Consumer Response to Sustainable Practices Within the Fashion Industry

Gage Mruz
University of Nebraska - Lincoln

Follow this and additional works at: https://digitalcommons.unl.edu/envstudtheses

Part of the Environmental Education Commons, Natural Resources and Conservation Commons, and the Sustainability Commons

Mruz, Gage, "Consumer Response to Sustainable Practices Within the Fashion Industry" (2019). Environmental Studies Undergraduate Student Theses. 228.
https://digitalcommons.unl.edu/envstudtheses/228

This Article is brought to you for free and open access by the Environmental Studies Program at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Environmental Studies Undergraduate Student Theses by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.
CONSUMER RESPONSE TO SUSTAINABLE PRACTICES
WITHIN THE FASHION INDUSTRY

Written By: Gage Mruz

AN UNDERGRADUATE THESIS

Presented to the Faculty of
The Environmental Studies Program at the University of Nebraska-Lincoln
In Partial Fulfillment of Requirements
For the Degree of Bachelor of Science/Arts

Major: Environmental Studies
With an Emphasis of: Natural Resources

Under the Supervision of Dr. Prabhakar Shrestha

Lincoln, NE

Date: April 26, 2019
CONSUMER RESPONSE TO SUSTAINABLE PRACTICES
WITHIN THE FASHION INDUSTRY

Gage Mruz, B.S.

University of Nebraska-Lincoln, 2019

Advisor: Dr. Prabhakar Shrestha

Abstract

This study was conducted online through an environmental company called Greenstain, a registered LLC who provides environmentally sustainable solutions and plants a tree for every item they sell. The purpose of the study is to analyze consumer response to the eco-friendly apparel and other sustainable solutions offered by Greenstain after educating consumers on the extent to which the fashion industry is impacting the natural environment and the practices they can utilize to reduce these negative impacts. The sample size included any person with access to Google, Facebook, and Instagram. Scientists in the world have reached an overwhelming consensus that climate change is real and caused primarily by human activity. Global industrial emissions of carbon dioxide rose by roughly 2.7% in 2018, an all-time high, and are expected to rise even more in the year 2019. One of these top polluting industries is the fashion industry which accounts for over 8% of global green-house gas emissions. For context,
roughly three-fifths of all clothes end up in the landfill or in incinerators within the first year of being manufactured. Consumers play an integral role in these issues through their choice to support the industries that are contributing the most to these environmental problems. The design and analysis for the study included posting on Greenstain’s website, Facebook and Instagram accounts for a week-long pre-sale to gain an initial assessment of how consumers responded to the brand before further marketing the brand over the rest of the month-long study period. The data collected regarding the Greenstain brand, mission, products sold, and educational information proved to have an overall positive response among consumers. Over 115 eco-friendly t-shirts were sold during the study with 1,473 total users visiting the website. Qualitative data analysed from the study results showed that a majority of consumers were previously unaware of sustainable practices and issues involving the fashion industry as well as their individual impact on the natural environment. Furthermore, a majority of consumers had not seen a business model involving eco-friendly apparel before and were eager to learn more and support the Greenstain mission by joining the mailing list and buying the eco-friendly apparel products.
Introduction

Although climate science was once perceived to be quite divisive, “Scientists in the world have reached an overwhelming consensus that climate change is real and caused primarily by human activity. Greenhouses gases, such as carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) trap heat in the atmosphere and regulate our climate. Greenhouse gases act like a blanket. The thicker the blanket, the warmer our planet becomes. At the same time, the earth’s oceans are also absorbing some of this extra carbon dioxide, making them more acidic and less hospitable for sea life. The increase in global temperature is significantly altering our planet’s climate, resulting in more extreme and unpredictable weather. For instance, heat waves are becoming more frequent and many places are experiencing record droughts followed by intense rainfalls.” ¹

Despite the overwhelming consensus among scientists, there remains a large majority of consumers who are unaware of the specific factors contributing to Climate Change, ways in which they can live a sustainable lifestyle, and to what extent their actions impact the natural environment. A study conducted by researchers at the University of Delaware and Drexel University analysed undergraduate student’s understanding of climate change and found that “students frequently confused climate change with other environmental issues and a substantial majority of study participants did not have an understanding of climate change that closely matched the scientific model. These misconceptions extend to their understanding of mitigation actions.” ² This poses a problem because human behaviour and decision making are at the very core of the climate change issue.³ Consumers play a major role in this decision making through their choice to support the industries that are contributing the most to these environmental problems.
To examine the environmental impact of consumers, a study conducted by researchers at the Norwegian University of Science and Technology looked at the consumer impacts of 43 countries and 5 rest-of-the-world regions. The results showed that consumers were responsible for over 60 per cent of global greenhouse gas emissions as well as up to 80 per cent of the world’s water use. Diana Ivanova, a PhD candidate at the Norwegian University of Science and Technology’s Industrial Ecology Programme, explains that “Between 60-80 per cent of the impacts on the planet come from household consumption. If we change our consumption habits, this would have a drastic effect on our environmental footprint as well.” Furthermore, the study showed that four-fifths of the environmental impacts attributed to consumers were not direct impacts, such as water consumption when taking a shower or the fuel burned when driving a car but were instead considered secondary impacts. Secondary impacts are the environmental impacts resulting from the creation of goods and services consumed throughout the world. Additional data regarding the environmental footprints of carbon, land, materials, and water was collected and compared with each country analysed in the study (See Figure 1).

Global industrial emissions of carbon dioxide rose by roughly 2.7% in 2018, an all-time high, and are expected to rise even more in the year 2019 (See Figure 2). One of the largest industries responsible for this rise in carbon emissions is the coal industry which accounted for over 46% of the increase of industrial CO₂ emissions in the year 2018. With fossil fuel industries such as coal and oil contributing to a large percentage of rising carbon emissions, there remains other top polluting industries where consumers may have more control in mitigating emissions. One of these top polluting industries is the fashion industry which accounts for over 8% of global green-house gas emissions. The fashion industry includes textiles and clothing with the entire lifecycle of obtaining the fibres from agricultural sources to the manufacturing
process, distribution, and disposal of clothing and textile items consuming large amounts of water and energy. The industries pollution mainly derives from toxic chemicals used in agriculture and dyes, water consumption, energy consumption, and waste created after the clothes are disposed of.\textsuperscript{vii} For context, roughly three-fifths of all clothes end up in the land fill or in incinerators within the first year of being manufactured.\textsuperscript{viii}

This study analyses the environmental impact of eco-friendly apparel and consumer response to sustainable solutions within the fashion industry. The solutions discovered through the literature review were applied to the core business model of an environmental company called Greenstain, a registered LLC who provides environmentally sustainable solutions and plants a tree for every item they sell (See Figure 13).\textsuperscript{ix} Their mission is to bring awareness to the best sustainable solutions currently available and innovate new ones wherever necessary. As industry experts in sustainability, they put factual numbers to consumer’s impact so they can see the clear-cut difference they are making in the world.

To further consumer impact, Greenstain partnered with an organization called One Tree Planted to plant a tree for every product they sell. Donations for tree planting are being focused on planting projects in California to help remediate the land after a record-breaking wildfire season in 2017 that ripped through 1.3 million acres – the size of Delaware.\textsuperscript{x} California isn’t the only place in need of conservation and restoration efforts, however. Studies show that roughly 13-17\% of the total funding needed for restoration and conservation around the world are met each year, totalling to about $50 billion with a shortfall of $250-350 billion.\textsuperscript{xi} Trees are important for a variety of reasons, with the main one being that they are a solution for combatting climate change. They reduce the amount of carbon in the atmosphere, filter the water we drink, are
responsible for providing habitat to over 80% of the world’s biodiversity, are key ingredients in 25% of all medicines, and forests even provide jobs to over 1.6 billion people.xii

A company called Allmade was chosen as the manufacturer for the eco-friendly apparel due to their socially-responsible mission and transparency with their product. The impact of 100 Allmade tri-blend t-shirts compared to traditional 100% cotton materials saves 49,000 gallons of water, recycles 600 plastic water bottles, reduces 533 oz of chemicals, reduces 640 oz of crude oil, and provides 1 day of living wage jobs in Haiti. The specific raw materials used in the tri-blend t-shirts include US-grown cotton, recycled polyester, and TENCEL™ Modal. Plastic water bottles have the same chemical makeup as polyester allowing them to be cleaned and processed into polyester yarn and woven into an Allmade t-shirt.xiii

This study utilizes eco-friendly apparel, educational materials regarding sustainable consumer practices in the fashion industry, and various marketing strategies to connect with consumers and obtain data on how they respond to these sustainable practices. Greenstain was chosen to serve as the medium for collecting consumer data which was then compared to industry research to determine the success of the study. The main objective of the study is to educate consumers on 1) the extent to which the fashion industry is impacting the natural environment, 2) the practices they can utilize to reduce these negative impacts, and 3) analyse their overall response to these solutions.

Additionally, the study aims to answer the following questions: To what extent is the fashion industry impacting the natural environment? What eco-friendly apparel products are currently available for consumers to take advantage of? What is the quality, affordability, and cost-effectiveness of said products? What sustainable practices are currently available for consumers to utilize within the fashion industry? How realistic and feasible are these practices
for consumers? What percentage of consumers are already using these practices? How do consumers respond to these sustainable practices? What are possible barriers for consumers who aren’t utilizing these products and practices?

Operational definitions of technical terms, jargon, or special word uses:

➢ **Climate Change**: Another term for Global Warming which indicates the warming of Earth’s climate due to carbon emissions from human activity.

➢ **Greenhouse Gas**: A gas that contributes to the greenhouse effect by absorbing infrared radiation, e.g., carbon dioxide (CO$_2$).

➢ **Greenhouse Effect**: The trapping of the sun’s warmth in a planet’s lower atmosphere due to the greater transparency of the atmosphere to visible radiation from the sun than to infrared radiation emitted from the planet’s surface (See Figure 14).

➢ **Carbon Footprint**: The amount of carbon dioxide and other carbon compounds emitted due to the consumption of fossil fuels by a particular person, group, etc.

➢ **Ecological Footprint**: The impact of a person or community on the environment, expressed as the amount of land required to sustain their use of natural resources.

➢ **Sustainability**: Avoidance of the depletion of natural resources in order to maintain an ecological balance.
  - (i.e. Meeting the needs of the present without compromising the needs of future generations.)

➢ **Sustainable Living**: Describes a lifestyle that attempts to reduce an individual's or society's use of the Earth's natural resources, and one's personal resources.

➢ **Eco-Friendly**: Not harmful to the environment.
➢ **Target Market**: A particular group of consumers at which a product or service is aimed.

➢ **Google Analytics**: A web analytics service offered by Google that tracks and reports website traffic.

➢ **Google Search Console**: A web service by Google which allows webmasters to check indexing status and optimize visibility of their websites.

➢ **Facebook Pixel**: Code that is placed on a website to collect data that helps track conversions from Facebook ads, optimize ads, build targeted audiences for future ads, and remarket to people who have already taken some kind of action on the website.

Given the scope and magnitude of the study, there are potential assumptions and limitations to the study that must also be considered. Without a follow-up survey after the month-long study period, there is no way to accurately quantify how often people use the Greenstain products and solutions acquired from the study. An assumption is also being made that the pool of consumers participating in the study is an accurate representation of the ideas and opinions of the average consumer within the United States. Additionally, the possibility of a personal bias from consumers for supporting the Founder of Greenstain rather than the environmental solutions themselves is also taken into consideration.

Utilizing the environmental company, Greenstain, the study analyzes the environmental impact of eco-friendly apparel and consumer response to sustainable solutions within the fashion industry. Major emphasis was placed on educating consumers on their possible impact and communicating in a way that was both inspiring and empowering to create lasting positive change. Further information will be explained regarding the materials and methods utilized, data collection, data analysis, and a final conclusion on the results of the study. Statements made
throughout the thesis are supported by the literature review which may be included outside the proceeding literature review section.

**Literature Review**

The literature presents three possible barriers for the absence of sustainable practices and products being used by members of the general public. “First, we all hear, perceive, make sense of, and judge incoming information (be it spoken, written, visual, or sensory) through the filters of culturally transmitted values and no one can escape this influence although we can become conscious of this influence and actively probe it, if we are willing. Second, the values we hold affect not only our perceptions and interpretations of the climate and our acceptability of climate science, but—crucially, and often more prominently—the acceptability of anticipated or proposed behavioral changes, technological solutions, or climate policies. Third, and logically following, climate communication meets acceptance or resistance and thus can be made more resonant for different audiences by approaching it through value frames.” xiv The barriers for implementing sustainable practices into the lifestyle of the individual derives from personal values as well as the overall mentality and values of the larger group or society as a whole. If these values do not include sustainability, then the trickle-down effect takes place and individuals within the group begin to take on the mentality of the whole.

Although a majority of consumers are not the most knowledgeable on the specifics of environmental issues, they are still wanting to make a difference and are beginning to take note of companies who are “going green”. Generationally, millennials are the ones who are regularly driving the sustainable movement with their consumer decisions and lifestyle choices when compared with other generations. A 2018 study showed that roughly 61% of millennials (ages
agree that they would pay more for eco-friendly products. This is the highest percentage next to Gen Z (ages 16-21) at 58%, Gen X (ages 36-54) at 55%, and Baby Boomers (ages 55-64) at 46% (See Figure 3). As more and more people become aware of the various environmental problems in our world as well as the environmental solutions currently available, these percentages are expected to rise. This data is also significant in that it shows that consumers are willing to pay more for eco-friendly products. If the eco-friendly products are priced the same as traditional products, then consumers would have nominal resistance in choosing the “green” option.

Methods

First, Greenstain obtained wholesale access to the eco-friendly apparel manufactured by Allmade to be sold on their online store. Five designs that combined nature and human elements were printed on the Allmade tri-blend t-shirts and would serve as the product/sustainable solution that would be sold and distributed to consumers. As an added incentive and means for allowing consumers to create a bigger impact on our natural environment, Greenstain partnered with a tree planting organization called One Tree Planted. For every product Greenstain sells they will plant a tree. Money from purchasing each tri-blend t-shirt is donated to OTP and then distributed to one of their many tree planting projects spanning across four different continents. The donations sent to OTP for this study were dispersed to planting projects in California to help remediate the land after a record-breaking wildfire season in 2017.

Along with selling eco-friendly tri-blend t-shirts, Greenstain also tested different methods of communication regarding facts about the apparel being sold, consumer impact, and the impacts of the fashion industry to assess consumer response. Examples of communication
methods showing consumer impact and measurable data points can be seen in Figures 4 & 5. In the packaging of each product is a letter from Greenstain Founder & CEO, Gage Mruz, that expresses the importance of the consumer’s decisions and impact created through utilizing the solutions offered by Greenstain (See Figures 6 & 7). The letter is written as follows:

“YOU ARE A CHANGE MAKER.

You have the power to create a monumental difference in this world. How do we know this? Because you just proved it. When you purchased a Greenstain shirt, you recycled 6 plastic water bottles, saved 490 gallons of water, planted a tree that will reduce over 1 ton of carbon from our atmosphere over the next 40 years, and much much more.

You did that.

As experts in sustainability, Greenstain knows that changes like this truly do matter and add up quickly. No matter how small, your decisions to live a more environmentally conscious lifestyle can alter the status quo.

We are honored to have you representing our brand and would like to recognize you for your choice to be the difference and lead by example. Because that’s what you are, a leader. Let your Greenstain shirt serve as a reminder of the power you know you possess.

You are planting trees whose shade you may never sit under.

Future generations thank you. Our natural environment thanks you. We at Greenstain thank you.

Greenstain Founder & CEO,

Gage Mruz

”
With the sustainable solutions, distribution channels, and communication methods in place the next step was to launch Greenstain and begin the study. A week-long pre-sale was conducted on February 28th to assess initial consumer responses and provide a safety net in allowing the company to collect orders, print the t-shirts, and ship them out after the pre-sale period. Having a pre-sale mitigated the risk of investing personal capital in the study and stocking up on an inventory of items that consumers may not have been interested in. After the pre-sale period, an inventory of tri-blend t-shirts was created and the study was carried out through the rest of March to conclude the entire month-long study.

The sample size included any person with access to Google, Facebook, and Instagram. Consumer data and feedback were collected using Google Analytics, Google Search Console, and social media platforms such as Facebook and Instagram. With a majority of the target market being college-aged youth, social media platforms such as Facebook and Instagram were mainly used for marketing and driving traffic to the online store. Facebook Pixel and Google Analytics provided various data regarding targeted advertisements and how website visitors interacted with the Greenstain website. Instagram and Facebook insights revealed how consumers interacted with content and included data points such as: likes/reactions, comments, shares, profile visits, website clicks, accounts reached, and impressions.

The literature review supports the notion that consumers are more likely to purchase eco-friendly products that are the same price or slightly more expensive than traditional options. The Greenstain t-shirts being sold in this study are competitively priced at $24.99 with a portion of the proceeds going towards tree planting projects in California. The design and analysis for the study included the following: **Step 1:** Publish the Greenstain website and create social media
posts on Greenstain’s Facebook and Instagram accounts for a week-long pre-sale. **Step 2:** Market the business on Google, Facebook, and Instagram over the span of a month with key emphasis on the eco-friendly apparel, information regarding the fashion industry, and consumer impact. **Step 3:** Collect data and feedback on the brand, mission, products being sold, and educational information distributed during the month-long period.

**Results**

Connecting patterns in quantitative data showed the popularity of products and practices while the qualitative data showed how consumers specifically felt about the solutions and Greenstain mission. Social media data was collected from Facebook and Instagram during the first 24 hours of the Greenstain launch and compared to a baseline set of data that averaged the likes, comments, and shares, of the top 17 posts from the same account. Figure 8 below shows a comparison of this quantitative data:

*Figure 8*
Quantitative data not shown in Figure 8 above:

- **Instagram Launch Post**: 447 Profile Visits, 207 Website Clicks, 1,758 Accounts Reached (44% weren’t following the account), 3,682 Impressions
- **Website Launch Data**: 951 Users, 1,021 Sessions, 4,441 Pageviews, 23 Orders, 32 Items Sold

---

**Figure 9**

Quantitative data from the entire month-long period not shown in Figure 9 above:

- **Instagram Posts**: 646 total profile visits
- **Website Data**: 60 users subscribed to the mailing list. Roughly 60% of website users (895) were sourced from Social Media, while roughly 34% of users (509) were sourced from typing in the URL directly. Of the 104 total impressions from Google’s search
engine, 51% of users clicked on the website from the search results page. See Figures 10 & 11 for more information.

Qualitative data collected from the entire month-long period.

- **Facebook Page**: Post comment examples: “Ordered a shirt! So proud of the changes you’re making in the world!” & “This is SO cool. Buying one immediately.”
- **Instagram Posts**: Each post received positive feedback in the comments section with over 20 users sharing the posts to their Instagram stories. Comment example: “ Heck yes!! The world needs more of this!”
- **Website Data**: Consumers sent comments to the Contact page of the Greenstain website (See Figure 12) with one example being: “Got my t-shirt! Ready to help save the world! Thanks for caring about our world! May your future be bright!” Most every response included positive feedback while others wanted to learn more about living a sustainable lifestyle. Additional questions were about the manufacturing process and tree planting aspect of the business model.

**Discussion and Conclusion**

Utilizing an environmental company such as Greenstain to provide sustainable solutions within the fashion industry proved to have a positive consumer response. Quantitative data analysed from the study results showed that consumers were not only going to the website and staying there for an average of 2:13 minutes with a relatively low bounce rate of 32%, they were also spreading the word by sharing social media posts and buying the eco-friendly apparel products. Over 115 t-shirts were sold during the study with 1,473 total users visiting the website.
Qualitative data analysed from the study results showed that a majority of consumers were previously unaware of sustainable practices and issues involving the fashion industry as well as their individual impact on the natural environment. Furthermore, a majority of consumers had not seen a business model involving eco-friendly apparel before and were eager to learn more and support the Greenstain mission by joining the mailing list and buying the eco-friendly apparel products. Although a majority of consumers are not the most knowledgeable on the specifics of environmental issues, they are still wanting to make a difference and are beginning to take note of companies who are “going green”. Additionally, the literature supports the notion that roughly 50 to 61 per cent of consumers are more likely to purchase eco-friendly products that are priced higher than traditional options. If the eco-friendly products are priced the same as traditional products, however, then consumers would have nominal resistance in choosing the “green” option due to the added environmental and social benefits.

Although the study proved to be successful, there are still possible limitations to consider along with recommendations for studies looking to analyse similar problems and questions regarding consumer response to environmental solutions. Having a week-long pre-sale and printing the t-shirts in-house with community equipment limited the ability to have an initial inventory and focus time, energy, and resources on marketing and outreach. This explains the spike in website traffic and sales from the pre-sale period shown in Figure 11. To obtain a more accurate data set, further studies are encouraged to gain more diverse traffic from other geographic locations around the United States rather than having a majority of users in the Nebraska area with a small percentage coming from other states in the U.S. Another possible variable that could have influenced the data set was whether or not consumers were truly supporting the environmental mission and sustainable practices or actually just supporting the
Founder of Greenstain, Gage Mruz. However, the literature supports the notion that consumers would still be more inclined to purchase eco-friendly products at a similar price or slightly more expensive price than traditional options.
**Figures**

<table>
<thead>
<tr>
<th>Countries</th>
<th>Carbon Footprint (CO2-eq)</th>
<th>Land Footprint (1000 m²)</th>
<th>Material Footprint (t)</th>
<th>Water Footprint (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World average</td>
<td>3.4</td>
<td>10.0</td>
<td>4.0</td>
<td>200</td>
</tr>
<tr>
<td>Austria</td>
<td>11.9</td>
<td>18.1</td>
<td>17.4</td>
<td>298</td>
</tr>
<tr>
<td>Belgium</td>
<td>12.2</td>
<td>28.1</td>
<td>17.8</td>
<td>492</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>5.4</td>
<td>6.9</td>
<td>8.1</td>
<td>182</td>
</tr>
<tr>
<td>Cyprus</td>
<td>10.9</td>
<td>0.2</td>
<td>12.4</td>
<td>278</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>9.4</td>
<td>9.2</td>
<td>11.8</td>
<td>174</td>
</tr>
<tr>
<td>Germany</td>
<td>11.9</td>
<td>20.0</td>
<td>16.0</td>
<td>347</td>
</tr>
<tr>
<td>Denmark</td>
<td>12.2</td>
<td>20.9</td>
<td>16.8</td>
<td>453</td>
</tr>
<tr>
<td>Estonia</td>
<td>10.9</td>
<td>20.9</td>
<td>16.6</td>
<td>258</td>
</tr>
<tr>
<td>Spain</td>
<td>8.1</td>
<td>21.0</td>
<td>14.2</td>
<td>561</td>
</tr>
<tr>
<td>Finland</td>
<td>13.6</td>
<td>27.4</td>
<td>17.9</td>
<td>304</td>
</tr>
<tr>
<td>France</td>
<td>8.8</td>
<td>22.3</td>
<td>14.2</td>
<td>396</td>
</tr>
<tr>
<td>Greece</td>
<td>13.4</td>
<td>26.9</td>
<td>18.3</td>
<td>700</td>
</tr>
<tr>
<td>Hungary</td>
<td>5.9</td>
<td>8.2</td>
<td>7.3</td>
<td>194</td>
</tr>
<tr>
<td>Ireland</td>
<td>12.9</td>
<td>22.1</td>
<td>17.1</td>
<td>297</td>
</tr>
<tr>
<td>Italy</td>
<td>9.8</td>
<td>10.1</td>
<td>13.8</td>
<td>407</td>
</tr>
<tr>
<td>Lithuania</td>
<td>6.5</td>
<td>12.5</td>
<td>9.1</td>
<td>190</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>18.3</td>
<td>44.4</td>
<td>27.6</td>
<td>818</td>
</tr>
<tr>
<td>Latvia</td>
<td>6.2</td>
<td>22.9</td>
<td>10.8</td>
<td>181</td>
</tr>
<tr>
<td>Malta</td>
<td>9.2</td>
<td>14.0</td>
<td>14.8</td>
<td>628</td>
</tr>
<tr>
<td>Netherlands</td>
<td>11.8</td>
<td>35.5</td>
<td>17.2</td>
<td>575</td>
</tr>
<tr>
<td>Poland</td>
<td>7.8</td>
<td>9.2</td>
<td>10.3</td>
<td>130</td>
</tr>
<tr>
<td>Portugal</td>
<td>6.8</td>
<td>18.0</td>
<td>11.5</td>
<td>509</td>
</tr>
<tr>
<td>Romania</td>
<td>4.6</td>
<td>9.4</td>
<td>12.2</td>
<td>325</td>
</tr>
<tr>
<td>Sweden</td>
<td>8.7</td>
<td>18.6</td>
<td>15.7</td>
<td>322</td>
</tr>
<tr>
<td>Slovenia</td>
<td>10.1</td>
<td>20.2</td>
<td>13.4</td>
<td>262</td>
</tr>
<tr>
<td>Slovakia</td>
<td>8.3</td>
<td>14.5</td>
<td>11.9</td>
<td>287</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>13.3</td>
<td>21.9</td>
<td>17.9</td>
<td>456</td>
</tr>
<tr>
<td>United States</td>
<td>18.1</td>
<td>23.0</td>
<td>18.1</td>
<td>651</td>
</tr>
<tr>
<td>Japan</td>
<td>9.0</td>
<td>11.2</td>
<td>9.2</td>
<td>290</td>
</tr>
<tr>
<td>China</td>
<td>1.8</td>
<td>5.4</td>
<td>3.1</td>
<td>130</td>
</tr>
<tr>
<td>Canada</td>
<td>14.6</td>
<td>40.6</td>
<td>18.1</td>
<td>510</td>
</tr>
<tr>
<td>South Korea</td>
<td>8.7</td>
<td>13.8</td>
<td>10.4</td>
<td>340</td>
</tr>
<tr>
<td>Brazil</td>
<td>1.8</td>
<td>22.0</td>
<td>8.3</td>
<td>159</td>
</tr>
<tr>
<td>India</td>
<td>0.8</td>
<td>2.1</td>
<td>2.0</td>
<td>261</td>
</tr>
<tr>
<td>Mexico</td>
<td>3.8</td>
<td>16.6</td>
<td>5.9</td>
<td>277</td>
</tr>
<tr>
<td>Russia</td>
<td>7.6</td>
<td>60.6</td>
<td>9.3</td>
<td>331</td>
</tr>
<tr>
<td>Australia</td>
<td>17.7</td>
<td>180.8</td>
<td>263</td>
<td>660</td>
</tr>
<tr>
<td>Switzerland</td>
<td>11.3</td>
<td>26.5</td>
<td>15.7</td>
<td>396</td>
</tr>
<tr>
<td>Turkey</td>
<td>4.7</td>
<td>13.0</td>
<td>7.7</td>
<td>298</td>
</tr>
<tr>
<td>Taiwan</td>
<td>8.6</td>
<td>9.2</td>
<td>7.7</td>
<td>208</td>
</tr>
<tr>
<td>Norway</td>
<td>10.3</td>
<td>37.2</td>
<td>18.6</td>
<td>474</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1.3</td>
<td>2.6</td>
<td>2.7</td>
<td>81.5</td>
</tr>
</tbody>
</table>

*Figure 1*
**Figure 2**

Industrial carbon-dioxide emissions are projected to rise again globally this year, even as individual countries’ emissions look very different.

![Graph showing CO₂ emissions by country over time](image)

**Figure 3**

% who agree that they would pay more for eco-friendly products:
- Gen Z (16-21): 58%
- Millennials (22-35): 61%
- Gen X (36-54): 55%
- Baby Boomers (55-64): 46%

Source: GlobalWebIndex Q2 2018 Base: 111,899 Internet Users aged 16-64
Figure 4

Research shows...

Global Funding for Conservation and Restoration

Only 13-17% of total funding needs for restoration and conservation around the world are met each year — roughly $50 billion.

That means there’s a shortfall of $250-350 billion!

The money that is used mainly comes from government or philanthropic sources, with only $10 billion per year invested by the private sector.

We’re here to change that.

Figure 5

Why Plant Trees?

Trees help clean the air we breathe, filter the water we drink and provide habitat to over 80% of the world’s biodiversity. Forests provide jobs to over 1.6 billion people, absorb harmful carbon from the atmosphere, and are key ingredients in 25% of all medicines.
YOU ARE A CHANGE MAKER.

You have the power to create a monumental difference in this world. How do we know this? Because you just proved it. When you purchased a Greenstain shirt, you recycled 6 plastic water bottles, saved 490 gallons of water, planted a tree that will reduce over 1 ton of carbon from our atmosphere over the next 40 years, and much much more.

You did that.

As experts in sustainability, Greenstain knows that changes like this truly do matter and add up quickly. No matter how small your decisions to live a more environmentally conscious lifestyle can alter the status quo.

We are honored to have you representing our brand and would like to recognize you for your choice to be the difference and lead by example. Because that’s what you are, a leader. Let your Greenstain shirts serve as a reminder of the power you know you possess.

You are planting trees whose shade you may never sit under.

Future generations thank you. Our natural environment thanks you. We at Greenstain thank you.

Greenstain Founder & CEO
Gage Murz

Figure 6

Figure 7

Figure 10
Figure 11
Figure 14

1. Sunlight passes through the atmosphere and warms the Earth.

2. Infrared radiation (IR) is given off by the Earth.

3. Most escapes to outer space, allowing the Earth to cool.

4. But some infrared radiation is trapped by gases in the air (including CO₂), keeping the Earth warm enough to sustain life.

5. ENHANCED GREENHOUSE EFFECT
Increasing levels of CO₂ increase the amount of heat retained, causing the atmosphere and Earth's surface to heat up.
References