

The Sustainability Movement and its Effects on Package Design

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## **Abstract**

The goal of this study was to examine how the sustainability movement has affected the packaging industry and how packaging design has changed to appeal to the more environmentally-friendly consumer. Furthermore, it examined how sustainability is defined and the specific design aspects that suggest a package is “green”. Consumer price and quality perceptions of green products were analyzed. The objective of this study was to expand consumer’s knowledge of what is sustainable and find how effectively consumer product companies are marketing to the “green” consumer.

To examine these issues, a combination of elite and specialized interviewing and content analysis was used. In addition to extensive research, a survey was sent out to 150 participants regarding sustainable packaging and consumer purchasing behavior. Elite and specialized interviews with three industry professionals were also conducted regarding the future of the packaging industry.

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# Chapter 1: Purpose of Study

## Statement of problem

Packaging serves a number of diverse purposes: from purely functional to brand identity, from distribution efficiency to brand differentiation. Companies rely heavily on packaging and advertisements to draw in customers. Unless a customer has previously used a product, packaging will serve as a significant part of their purchasing decision. The design of a package “plays a pivotal role in ensuring consumers’ perception of the brand is mirrored on the pack” (Calver, 2010). Packaging’s role has also extended in response to consumer’s changing lifestyles. With growing concerns over the environment, consumer’s demand for more sustainable products and packaging has increased. Many companies have invested in environmental practices in response to consumer demands. A recent example of this can be seen in the soap and detergent industry’s movement toward embracing sustainable product and packaging practices.

The environment inside the average home can be five to ten times more polluted than the outside environment, according to experts. A combination of factors is responsible and may include cleaners and other products seen in the home. Darrin Duber-Smith believes this knowledge is one of the main reasons the natural household product category has seen “extremely high growth rates and is very attractive to both the personal care company looking to diversify its portfolio and expand its horizons, as well as the mainstream household products companies looking to capitalize on the increasing demand for natural products” (Duber-Smith, 2004). The growing trend of environmental awareness within detergent and soap products has

given rise to a new niche in household product manufacturing and packaging. Natural cleaning products are on the rise as the detergent and soap industry continues to focus on sustainability.

While many businesses have changed their practices to meet the needs of the modern, “green consumer”, some have exploited this “green market” for their own success. As consumers grow more skeptical of green products, it is important to differentiate between sustainable and unsustainable merchandise. This project examined the steps companies are taking to become more sustainable versus companies that are only appearing to be more sustainable. It explored what consumers perceive as “green”, and what actions actually make packaging sustainable. The purpose of this study was to expand knowledge of what green is and to shed light on many misconceptions that consumers have on what is good for the environment. The results helped determine whether or not the shift towards green marketing and sustainable packaging has been successful for businesses, and how consumers perceive this shift.

## **Significance of the problem**

Over the past years, new technologies and lifestyles have transformed the world we live in. However, as society advances, the earth suffers irreversible side effects, such as climate change and depletion of natural resources. With the average consumer becoming more aware of the environment, companies have changed their methods of business to appeal to their customer’s current needs. This rising concern for environmental protection has not only changed how companies operate, but has opened up a whole new market. Although many organizations are trying to create sustainable packaging that is better for the environment, many have tried to gain a competitive edge by exploiting the potential “Green Market”. This research is important to

businesses and consumers themselves. With so many companies trying to appeal to the “green consumer”, many buyers have become suspicious of products that advertise their environmental friendliness. The results of this research will help consumers identify environmentally friendly products and help businesses understand consumer perceptions of “green” products.

## **Interest in problem**

My interest in this problem comes from my own skepticism of products that claim to be sustainable or environmentally friendly. Like many consumers today, I am interested in preserving the environment for the future and making sustainable packaging purchases. However, it is a difficult task to differentiate between companies who are actually focused on sustainability, versus those using green marketing to increase their profits. As a designer, I am interested in current design and packaging trends. It seems companies have taken the sustainability movement and used it to their advantage, which is why the industry has seen an increase in “green” designs. Sustainable design needs to be more than just a trend, but a design principle that companies live by. I am driven to learn more about what guidelines products must follow to be deemed “sustainable”, how companies are manipulating green consumers, and if consumers are buying into the overload of environmentally friendly advertising.

## **Definition of terms**

### Brand Identity:

A unique set of brand associations implying a promise to customers and includes a core and extended identity (Ghodeswar, 2008).

### Green Consumer:

Can be identified as one who avoids any product which may harm damage to any living organism, cause deterioration of the environment during process of manufacturing or during process of usage, consume a large amount of non renewable energy , involves unethical testing on animals or human subjects (Elkington, 1994).

### Green Marketing:

The effort by a company to design, promote, price and distribute products in a manner which promotes environmental protection (Polonsky, 2011).

### Greenwashing:

The term used for advertisements and labels that promise more environmental benefit than they deliver (Dahl, 2010).

### Sustainable:

Able to be maintained at a certain rate or level (Oxford Dictionary, 2014).

## Chapter 2: Literature Review

### The Sustainability Movement

This research project explored the sustainability movement and how it has affected the packaging industry. Furthermore, it examined how the sustainability movement has affected types of packaging used to hold products, along with specific packaging designs that help execute the sustainability trend. How companies market to the more environmentally-friendly consumer and consumer purchasing behavior was also analyzed.

Like many social movements, the sustainability movement does not have a clear definition. For the past decade or so the sustainability movement has been composed of “a small number of researchers, innovators and activists who have taken a whole-systems approach to the challenge of developing human systems, technologies and lifestyles that can provide high quality and environmentally benign ways of life for all of humankind, now and many generations into the future” (Context Institute, 2009). This movement aims to secure the fate of future generations by creating sustainable products today. Words like “sustainable” and “green” are often used interchangeably when talking about the environment, without the correct knowledge of what those words mean. Sustainability is described as something that “meets the needs of the present without compromising the ability of future generations to meet their own needs”(WCED, 1987). “Green” products are described as “those that have less of an impact on the environment or are less detrimental to human health than traditional equivalents”(Enviro News, 2013). Recent

studies show a high amount of consumers say they participate in efforts to sustain, and companies have responded to this with increased development and release of “green” products.

Environmentally friendly products are products which intend to reduce negative impacts on the environment. These products provide considerable enhancements over the whole product life cycle. According to the Sustainable Packaging Coalition’s web site, a sustainable package must meet several requirements:

- The package must be beneficial, safe and healthy for individuals and communities throughout its life cycle
- The package meets market criteria for performance and cost
- The package is sourced, manufactured, transported, and recycled using renewable energy
- The package maximizes the use of renewable or recycled source materials
- The package must be manufactured using clean production technologies and best practices
- The package must be made from materials healthy in all probable end-of-life scenarios
- The package must be physically designed to optimize materials and energy
- The package must be effectively recovered and utilized in biological and/or industrial cradle to cradle cycles (Definition of sustainable packaging, 2005).

The Sustainable Packaging Coalition (SPC) is a project of GreenBlue, a nonprofit organization that equips business with the science and the resources to make products more sustainable. The SPC is “dedicated to a more robust environmental vision for packaging” (Sustainable Packaging

Coalition, 2014). The SPC is an example of an organization that has tried to regulate sustainable packaging by providing guidelines for companies and producers to follow.

## Sustainable Packaging Trends

Packaging design serves a significant role in consumer's purchasing behaviors. As consumer's lifestyles change they demand different kinds of products. Marketing teams have to change their direction as these shifts in society take place. The sustainability movement, along with the recession, changed how consumers were marketed to. In the article *Why These Complex Times Demands Simpler Packaging*, Wasserman explored how the design of packaging changed significantly due to this social movement and the financial crisis. Wasserman interviewed Peter Clarke, CEO and founder of Product Ventures, a design firm that has created packaging for Heinz, Folgers, and Febreze. Clarke described how packaging has become simpler recently due to a "need for clarity in this very complicated, untrusting world"(as cited in Wasserman, 2010). Clarke attributed this simpler packaging to the recession, saying "consumer confidence has been shattered. People are skeptical of false claims and promises, and simplicity really fills a need on the part of the consumer"(as cited in Wasserman, 2010). Clarke also stated how sustainability has not only become a trend, but a crucial design principle people are going after. Clarke explained that it is hard for consumers to grasp the behind-the-scenes factors that make a product sustainable, so companies have been forced to find something more visceral for the consumer to understand. This might be using a more environmentally friendly paper and informing consumers

of this change. Unfortunately, the problem with this is that it does not always translate into things that are actually better for the environment in the long run.

With increased stakeholder demand and consumer pressure “businesses have moved beyond simply addressing environmental regulatory issues and are introducing alternatives such as new products that are classified as green” (D’souza 2007). Some “green” trends include packaging that “encourage re-use” or packaging that creates social awareness. Packaging that uses less material and is made of reusable or biodegradable material is popular as well. Many people feel that this type of eco-packaging is the future. Steven Toloken explains that “measuring the environmental impact of a package from beginning to end, and being able to explain how a growth strategy improves that total positioning, is where we need to go” (Toloken, 2011). By examining all the materials that go into producing a package from start to finish, companies can measure how much of an impact it will have on the environment.

One retailer who has been driving change in the detergent and soap industry is Walmart. In 2006, Walmart launched a sustainability program, reducing their energy consumption in stores, installing solar panels on its rooftops, and curbing emissions from its trucks and recycling millions of tons of its trash. The retailer also introduced a worldwide sustainability measurement and reporting system (sustainable product index) to thousands of suppliers, asking questions about operations to better understand and manage their own supply chains. As with many of the initiatives Walmart takes on, the scope of the company’s recycling and packaging reduction along with the sustainable product index efforts has sent ripples throughout the industry. The index poses 15 questions in four broad categories (energy and climate; material efficiency; natural resources; and people and community) to 100,000 of its suppliers worldwide. By forcing

their suppliers to meet certain requirements and look at how their own supply chain works, Walmart has played a significant role in changing how companies operate.

## **Greenwashing**

Although many companies have changed how they do business and have improved their social responsibility, the sustainability movement has also created an opportunity for marketers to falsely advertise their products as “green” to increase profits. According to Gupta and Ogden (2009), the industry for green products was estimated at over \$200 billion in 2006. With the vast opportunity to advertise to environmentally conscious consumers marketers can promote products in certain ways that make them seem sustainable. This is known as “Greenwashing”. Greenwashing is defined as “the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service”, according to TerraChoice environmental service company. Recently the act of Greenwashing has been on the rise. 98% of products in North America were guilty of one of the seven sins of “Greenwashing” (TerraChoice, 2009). The seven sins of Greenwashing include: the hidden trade-off, no proof, vagueness, worshipping false labels, irrelevance, lesser of two evils, and fibbing. Many of the new “eco friendly” products act as a way to lure a certain consumer to buy that product, without actually meeting the standards of sustainable packaging. In order to regulate how companies can market to consumers, organizations like the Federal Trade Commission have set up laws companies must follow. The Federal Trade Commission has developed The Green Guides “to help marketers ensure the claims they make about

environmental attributes of their products are truthful and non-deceptive”(reference). The Green Guides were first issued in 1992 and were revised in 1996 and 1998. The guidance they provide includes: 1) general principles that apply to all environmental marketing claims; 2) how consumers are likely to interpret particular claims and how marketers can substantiate these claims; and 3) how marketers can qualify their claims to avoid deceiving consumers.

Some companies have been known to falsely draft sustainability reports, meaning they exaggerate or provide outright misinformation on environmental conservation efforts. According to the Global Reporting Initiative (2013) a sustainability report is a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities... and also presents the organization's values and governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy. Companies use this as a method to internalize and improve an organization's commitment to sustainable development in a way that can be demonstrated to both internal and external stakeholders. Because sustainability reports can be seen by the public, companies want to make them look as good as possible.

## **Consumer Behavior**

Many consumers express concern for the environment and want to purchase from companies that are socially responsible. In an article that studied emotional affinity towards nature it was identified that the motivational instrument that protects the natural environment is the human feeling of nature(Muller, Kals, & Pansa 2009). Results found that adolescent's

emotional affinity toward nature (EAN) contributed significantly to willingness for pro-environmental commitment. In other words, it is a natural instinct for humans to want to help the environment. Recent studies also indicated that 93% of consumers stated they have participated in tremendous efforts to sustain environment, and 37% felt highly concerned about the environment (Hartmann Group, 2007). However, this “concern” many consumers have does not necessarily translate into real buying habits. In the market today price point is such a powerful influence that environmental friendliness is something consumers may not consider when purchasing a product. Pickett-Baker and Ozaki (2008) have argued that people who are environmentally conscious do not necessarily behave in an ecological manner. Consumer’s may have a high regard for environmental sustainability, yet that does not always lead to buying sustainable goods.

Consumer and product analysts are pitching not just cleaner products but packaging that reflects that idea of sustainable simplicity. Consumers' desire for inexpensive but high value products has manufacturers searching for ways to reduce cost and simultaneously boost sales. With the large amount of media attention focused on the decline of our environment, why is environmental consumerism not the most important factor for consumers? Although consumers care about the environment, they are not necessarily buying environmentally friendly products. As the line between what is sustainable and what is not sustainable continues to be blurred, consumers grow more wary of trusting “sustainable” companies and products.

## Chapter 3: Research Methods

### Methodology

The goal of this study was to examine how the sustainability movement has affected the packaging industry and how packaging design has changed to appeal to the more environmentally-friendly consumer. Furthermore, it examined how sustainability is defined and the specific design aspects that suggest a package is “green”. Consumer price and quality perceptions of green products were analyzed. The objective of this study was to expand consumer’s knowledge of what is sustainable and find how effectively consumer product companies are marketing to the “green” consumer. To examine these issues, a combination of elite and specialized interviewing and content analysis was used.

Elite and specialized interviewing is a research method that involves open-ended questions given to industry leaders who are driving the perception of technology. As described by Harvey Levenson in his account, *Some Ideas about Doing Research in Graphic Communication* (2001), elite and specialized interviewing should include, “precise, open-ended questions, but questions that are open to refinement as the research and interview continues” (p. 26). Levenson notes that Lewis A. Dexter, a communication theorist who developed the elite and specialized interviewing method, made the focus of his premise, “that people who perceive themselves to be important must be interviewed differently than the ‘average person on the street’ in maximizing the collection of useful information in applied research’ (p. 26). When questioning industry leaders, the interviewer should treat each interviewee specially with the assumption that they are

a distinctive and important individual who should be set aside in a different category from the average person in order to optimize research results (Levenson, 2001).

Descriptive research studies are designed to determine the nature of a situation as it exists at the time of the study. The type of study used during the descriptive portion of this project was sample surveys. Sample surveys gather relatively limited data from only a portion of the population and typically attempt to measure what exists without questioning the reasons for existence (Levenson, 2001).

Content analysis is described by Levenson as (2001), “a method for quantifying qualitative information gathered from elite and specialized interviewing, historical research, and descriptive research” (p. 32). The purpose of this research method, therefore, is to use it in combination with other research mentions to develop results and draw conclusions from these results. Using this method allows researchers to take their qualitative evidence and transform it into a measurable result (Levenson, 2001. p. 33).

## **Data Collection Plan**

The research in the first area was performed through elite and specialized interviewing. Interviews with industry professionals from the sustainable packaging industry were conducted. These professionals and professors were asked how the packaging industry has changed in response to the sustainability movement. To conduct this portion of my research, the professionals I interviewed included Mark Hammond (Environmental lawyer ), Dr. Jay Singh (Professor and Packaging Program Director, California Polytechnic State University, San Luis

Obispo), and Colleen Twomey (Assistant Professor, Graphic Communication department, California Polytechnic State University, San Luis Obispo).

The questions that I asked during the elite and specialized interviewing process were based around trends in the detergent packaging industry, consumer demands and expectations, greenwashing, packaging guidelines, and emerging technologies in the packaging industry. Through these interviews I was able to obtain important information to confirm my research question. In each interview I asked broad and open-ended questions related to my research question, including:

- How would you define sustainability?
- How has the sustainability movement affected the packaging industry?
- What specific actions are companies taking to create more environmentally friendly packaging?
- Does the size of a company play a factor in the ability to implement more sustainable packaging?
- What packaging trends are emerging/disappearing in response to the sustainability movement?
- What are some prominent emerging technologies in the packaging industry? How are these technologies being applied to the detergent packaging industry specifically.
- How would you define greenwashing?
- Is greenwashing a major concern in the packaging industry?
- Has there been a change in consumer purchase behavior due to greenwashing?
- How has the Green Guides (Federal Trade Commission) affected the packaging industry?

The second area of research was performed through descriptive research by conducting a survey of 156 participants with varying ages and gender. The survey being conducted determined how consumers view and understand sustainable packaging through multiple choice and short answer questions. Design, price, and quality perceptions of packaging were also studied. The survey was distributed electronically via email through the survey tool Google Forms.

## **Data Analysis Plan**

Responses from the elite and specialized interviews were collected and analyzed to determine common parallels. Significant information from the interviews and similar trends in responses were compiled and used to better understand how the packaging industry has evolved and where it is headed.

The results from the surveys were quantified and noted. The name of the subjects were kept anonymous, aside from their relevant qualities (gender and age). The data collected from the surveys was used to determine consumer's knowledge of sustainable practices surrounding packaging, along with their perceptions and purchase behavior in regards to environmentally-friendly packaging.

## Chapter 4 : Results

### Survey

For this portion of the study, a survey was created asking participants numerous questions regarding sustainable packaging. Questions included awareness of sustainable packaging, purchase behavior of certain products, and knowledge of certain packaging symbols. Because home cleaning products was the focus of this project, participants were asked questions specific to laundry detergent. Demographic questions related to gender, age, education, income and family size. The survey conducted contained multiple choice and short answer questions. Participants were required to answer the multiple choice questions and were given the option to expand on why they chose the answer to particular questions.

The survey (Appendix A) was distributed to each participant via email. Questions were designed to gauge consumer's knowledge and opinions on sustainable packaging. After creating and distributing the survey via email, the results were slightly skewed. The survey assessed 156 participants, 78 percent female and only 22 percent male.

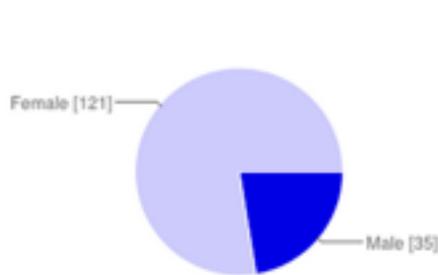


Figure 1. Gender of participants

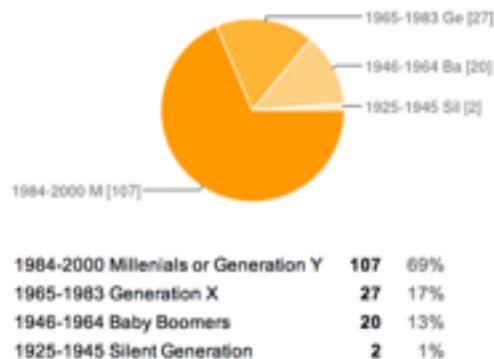


Figure 2. Age of participants

This, however, is accepted because limited resources were available to distribute the survey and receive accurate results. Of the 156 responses, 121 were female and 35 were male. 107 of the

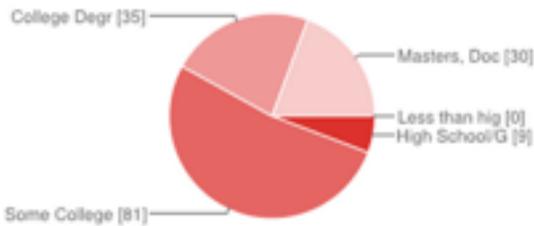


Figure 3. Education level of participants



Figure 4. Average household income of participants



Figure 5. Family size of participants

respondents were between the ages of 13 and 30, 27 were between the ages of 31 and 49, 20 were between the ages of 50 and 68, and two were between the ages of 69 and 89 (Figure 1 and 2).

Of all respondents, the majority (52%) had some college education, 23% received a college degree, 6% received a high school degree or GED, and 19% had received a masters, doctoral, or professional degree (Figure 3).

22 participants had an approximate average household income between \$0-\$24,000, 18 between \$25,000-\$49,999, 19 between \$50,000-\$74,999, 19 between \$75,000-\$99,999, 25 between \$100,000-\$124,999, and 49 had an approximate household income of \$125,000 and above (Figure

4). The majority of survey participants (69%) had no children, 10% had 1 child, 17% had 2 children, 6% had 3 children, and 1% of participants had 4 or more children (Figure 5).

In response to question #6, 99% of respondents had heard the term “sustainable” before (Figure 6). Participants were also asked to define the term, if they could. Of the 99% of respondents who had heard the term “sustainable” before, a majority of participants were not able to define it. Definitions for the term varied from simply “reusable” or “something that will last” to more in depth responses like “A sustainable practice or activity is one that can be continued into the future without consuming all of a resource or negatively impacting the environments of biological organisms. A sustainable product is a product of sustainable practice or activity.”

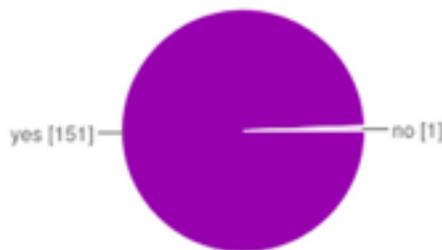


Figure 6. Knowledge of “sustainable”

Participants were then asked to rank the order in which 5 different factors (Price, Brand recognition/trust, perceived quality of product, design of package/label, and environmental-friendliness of package) influenced their decision to buy laundry detergent, with “1” being the most likely to influence and “5” being the least likely to influence.

41% of participants listed that price was the number factor that determined how they would buy their laundry detergent (Figure 7). 32% listed that perceived quality of product was most important to them, while 23% indicated that brand recognition/trust was the most likely to influence their purchase decision. 8% of participants indicated an environmentally friendly package was the most likely to influence their purchase decision, while the remaining 5% said that the design of the package/label was most likely to affect their purchase decision in regards to laundry detergent. The numbers do not add up to a perfect 100% due to some confusion of how to answer the question and only choose 1 number per choice.

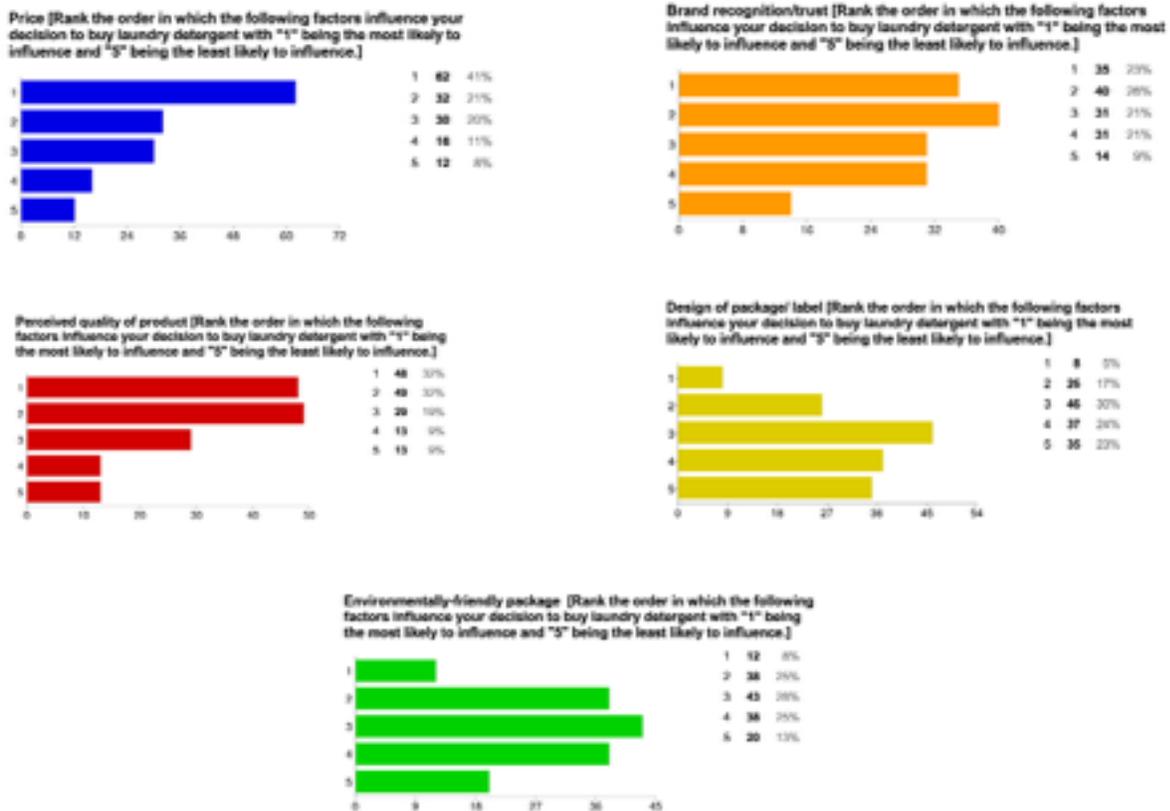


Figure 7. Factors of influence

In response to question #8, 57% of the participants expressed that packaging environmental-friendliness affected their purchasing decisions “sometimes.” 22% responded “almost never”, 15% responded “almost always”, 1% responded “always”, and 5% responded that it “never” affects their purchase decision (Figure 8).

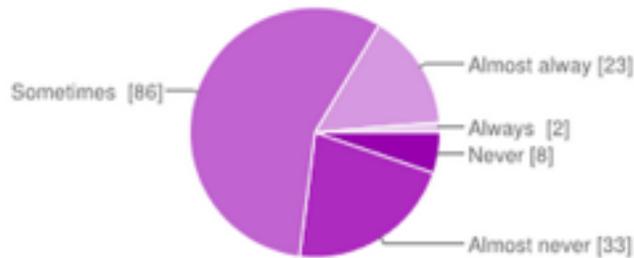


Figure 8. How often sustainable packaging affects purchasing

Participants were then asked how aware they were of greenwashing (the term used for advertisements and labels that promise more environmental benefit than they deliver). 37% of participants were “not at all aware” of greenwashing, 28% were “slightly aware”, 22% were moderately aware, 9% were “very aware”, and 4% were “extremely aware” of greenwashing (Figure 9).

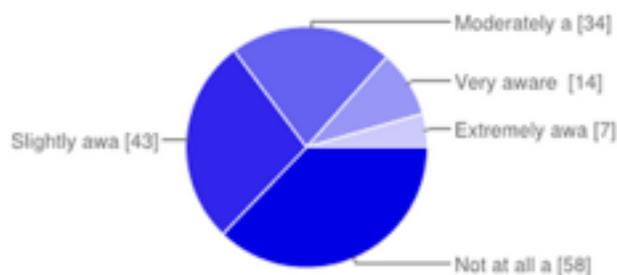


Figure 9. Awareness of greenwashing

The participants who were aware of greenwashing were then asked if they knew of any specific greenwashing cases. A majority of the respondents aware of greenwashing were not able to name any specific cases. 2 respondents mentioned water bottles, saying “Water bottles being advertised as using less plastic” and “recycled water bottles”.

The next question presented a photo of the recyclable symbol used on products that can be recycled. Participants were asked what this image meant to them, and were give multiple answer to choose from.

63% of the participants were able to correctly identify the image, saying “a package is recyclable”. 10% of the participants answered “a package is made of recycled material” and 23% answered “all of the above”. 2% of participants answered “not sure” while 1% of the participants answered “none of the above” (Figure 10, 11).



Figure 10. Recyclable symbol

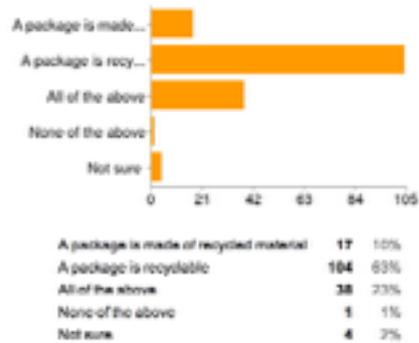


Figure 11. Recyclable symbol responses

The following question presented a photo of the different symbols that represent the particular plastic a product is made of. Participants were again asked what that image meant to them. Of the 156 participants, 74 participants correctly chose “a package is made with a specific plastic.” 35 participants were “not sure”, 18 chose “a package is recyclable”, 8 chose “a package is

made from post consumer waste”, 15 chose “all of the above” and 2 participants chose the image represented “none of the above.”



Figure 12. Specific plastic symbols

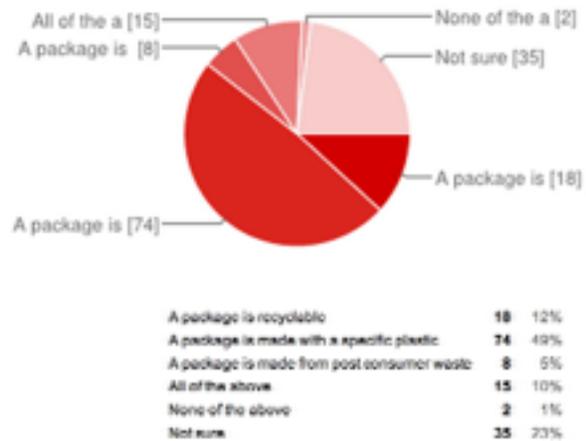


Figure 13. Plastic recycling responses

Question #13 of the survey was used to observe consumer’s purchase behaviors regarding laundry detergent. 3 different laundry detergents were described to participants. Detergent A described Tide laundry detergent, a market leader. Detergent B described Seventh Generation natural (non-toxic) laundry detergent that is packaged in a molded fiber shell made from old newspapers and old corrugated boxes. Detergent C described XTRA scented laundry detergent. Participants were asked which laundry detergent they would purchase assuming they were all of equal price and quality. 59% of participants chose Detergent B, 33% chose Detergent A, and 8% chose Detergent C (Figure 14).

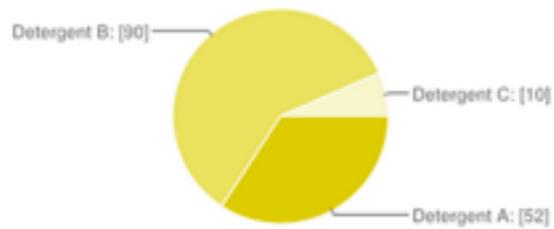


Figure 14. Detergent purchasing results

## **Interviews**

The other aspect of research implemented for this study was direct interviews with industry professionals. During these elite and specialized interviews, ten questions were asked that related to sustainable packaging trends, greenwashing concerns, and environmental business practices. The professionals interviewed were California Polytechnic State University, San Luis Obispo professors Colleen Twomey and Dr. Jay Singh, along with environmental attorney Mark Hammond. The goal of these interviews was to obtain a variety of answers to each question, yet draw conclusions from the similarities and parallels. Overall, responses from these interviews were similar.

## **Industry Professional Responses**

### **1. How would you define sustainability?**

Sustainability in packaging means an optimum package design that protects and contains the product (Singh, 2014). Sustainability can also be defined as using the minimum amount of resources, particularly nonrenewable resources, necessary to achieve the goal or product (Hammond, 2014). Creating a product from renewable resources in a way that the life cycle of that product has a second or third use (Twomey, 2014).

### **2. How has the sustainability movement affected the packaging industry?**

The sustainability movement affected the packaging industry starting with greenwashing (Singh, 2014). However, using the sustainability movement is smart business and can create economic advantages for companies by positioning products as more appealing than other

products. (Hammond, 2014). Companies have spent millions of dollars investing in equipment, consultant reports, and materials in order to make themselves more sustainable. However, during the recessionary period sustainability became less important to companies who had to cut costs in order to stay in business (Twomey, 2014). Packaging has always been about sustainability, and more companies are now thinking about sustainability than before (Singh, 2014).

### **3. What specific actions are companies taking to create more environmentally friendly packaging?**

Reducing packaging material and sourcing materials from a closer location are actions many companies have been taking to create more environmentally friendly packaging (Singh, 2014). Specifically, companies have invested in new bio films (substrates that are compostable or bio degradable), light weighting, making packaging out of paper products that are recyclable, and printed with inks that can be recycled (Twomey, 2014). The economy plays a big role in this issue as well. An improved economy will reinvigorate companies' sustainability efforts, but at the moment the focus remains price, except for premium products where quality and name recognition remain important. Companies are continuing to perform research and development on packaging improvements that reduce cost while having elements of sustainability (Hammond, 2014).

### **4. Does the size of a company play a factor in the ability to implement more sustainable packaging?**

The size of a company absolutely affects the ability to implement more sustainable packaging (Hammond, Singh 2014). Innovation increases with the size of a company (Singh, 2014). Mark Hammond expressed that small companies, particularly ones with limited products, "can get bigger bang for their R&D buck if the innovations they develop can lead to meaningful

product differentiation and can play a central role in their marketing efforts.” A larger company may have more resources, but a smaller company can be more nimble with decision making (Twomey, 2014).

**5. What packaging trends are emerging/disappearing in response to the sustainability movement?**

Packaging trends that have emerged in response to the sustainability movement are increased use of concentrates, reduced packaging and re-shaping product containers (Hammond, 2014). Plastics has taken over glass and metal due to the lighter weight and cheaper prices while branding and marketing have aimed to make a product more appealing (Singh, 2014). Sustainability as a movement continues to grow as more technology is discovered for materials (Twomey, 2014).

**6. What are some prominent emerging technologies in the packaging industry? How are these technologies being applied to the detergent packaging industry specifically.**

Bio engineered films and substrate materials are probably the most logical. You see detergents packaged in pouches (lighter material) with spouts for pouring (Twomey, 2014). Reducing costs without compromising the strength of a package has become extremely important. Blow molding has become a very popular packaging technology, especially with the production of Eco-Shape water bottles. Railroads are now making a comeback because they are more economical in terms of gas, when compared to trucks (Singh, 2014).

**7. How would you define greenwashing?**

Greenwashing can be defined as false claims, lying, or misleading your potential customers regarding the environmental aspects of your product (Hammond, Singh).

**8. Is greenwashing a major concern in the packaging industry?**

Overall, greenwashing is not as big of a deal or as severe as it once was (Singh, 2014). The packaging industry does a better job than most other industries due to a greater knowledge base and the visibility packaging has compared to other products. Unfair competition is a major concern, and greenwashing is just one form of unfair competition (Hammond, 2014).

**9. Has there been a change in consumer purchase behavior due to greenwashing?**

The younger generations are much more conscious than older ones (Singh, 2014). However, some consumers have “given up” trying to shop for sustainable products due to greenwashing and more importantly the complexity of comparing products on an environmental basis (Hammond, 2014).

**10. How has the Green Guides (Federal Trade Commission) affected the packaging industry?**

The Green Guides has helped guide larger companies, but these guides are still not nearly as well-understood as they should be. However, the packaging and consumer goods industry is far ahead of other industries complying with the Green Guides relative to their environmental marketing claims. They have been effective in lowering the amount of greenwashing, but there is still a long way to go particularly for small and mid-size companies (Hammond, 2014). If companies can skirt around rules and regulations, they will. (Singh, 2014).

## Chapter 5: Conclusion

The sustainability movement has contributed to tremendous change in the packaging industry. As knowledge of environmental harm due to packaging has grown, consumer's needs have changed. Companies and producers have responded to this shift in consumer behavior by creating new materials, technologies, and practices that increase a product's life cycle and decrease harm to the environment. There is still a disconnect, however, between packaging producers, marketers, and the consumer. With greenwashing and false advertisement still present, consumers have grown skeptical of sustainable and environmentally-friendly claims. A significant example of this can be seen in the household product industry's movement towards embracing sustainable packaging.

The purpose of this study was to research the sustainability movement and how it has affected the packaging industry. More specifically, what actions companies have taken to implement more sustainable package designs and the greenwashing and false advertisement that has increased due to the sustainability movement. Understanding consumer's perceptions of environmentally friendly products and their purchasing behavior in regards to sustainability was an important part of this research. This study used a combination of elite and specialized interviewing, descriptive research, and a comprehensive content analysis . By understanding industry professionals' opinions on sustainable packaging and gaining insight on consumer knowledge and purchase behavior through surveys I was able to determine how the packaging industry has developed and where it is headed in the future.

Through elite and specialized interviewing I was able to understand how the term “sustainable” can have many definitions, yet in regards to packaging the term is usually interpreted as using the least amount of material and extending the product life cycle. Industry professionals indicated that the sustainability movement has had a significant influence on the packaging industry and how companies do business. In many ways, companies must adopt sustainable practices in order to survive. Mark hammond, environmental attorney, expressed that using the sustainability movement is “smart business” and “can create economic advantage by positioning the product as more preferable than the alternatives.” Colleen Twomey noted, however, that during the recession “sustainability took a back seat in many organizations, while costs were being cut, in order for companies to survive.” Although consumer’s have shown an increase in demand for sustainable products, sustainability is something companies tend to cut back on when money is tight.

As companies look to make their products more sustainable, trends have emerged in the packaging industry. Reducing packaging material and sourcing materials from a closer location were brought up repeatedly in the elite and specialized interviews as actions companies are taking to create more environmentally-friendly packaging. Dr. Jay Singh indicated that “Plastics have taken over glass and metal because they are lighter and cheaper to transport.” Companies are investing in new bio films (substrates that are compostable or bio degradable), light weighting, making packaging out of paper products that are recyclable, and printed with inks that can be recycled (Twomey, 2014). New technologies and materials have aided in developing more sustainable products and packaging.

Although greenwashing has been a major concern for consumers, industry professionals indicated that the packaging industry has gotten better in regards to greenwashing. Dr Jay Singh noted that, “overall, it is not as big or severe as it was.” Mark Hammond added that the packaging industry does a better job than most industries, “due to better knowledge base as well as the visibility that packaging has compared to other products.” Agencies like the Federal Trade Commission have helped regulate greenwashing by informing guidelines companies must adhere to. However, these guidelines can still be abused, and there is still progress to be made surrounding false advertisements and claims.

The results of the survey showed that a majority of consumers are aware of what sustainability is, yet over half of the participants were not at all aware of greenwashing (the term used for advertisements and labels that promise more environmental benefit than they deliver). Close to half of the participants recognized and understood the recyclable and specific plastic symbols used on packages, yet a majority indicated that packaging environmental-friendliness “sometimes” or “never” affected their purchase decisions. When asked to rank which factors influenced their decision to buy laundry detergent, results from the survey showed that price of laundry detergent was the most important factor to a majority of participants. Perceived quality of product and brand recognition were the factors participants indicated were the next most likely to influence their decision when buying detergent.

Although it was evident the environmental-friendliness of a package was not the most important factor to a majority of participants, when asked which detergent they would purchase (if perceived quality and price were equal), over half of the participants chose Detergent B (Seventh Generation natural and non-toxic, concentrated laundry detergent). This detergent is

packaged in a molded fiber shell made from old newspapers and old corrugated boxes, and uses 66% less plastic than a typical liquid laundry detergent bottle. This seems to confirm past research that the price and perceived quality of products that are “sustainable” or “environmentally-friendly” affect consumers purchase behavior. When given the option to choose a “green” product, if quality and price are equal, a majority of consumers would prefer to, over a product that isn’t considered sustainable or green.

Despite participants favoring Detergent B, Tide detergent by Procter & Gamble Co. still holds a majority of the laundry detergent marketshare. Tide detergent brings in around \$2.8 billion in annual sales and holds a 38% share of the North American laundry soap business, according to Nielsen Holdings NV data (Ng, 2014). Sixty-five years after the introduction of Tide in the US, it still dominates the market. So this begs the question: how did Procter & Gamble achieve such a feat? If consumers prefer the more environmentally-friendly detergent, why does Tide continue to dominate the market? In the article *Relentless Tide: An Unstoppable Megabrand*, Barwise, Meehan, and Macdonald explore how Tide has managed to maintain, and even increase their market lead for more than six decades. The article contributes Tide’s success to three factors: relentless improvement and extension of brand promise through innovation, use of consumer insights to ensure continued relevance, and powerful advertising and other brand support.

For example, Tide has come under pressure in recent years as more shoppers have reached for bargain brands. However, through consumer insights and innovation, Tide has been able to market their detergent successfully to consumers whose lives have changed because of the weakened economy and shifts in society. When the company saw a decrease in numbers due to

their “functional superiority becoming less emotionally relevant to most consumers,” a change was needed (Barwise, Meehan, & Macdonald, 2014). Tide introduced a lower-priced liquid detergent, called Tide Simply Clean & Fresh, that cost 35% less than regular Tide detergent, which currently retails for about \$12 for a 100-ounce bottle. This helped Tide regain the marketshare they were losing and appeal to consumers who wanted more for their money.

In 2009 green cleaners totaled \$557 million— \$218 million from green laundry products—to account for 3 percent of the total household and laundry cleaner retail market. The same year, Seventh Generation’s sales of cleaning agents were \$150 million with about a 27 percent share of the green household cleaning market (Burkit, 2010). Although Seventh Generation has grown significantly, they still hold a fraction of the market share Tide does. This could possibly be attributed to the the size of Seventh Generation as a company. Seventh Generation has 30 employees, while P&G employes over 100,000 people. As the elite and specialized interviews showed, the size of a company affects innovation (Singh, 2014). Larger companies, like Procter & Gamble, tend to have much more resources than small companies like Seventh Generation. Formal market research strategies like consumer insight surveys and quantitative consumer data that large organizations use religiously may not be as accessible to smaller companies .

Lastly, the preference for Tide detergent in the marketplace over brands like Seventh Generation could be attributed to brand loyalty. Survey participants were asked to explain why they had chosen a particular detergent, and a majority of participants who picked Tide shared that brand recognition affected their choice. Responses like “Brand recognition/trust”, “Because I am familiar with this brand”, and “Because I know the brand Tide” were common among participants who chose Tide. Although the survey results confirmed that consumers would

choose the more environmentally-friendly product and packaging if cost and quality was the same as the market leader, responses from consumers suggested skepticism of such environmentally-friendly products. One participant who selected Detergent B (Seventh Generation detergent) explained that “in most cases environmentally friendly products tend to be more expensive or of lower quality, so I do not purchase them”. Another participant explained that, although they use some Seventh Generation cleaning products, they “have been a bit wary to try more natural products on my clothing.” These responses suggest that consumers are still not convinced the quality of environmentally-friendly detergent is equal to other market-leader brands.

Results from the survey were helpful in understanding consumer’s knowledge of sustainability, how they view sustainable packaging and products, and which factors affect their purchasing decisions. Elite and specialized interviews were also helpful in understanding the future of the packaging industry from professionals’ point of view. It is clear that knowledge of sustainable practices is growing, and consumers and companies alike are becoming more concerned with how products they purchase will affect the environment. New materials, processes, and technologies are being implemented to help packaging become more sustainable while regulations and rules are being created to help guide the industry. Although the packaging industry still has obstacles to overcome in regards to sustainability and environmental-friendliness, tremendous progress has been made that suggests a cleaner world for future generations.

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*Appendix A: Survey sent out to consumers*

### Sustainable Packaging Senior Project Survey

This survey is being conducted for a Graphic Communication senior project at California Polytechnic State University, San Luis Obispo. Your participation in this survey is voluntary and you can withdraw at any time. Completion of the survey indicates your willingness to participate. No participant in the survey will be identified. All responses will be kept anonymous.

**What is your gender?**

Male

Female

**What generation are you a part of? (In what year were you born?)**

1984-2000 Millennials or Generation Y

1965-1983 Generation X

1946-1964 Baby Boomers

1925-1945 Silent Generation

**What is the highest level of education you have completed?**

**What is your approximate average household income?**  
 (If you are a student and are supported by your parents, please indicate their income level)

**How many children do you have?**

No children

1

2

3

4 or more

**Have you heard the term "sustainable" before?**

yes

no

**If you have heard of the term "sustainable", how would you define it?**  
 (If you have heard the term and cannot define it, leave blank)

**Rank the order in which the following factors influence your decision to buy laundry detergent with "1" being the most likely to influence and "5" being the least likely to influence.**  
 Please use each number or "ranking" one time

	1	2	3	4	5
Price	<input type="radio"/>				
Brand recognition/trust	<input type="radio"/>				
Perceived quality of product	<input type="radio"/>				
Design of package/label	<input type="radio"/>				
Environmentally-friendly package	<input type="radio"/>				

**How often does packaging environmental-friendliness affect your purchase decisions?**

Never

Almost never

Sometimes

Almost always

Always

Before taking this survey, how aware were you of greenwashing (the term used for advertisements and labels that promise more environmental benefit than they deliver)?

- Not at all aware
- Slightly aware
- Moderately aware
- Very aware
- Extremely aware

If you are familiar with greenwashing, are you aware of any specific greenwashing cases? (Please indicate any specific greenwashing cases you are aware of below)

What does the image below mean to you?

- A package is made of recycled material
- A package is recyclable
- All of the above
- None of the above
- Not sure



What does the image below mean to you?

- A package is recyclable
- A package is made with a specific plastic
- A package is made from post consumer waste
- All of the above
- None of the above
- Not sure



Assuming the laundry detergents listed below are of equal quality and price, which one would you purchase?

- Detergent A: Tide (a market leader) original liquid laundry detergent. Tide believes they have an obligation to future generations to use resources wisely.
- Detergent B: Seventh Generation natural (non-toxic), concentrated laundry detergent. This detergent is packaged in a molded fiber shell made from old newspapers and old corrugated boxes, and uses 66% less plastic than a typical liquid laundry detergent bottle.
- Detergent C: XTRA scented laundry detergent. "A bright & refreshing sparkle is highlighted with a blend of crisp lemon, lime & sweet melon."

Why did you choose this detergent?

(optional)

Please use this space to write any thoughts you have on sustainable packaging and/or greenwashing.

Never submit passwords through Google Forms.

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*Appendix B: Questionnaire used during elite and specialized interviews*

Gillian McGlynn  
Sustainable Packaging Senior Project  
Winter 2014  
Graphic Communication Department  
Cal Poly, San Luis Obispo

Thank you for agreeing to participate in the elite and specialized interviewing portion of my senior project surrounding sustainable packaging. Please answer and return your responses through email to [gillianmmcglynn@gmail.com](mailto:gillianmmcglynn@gmail.com) by Saturday, February 22, 2014. Thoughtful responses in full sentences are appreciated.

Name:

Occupation:

1. How would you define sustainability?
2. How has the sustainability movement affected the packaging industry?
3. What specific actions are companies taking to create more environmentally friendly packaging?
4. Does the size of a company play a factor in the ability to implement more sustainable packaging?
5. What packaging trends are emerging/disappearing in response to the sustainability movement?

6. What are some prominent emerging technologies in the packaging industry? How are these technologies being applied to the detergent packaging industry specifically?

7. How would you define greenwashing?

8. Is greenwashing a major concern in the packaging industry?

9. Has there been a change in consumer purchase behavior due to greenwashing?

10. How has the Green Guides (Federal Trade Commission) affected the packaging industry?

Comments: