant is committed to sustainable packaging choices" partnered with rationale for why this matters and a QR code to learn more about the EcoAmes campaign. This table-top advertisement will benefit both audience segments by serving those who take the peripheral route, informing viewers with quick cues that the restaurant values sustainability; for members of the audience who take the central route and are interested in learning more, there is a QR code for them to scan that will bring

them directly to the EcoAmes website where they can find additional information about the program.



Figure 6. Table-top Advertisement

Window Clings and Stickers:

Other common advertising strategies include window clings for restaurants and businesses to place outside their front doors and stickers so that any member of our

audience can show their support. These designs (Figures 7 and 8) are made up of the same designs so that the EcoAmes brand remains consistently recognizable and make the sustainable behavior more visible. This can help signal a social norm in the community. In addition, window clings have become a common feature of any business, whether as a reminder to wear your mask, social distance, announce that they are hiring or to show support for local programs. Stickers can be found anywhere, laptops, water bottles, street posts, bus benches, community message boards, vehicle bumpers, etc.



Figure 7. Circular Window Cling and Sticker Options



Figure 8. Window Cling and Sticker Option with Tagline

Infographic:

An infographic was created so that all audience segments had access to a one-stop sustainable guide for Ames restaurants and consumers. The infographic begins with a review of Ames waste processes so that the audience can learn where their waste is going with the intention of expanding user knowledge (Figure 9). The next sections provide options for alternative sustainable packaging for restaurants (Figure 10) and include a tool to help restaurants evaluate their operations and determine the best packaging option for them (Figure 11), increasing their self-efficacy in regard to altering their current operations. Next, a map of the United States shows where single-use polystyrene (EPS) food service ware bans are in effect and where the previously mentioned campaigns are used, and to what extent (Figure 12). This map will motivate the audience by showing a national interest and urgency in reducing food service ware waste. Then, I dive into the reasons that reducing Styrofoam waste in Ames may be unique (Figure 13). The infographic concludes with steps to take “inside your home or inside your restaurant” so that all audience members are left with a list of tangible steps to they can take within their business or household, with the intention of furthering growth of self-efficacy and ability within a viewer. This sustainable guide (Figures 9-15) will serve as a digital resource for our audience to learn the facts necessary to make educated decisions about their own packaging uses. The figures below have been cropped between sections for the sake of paper formatting, however the online version will be a single document.



EcoAmes

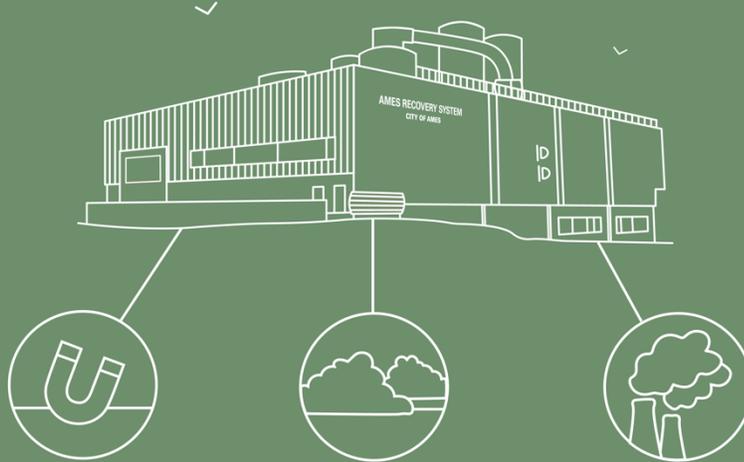
A SUSTAINABLE GUIDE FOR AMES RESTAURANTS & CONSUMERS

Where Does Your Waste Go?

Learn more about Ames waste disposal process here, and how you can make choices that reduce the amount of waste you're sending to landfills, in turn bettering the Ames community!

AMES GARBAGE/REFUSE

GARBAGE/REFUSE FROM SURROUNDING COMMUNITIES



Both **ferrous and non-ferrous metals** are extracted by large magnets and are then sold to a scrap dealer for recycling.

EXAMPLE: aluminum, copper, brass

After being shredded by machines, the **non-burnable** portion of the garbage is sent to the landfill in Boone County (Story County doesn't have one).

EXAMPLE: Styrofoam

After being shredded by machines, the **burnable** portion of the garbage is piped to the City of Ames power plant for supplemental fuel.

EXAMPLE: everything not previously removed

GIVEN TO A SCRAP DEALER TO BE RECYCLED

SENT TO THE LANDFILL

BURNED FOR REFUSE DERIVED FUEL (RDF)

To learn more about Ames unique reduction strategy, refuse derived fuel, and where your waste ends up. Reach out to Ames RRP at (515)-239-5137.



Figure 9. Infographic Part 1



Figure 10. Infographic Part 2



Figure 11. Infographic Part 3

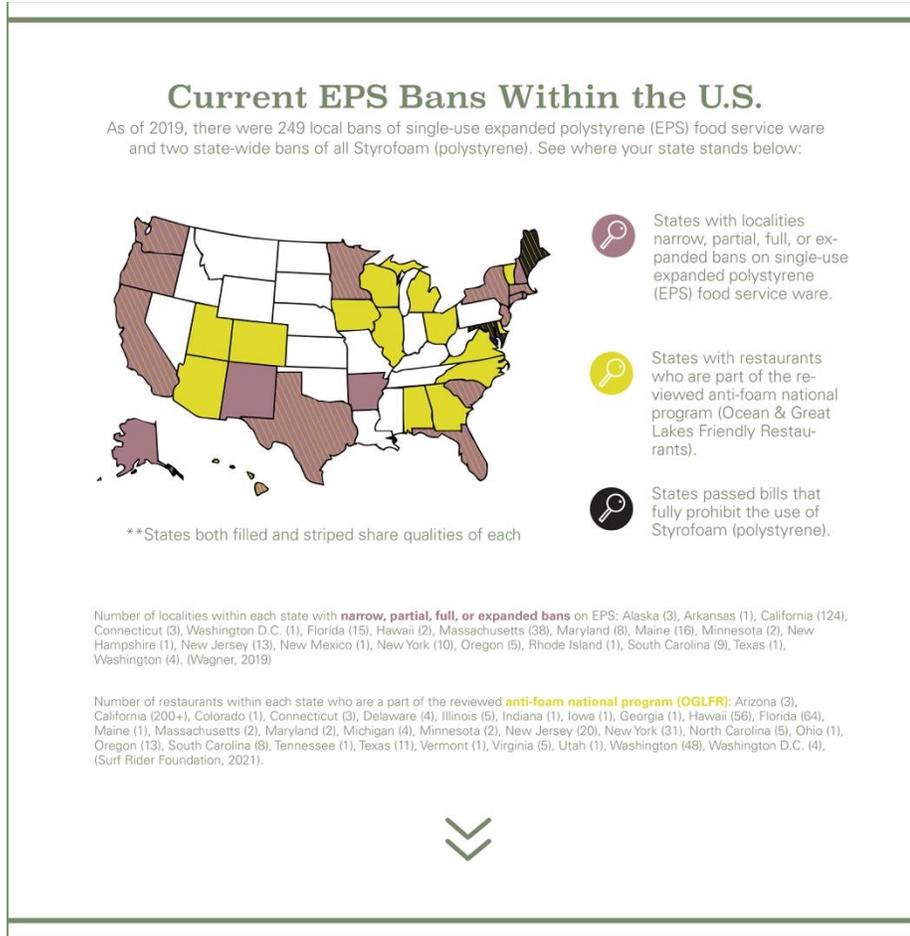


Figure 12. Infographic Part 4

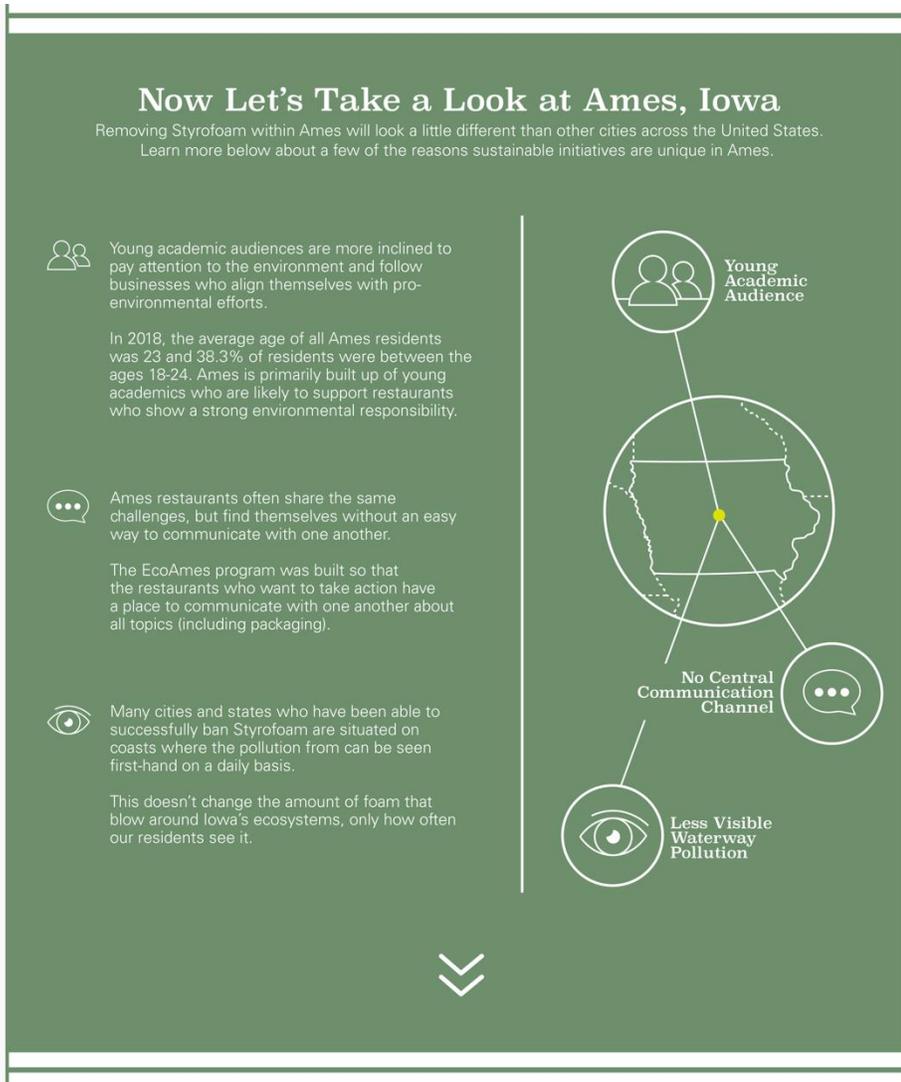


Figure 13. Infographic Part 5

What Now?

Nothing can be expected to change without action from both individual consumers, business owners or managers, and Ames city officials.

<p> INSIDE YOUR RESTAURANT</p> <ul style="list-style-type: none"> ✔ Choose eco-friendly alternatives when possible. ✔ Communicate with restaurants who have transitioned away from Styrofoam packaging to see what alternatives they used and what worked for them. ✔ Reach out to sustainability directors within Ames. ✔ Encourage Ames City Officials to increase retailer and consumer education about the negative impacts of Styrofoam food packaging. 	<p> INSIDE YOUR HOME</p> <ul style="list-style-type: none"> ✔ Bring your own takeaway containers to restaurants. ✔ Refuse Styrofoam cups when possible. ✔ Choose paper plates or bowls instead of Styrofoam. ✔ Avoid Styrofoam egg cartons. ✔ When you do bring home Styrofoam, check if it can be recycled and follow correct protocols. ✔ Support Ames restaurants and businesses using sustainable packaging alternatives.
--	---

 **LESSEN YOUR WASTE, BETTER YOUR COMMUNITY.**

Figure 14. Infographic Part 6



Figure 15. Infographic Part 7

Website:

The information included within the EcoAmes website design was developed with the previously mentioned theory, ELM, in mind as well as suggestions gathered during the focus group. A review was conducted on the websites of both the Surfrider's Ocean Friendly Restaurant Program and Plastic-Free MKE. After creating a list of content that's included on industry standard websites, a second list was created of content that is not included on said websites that would set EcoAmes apart from other campaigns around the United States. The front-end of the website available to the public will include: Home (Figure 16 and 17), Recent News (Figure 18), Do Your Part, Quick Facts (Figure 19), and

FAQ in the website's table of contents (Figure 20). These front-end tabs will be available to the public and will serve to provide basic information about EcoAmes, Ames waste reduction methods, recent articles about Ames current waste, ways to be reduce Styrofoam use and be more sustainable, etc., and the infographic (Figures 9-15). One of the key differences between the EcoAmes website and the other campaigns' websites is a back-end that restaurants would have password protected access to.



The Solution is Less Pollution

Every year 3 million tons of Styrofoam waste is produced by the food industry alone.

[Learn more](#) about restaurant packaging waste, where Ames waste goes, and find out what you can do to reduce the amount of Styrofoam in Iowa landfills by supporting local businesses and reducing your own environmental impact.



Did You Know?

Styrofoam can not be effectively recycled without being both viable to transport and contain zero contamination. This would require you to wipe and wash your container before throwing them away!

Solution: Support the restaurant and businesses in your community who use sustainable alternatives to Styrofoam packaging.

Wondering which Ames restaurants and businesses are doing their part?

Figure 16. Homepage Part 1

 Restaurant 1 Committed to sustainable alternatives since 02/04/2021	 Restaurant 2 Committed to sustainable alternatives since 03/02/2021	 Restaurant 3 Committed to sustainable alternatives since 03/12/2021
 Restaurant 4 Committed to sustainable alternatives since 03/26/2021	 Restaurant 5 Committed to sustainable alternatives since 04/28/2021	 Restaurant 6 Committed to sustainable alternatives since 05/22/2021

 **Sign up for Notifications**

Sign up to be alerted when a restaurant commits to lessen their waste and better the Ames community.

Don't worry, we won't send you too much content.

Subscribe

By submitting your information, you are granting us permission to email you. You may unsubscribe at any time.

Home Learn Do Your Part Quick Facts FAQ [RESTAURANT LOGIN](#)



Address
Ames, IA, 50010 - 50014, US
mjmccom1.iastate.edu

About EcoAmes
EcoAmes was created by Maddi McComber for the completion of a graduate degree at Iowa State University. This site is to serve as example content.

[Sitemap](#) [Get our Notifications](#)

Figure 17. Homepage Part 2



[RESTAURANT LOGIN](#)
🔍
☰

Recent News

In a hurry? Download our [infographic!](#)



World Economic Forum:
Lacy, P., & Spindler, W. (2019, January 15)

[Sustainable packaging is good for profits as well as the planet](#)



CBS News:
Ivanova, I. (2019, May 01)

[States declare war on Styrofoam - "People think it breaks down"](#)



Iowa State Daily:
LaViolette, M., Dally, S. G., & Dally, G. T. (2020, April 07)

[Recycling process in Ames focuses on reducing waste](#)



AG Funder News:
Stine, L. (2019, August 14)

[25 startups innovating with sustainable packaging solutions](#)



Simon Fraser University:
O'Neil, S. (2019)

[How will restaurants adapt and succeed in a world without plastics?](#)



Global Banking and Finance:
Young, G. (2019, June 1)

[Consumer trends show its no longer optional, eco-friendly packaging is now a 'must' for brands around the globe](#)

[More Articles](#)

[Home](#)
[Learn](#)
[Do Your Part](#)
[Quick Facts](#)
[FAQ](#)

[RESTAURANT LOGIN](#)



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Figure 18. Recent News Page

EcoAmes
LESSEN YOUR WASTE. BETTER YOUR COMMUNITY

RESTAURANT LOGIN

Quick Facts

Don't have the time to research...

- How Ames Waste Reduction System works?
- What the Resource Recovery Program does with your garbage?
- What to look for in alternative packaging options?
- How to evaluate your business' packaging needs?
- How to decrease your individual environmental impact?
- How to decrease your business' environmental impact?

Find out all this and more in the infographic below!

Looking for specific information on a single topic? Check out our **additional downloads**.

Download this Infographic Additional Downloads

EcoAmes
A SUSTAINABLE GUIDE FOR AMES RESTAURANTS & CONSUMERS

Where Does Your Waste Go?

Figure 19. Do Your Part, Quick Facts Page. This webpage displays the infographic shown previously in Figures 9-15.

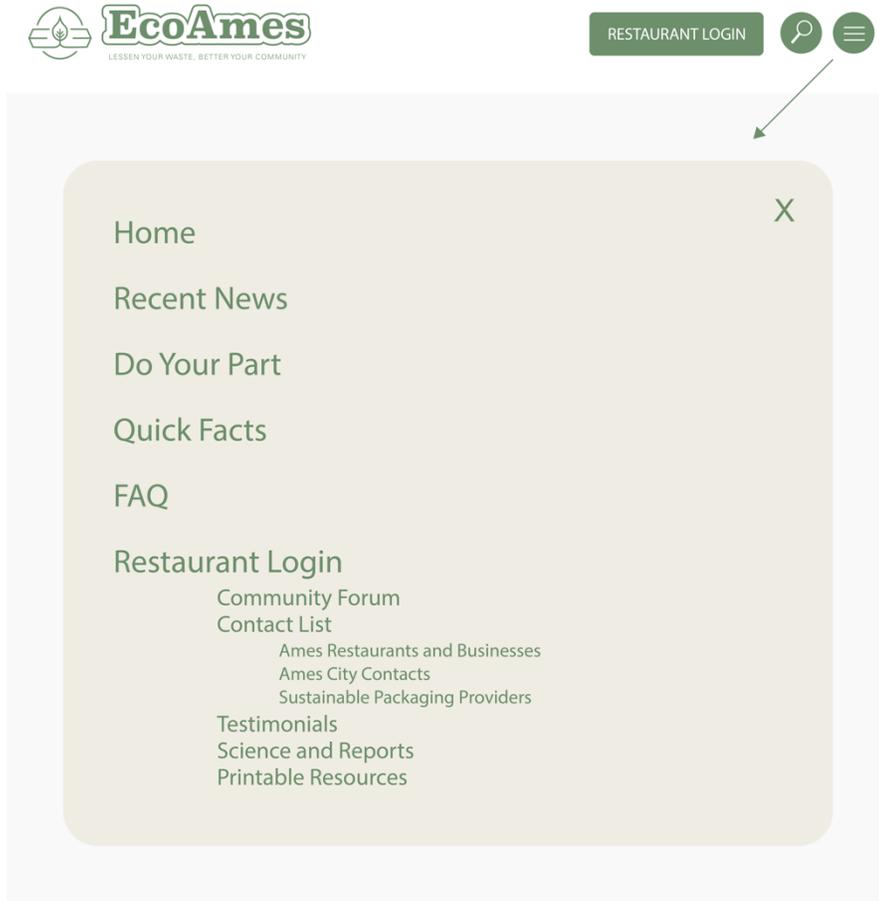


Figure 20. Table of Contents Page

The password protected portion of the website would incentivize restaurants to buy-in to the EcoAmes campaign. It would serve as a hub for restaurants to view more in-depth information including: 1) a food-industry based community forum giving restaurants the opportunity to communicate with one another about successes and failures with sustainable packaging implementation and other shared challenges and initiatives (not shown), 2) contact lists for sustainable packaging providers who service the Ames area, City of Ames and ISU officials who work on sustainable efforts across community, and Ames restaurants and businesses (Figure 21), 3) testimonials from restaurants who have

successfully transitioned away from Styrofoam packaging (not shown), 4) published research and scientific reports on the harmful effects of Styrofoam, the environmental benefits of transitioning fully, and levels of consumer support for businesses practicing sustainable operations (not shown), and 5) downloadable marketing materials for use at their establishments (Figures 22-23).

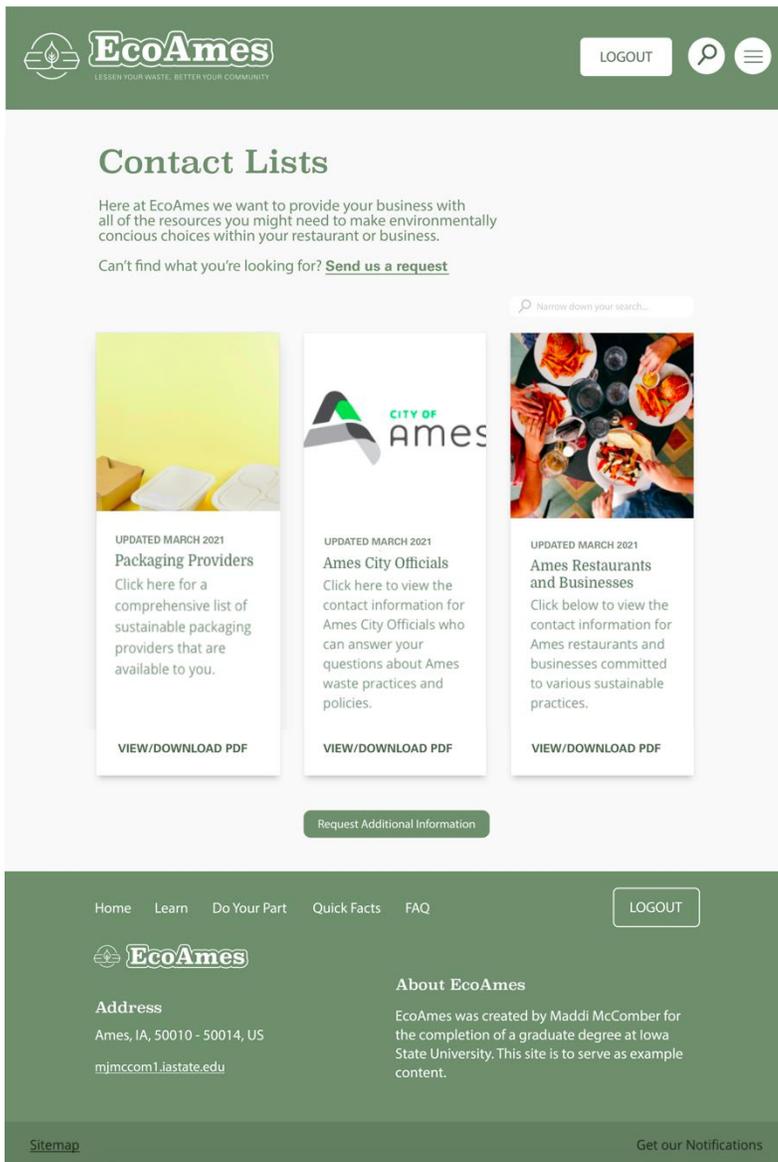


Figure 21. Contact Lists Page

LOGOUT

Printable Resources

Whether you are trying to communicate your sustainable initiatives to your employees or customers there's something here for you.

Everything below is available for you to view or download.

Infographic: A Sustainable Guide for Ames Restaurants and Consumers

[View](#)

[Download](#)

Table Tops

[View](#)

[Download](#)



This Restaurant Is Committed To Sustainable Packaging Choices.

What does this mean?

This restaurant uses sustainable packaging options that are less damaging to the environment than disposable food containers. By limiting their Styrofoam usage, they are helping to reduce the amount in Ames water streams and Boone County landfills.



Ames Restaurants
EcoAmes was created by Matt McCumber for the completion of a graduate degree at Iowa State University. This resource is for non-profit use only.
Visit our website for additional information: www.ecoames.org



Stickers

[View](#)

[Download](#)

Figure 22. Marketing Materials Page Part 1



Styrofoam Fact or Fiction PDF [View](#) [Download](#)

Fact or Fiction?

The Impact of Styrofoam and Food Containers

Styrofoam can be recycled.	Styrofoam can not be effectively recycled without being both viable to transport and contain zero contamination. This would require consumers wipe and wash their containers before throwing them away. Possible? Yes. Plausible? Not likely.
Sustainable alternative packaging is too expensive.	As it turns out, alternatives for Styrofoam food containers are not as large of an increase in cost as you may think. Sustainable and eco-friendly alternatives average out to be just \$0.01 - \$0.05 more expensive per unit, some of which are produced right here in the United States.
Customers don't care about their environmental impact.	- Actually, a survey conducted in 2017 found that 88% of respondents are more loyal to companies that support environmental issues. Customers continue to become better informed and more aware of the environmental impact of all consumer products!
Restaurants aren't the ones to blame.	You're absolutely right! Styrofoam waste does not exclusively come from the restaurant industry. However, each year 3 million tons of styrofoam are produced by the food service industry alone making the industry one of leading causes of Styrofoam production and pollution.

[Request Additional Printables](#)

[Home](#) [Learn](#) [Do Your Part](#) [Quick Facts](#) [FAQ](#) [LOGOUT](#)



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mjmccom1.iastate.edu

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Figure 23. Marketing Materials Page Part 2

RECOMMENDATIONS

Styrofoam's negative environmental impact is no secret, and there are a multitude of ways to address the problem. Sustainable campaigns are just one of the ways to affect change within our state's borders. The seemingly endless amount of Styrofoam contaminating our ecosystems is a symptom of the production and further use of Styrofoam packaging products.

By providing the information and materials needed to restaurants (one of the largest producers of Styrofoam waste), the development and implementation of the EcoAmes campaign would reduce the number of pollutants in Iowa's waste stream. This campaign focuses solely on decreasing Styrofoam use and waste from the restaurant industry; it does not dive in the realm of other environmental pollutants that are also produced by this industry: food waste, plastics, glass, aluminum, etc. It is recommended that based upon acceptance and success of the EcoAmes campaign that further expansions are made, specifically focusing on these other common pollutants.

There are also practical recommendations for additional research to be conducted that would expand and legitimize EcoAmes' campaign goals. One limitation of the research was the number of restaurants who were willing and able to participate during the COVID-19 pandemic and the following shut down of restaurant operations and reopening. Due to the nationwide shutdown of restaurants around the country, during the time frame that this study was conducted, most of the contacted restaurants responded that they were not available due to the attention that the shutdown and reopening of their restaurant locations required. If additional research included participation from more restaurants within the community, it could reaffirm the focus group results and campaign suggestions, or the additional responses could diversity responses and suggest changes to the current campaign. Furthermore, it's suggested that focus groups are held

with members of the Ames restaurants and businesses around the community who are able and willing to suggest edits to the current campaign materials and offer guidance for additional resources and changes that could benefit the Ames community on a larger scale than this specific project calls for in order to inspire further change in Ames current waste disposal methods within our restaurants and businesses.

Additionally, it is recommended that research be conducted on Ames' consumers in order to determine up-to-date information regarding their purchasing habits in relation to sustainable business practices. Although it's assumed that Ames' consumers would be receptive to a campaign like this in Ames, it can only be proven with accurately conducted research that could gauge campaign participation and support from the customers who support these restaurants.

If community partners were established in Ames, the success and legitimacy of the campaign would increase substantially. The Ames City Council stated that included as one of their 2020 goals is valuing environmental sustainability (City of Ames, 2020). Another source in the City of Ames that holds a large stake of business and policy decisions is the Ames Chamber of Commerce. After thoroughly searching Ames Chamber of Commerce's website there was no mention of sustainable efforts. Their goals for 2021 include talent, economic development, business climate, and infrastructure. It's a missed opportunity that increasing sustainable options in Ames is not a part of their mission, which is: "to provide our members services that strengthen the economic vitality and enhance the quality of life throughout Story County" (Ames Chamber of Commerce, 2020). Going through trusted sources in the community like Ames City Council, Ames Chamber of Commerce, and additional partners such as the Iowa State Department of Sustainability or Story County Conservation, would increase support given from restaurant owners and community members alike who place stake in the city and its programs. This would

allow everyone to rally together throughout Ames, ultimately improving the overall attitude of removing foam from Ames business' operations.

CONCLUSION

In conclusion, Styrofoam waste is harmful to both the natural world and human life. One of the largest producers of Styrofoam waste in the United States is the restaurant industry in the form of expanded polystyrene (EPS) food service ware. This calls for the implementation of sustainable packaging options, and my campaign would take a step in doing this. The TPB was pivotal to helping me understand restaurant owners and managers behavioral intention's, as this theory breaks down predictors of behavior change. Using the TPB predictors as a basis for creating focus group questions helped me draw actionable insights from the focus group comments. I was able to determine that attitude towards transitioning to sustainable packaging was favorable, while perceived behavioral control was low due to a combination of factors including cost, function, availability, and storage space. The focus group results also showed that Ames restaurants are interested in transitioning to sustainable alternatives within their restaurant operation but lack the time and energy to perform the required research to change their current practice. In addition, ELM helped me think about developing materials that would be useful to all campaign audience members, including those who would be likely to process information with effort, and those would likely process information more quickly. Applying concepts from the ELM to my campaign's development resulted in materials that could be beneficial to restaurant owners and consumers alike. The EcoAmes campaign provides a sample of what sustainable packaging campaigns could look like in Midwestern, landlocked communities. Campaigns like EcoAmes are important as they could help restaurants and consumers work together to reduce the amount of Styrofoam used by the food-service industry.

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APPENDIX 1: FOCUS GROUP PROTOCOL

Hello, my name is Maddi McComber. As you may know for completion of my graduate studies, I'm currently making a campaign that will be offered to restaurants to promote the use of sustainable materials in packaging such as take-out food containers in Ames, Iowa.

You received an informed consent form by email. I want to highlight two things from that form.

The first is about protecting your privacy. Although we will not publish your names or any identifying information, in this focus group, participants may be known to each other, and we cannot guarantee that other study participants will keep your participation or the nature of your comments entirely confidential. Nevertheless, we do ask that you respect the confidentiality of other participants in this focus group by not discussing their participation or comments outside of this focus group. We also ask that you participate in a private area where the focus group will not be overheard by others. Please also do not record or take screenshots of this focus group or its participants.

Are there any questions about anything we have covered so far, or the informed consent form?

Great, next I need to obtain each of your consent to participate. Does everyone agree to participate in the focus group and be recorded? The recording will be deleted as soon as a transcription of the group is made.

So, if you have never participated in a focus group before, the idea is that I will ask questions, and as a group you will share perspective about the question. There are no right or wrong answers or opinions, and you should feel free to respond to what others say in a conversational way.

Are there any questions before we begin?

Alright, then let's get into it!

Just to warm up, can you each say your name, your businesses' name, and one thing you love about being in this business?

Great. The first set of questions I have for you are about the packaging products you use to give customers food for take-out or leftovers.

Q1. Reflect for a moment on the packaging products you currently use. (*PAUSE*) What kind of packaging do you use, and what's appealing about it?? (*estimated time: 5 minutes*)

Prompt: What's appealing about it?

Q2: Do you know where the waste from your restaurant goes?

Prompt: What do you know about Ames waste disposal methods?

Q3: Many sustainable packaging options exist, such as recycled cardboard and paper, plant-

based foams, and even packaging made from foods including mushrooms, orange peels, and seaweed. What is your general attitude about these options? (*estimated time: 5 minutes*)

Q4: When considering the benefits of transitioning to more sustainable packaging options, what would be most important to you? (*estimated time: 5 minutes*)

Prompt:

- Making more money
- Improving the environment
- Making a positive impact
- Doing good for the community

Q5: What challenges do you see when it comes to using sustainable options at your restaurant? (*estimated time: 5 minutes*)

Prompt:

- Cost concerns
- Packaging durability
- Convenience/Availability

Q6: Do you perceive sustainable packaging solutions to be important to people in general? Or only some groups of people? (*estimated time: 5 minutes*)

Prompt:

- Demographics
- Age (generational), gender, region (location)

- Psychographics
- Perceived barriers, use of technology/social media, political beliefs, personality/opinions

Q7: Do you think that other restaurants use sustainable packaging? (*estimated time: 5 minutes*)

Q8: How interested are you in transitioning to sustainable packaging options at your restaurant?
(*estimated time: 5 minutes*)

Q9: If you were to make changes with your packaging, are there resources you can think of that could help you? (*estimated time: 5 minutes*)

Q10: Beyond packaging, do you plan to change any of your restaurant's operations as they relate to sustainability in the future? (*estimated time: 5 minutes*)

Q11: What about in the past - have you previously changed any of your restaurant's operations as they relate to sustainability? (*estimated time: 5 minutes*)

Next, we will be switching gears for a moment to talk about communication.

Q12: If you wanted to communicate your sustainable practices with consumers, what resources would help you? (*estimated time: 5 minutes*)

Q13: Where do you look to for information regarding sustainability? (*estimated time: 5 minutes*)

Prompts

- Demographics
- Who do you get your information from? Why?
- What mediums do you use to gather your information?
- Word of mouth
- Website
- Social media platforms
- Other

Q14: How often do you talk about sustainable practices? (*estimated time: 5 minutes*)

Prompts if needed:

- Is it a common topic of conversation?
- If these conversations do occur, who's included in that discussion?

Q15: What do you think is important to Ames residents? Do you take into consideration these factors when making in-house decisions? (*estimated time: 5 minutes*)

Prompt

- What is it that makes Ames a unique community?

That concludes all of the questions I have for you all today. So, thank you so much for your time.

I really appreciate all of your responses. Is there anything else you would like to add before we wrap up?

Detailed information about requirements for submitting modifications for exempt research can be found on our [website](#). For modifications that require prior approval, an amendment to the most recent IRB application must be submitted in IRBManager. A determination of exemption or approval from the IRB must be granted before implementing the proposed changes.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Additionally:

- All research involving human participants must be submitted for IRB review. **Only the IRB or its designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.
- **Please inform the IRB if the Principal Investigator and/or Supervising Investigator end their role or involvement with the project** with sufficient time to allow an alternate PI/Supervising Investigator to assume oversight responsibility. Projects must have an [eligible PI](#) to remain open.
- **Immediately inform the IRB of (1) all serious and/or unexpected [adverse experiences](#) involving risks to subjects or others; and (2) any other [unanticipated problems](#) involving risks to subjects or others.**
- **Approval from other entities may also be needed.** For example, access to data from private records (e.g., student, medical, or employment records, etc.) that are protected by FERPA, HIPAA or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**
- Your research study may be subject to [post-approval monitoring](#) by Iowa State University's Office for Responsible Research. In some cases, it may also be subject to formal audit or inspection by federal agencies and study sponsors.
- Upon completion of the project, transfer of IRB oversight to another IRB, or departure of the PI and/or Supervising Investigator, please initiate a Project Closure in IRBManager to officially close the project. For information on instances when a study may be closed, please refer to the [IRB Study Closure Policy](#).

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

APPENDIX 3: LOGO SKETCHES

