



# WPI



University  
of Worcester

# Engaging the Community: The Green Week Initiative

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This report represents the work of five WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its web site without editorial or peer review.

## **Authorship**

This project was completed equally in all aspects by all five members of the team. Team members include: Kenneth Colpritt, Allison Hacker, April Locke, Allison McCarthy and Ashley White.

## **Abstract**

An increased interest in environmental conservation has prompted the city of Worcester, UK to initiate new methods of promoting sustainability. We expanded upon a Go Green Week model developed by the University of Worcester to promote sustainable practices, and strengthen the relationship between the University and the city of Worcester. Through collaboration with local businesses, charities and organizations that value sustainability, we engaged the community to support the City's long-term goal of becoming a Transition Town.

## Executive Summary

The city of Worcester, UK is making advancements toward becoming a Transition Town by increasing sustainable practices throughout the community. Transition Network is a global movement that encourages communities to rebuild the world and reimagine the future by advising communities to reduce carbon emissions and fossil fuel dependency, promote inclusivity and social justice, and foster collaboration and creativity. (Transition Network, 2016). The city of Worcester aims to develop a sustainable community, and encourage behaviors, which are less harmful to the environment (Transition Worcester). The University of Worcester, Worcester City Council, and Worcestershire County Council combined their resources to further the City's ambitions of becoming a Transition Town. The intention was to engage the community and promote the sustainability ideals outlined in the City's Transition Plan. The University is interested in developing its sustainability commitment in relations with the City. Each year, the University's sustainability department hosts a Go Green Week to educate the campus community through environmental campaign organizations and interactive activities. To assist the University of Worcester, our team worked in conjunction with several main organizations in Worcester to build from and extend the University's Go Green Week model into the community. Our team organized and held a Go Green Week in the community with the help of the following participants in the event: The Worcester Business Improvement District, Worcester City Council, Worcestershire County Council, Heart of Worcestershire College, and University of Worcester. The goal of this project was to develop the University of Worcester's Go Green Week model to engage the Worcester community in sustainable practices. In doing so, we intended to strengthen the relationship between the University of Worcester and the City, and help contribute to the City's ambition to become a Transition Town. To work towards this goal, we formulated and followed six objectives.

- Objective 1: Gauging the interest of the Worcester, UK community in sustainability and evaluating the available resources provided by local businesses and organizations;
- Objective 2: Gain endorsement, sponsorship, and support for the event by approaching local businesses and encouraging participation;

- Objective 3: Develop a Go Green Week that engages the community and increases awareness of the importance of sustainability in collaboration with local businesses and organizations;
- Objective 4: Create a metric to measure the impact and effectiveness of the Go Green Week through qualitative and quantitative analysis of sustainable behavior;
- Objective 5: Endorse future sustainability endeavors through an interactive map of sustainable businesses, a synopsis of the week in the form of a blog post, and a video compilation of the event;
- Objective 6: Formulate recommendations for future Go Green Weeks to enhance community involvement.

We conducted a meeting with representatives from the University of Worcester, Worcester City Council, Worcestershire County Council, Business Improvement District, and Heart of Worcestershire College at the beginning of the project to learn about their main concerns with the city of Worcester. We found the most pressing concerns to be associated with bike safety and security, and littering of cigarette butts. With this knowledge, we collaborated with the Director of Sustainability at the University of Worcester, Katy Boom, and the key participants to arrange a week of events that incorporated several community organizations such as Worcester Roots Foundation, Weir Waste, Transition Worcester, Energize Worcester, Worcester Arts Workshop, Spokes Bicycles, and the West Mercia Police. These organizations are already involved with the community regarding sustainability practices and issues, and we chose to have them participate in the week to raise further awareness about their efforts.

In our efforts of gaining business sponsorship for the Go Green Week, we learned that it is very difficult for businesses to give monetary funds. We quickly realized that we would be hosting the Go Green Week without a budget. Although businesses were unable to donate funds to our event they were very eager to participate in other ways. We collected numerous samples and prizes to give out as an incentive for citizens to attend our activities.

We advertised the schedule of events of the Go Green Week using social media, Worcester news outlets, and by distributing pamphlets to local businesses. The final schedule of

events is depicted below.

Tuesday	Wednesday	Thursday	Friday	Saturday
<p><b>Feed the 1,000 Free Food</b> 10:00am - 3:00pm Guildhall Learn about how to reduce food waste and enjoy free samples of pasta, curry and fritters.</p> <p><i>1,000 meals is equivalent to the amount of food an average UK family throws away in a year.</i></p>	<p><b>Sustainability Fair</b> 10:00am - 2:00pm Guildhall "Ways to Wellbeing" Enjoy informative activities to learn about the five ways to wellbeing and happiness. Donate clothing get a Marks &amp; Spencer voucher Worcester Roots Foundation</p> <p><b>Go Green Garden</b> 10:00am-2:00pm Crowngate near Iceland Learn to live sustainably</p> <p><b>Health Walk</b> 10:30 - 11:30am The Hive</p>	<p><b>Sustainability Fair</b> 10:00am - 2:00pm Guildhall Learn about composting purchase your own compost bin for <b>only £5</b></p> <p><b>Go Green Garden</b> 10:00am-2:00pm Crowngate near Iceland Learn to live sustainably</p> <p><b>Save Energy</b> 10:00-2:00pm Angel Place</p> <p><b>Community Litterpick</b> 3:00-4:00pm South Quay - the fountains</p> <p><b>Worcester Community Action</b> 3:00-6:00pm Angel Centre</p>	<p><b>Go Green Garden</b> 10:00am-2:00pm Crowngate near Iceland Learn to live sustainably</p> <p><b>Clothing Drive with Marks &amp; Spencer</b> 10:00am-2:00pm Guildhall Donate clothing get a Marks &amp; Spencer voucher.</p> <p><b>Meditation in Movement</b> The Hive 2:30-4:00pm</p>	<p><b>Earth Day</b> 10:00am - 2:00pm Crowngate near Iceland</p> <p><b>Go Green Garden Chilli Plant Giveaway</b> Trade your completed loyalty card for a free chilli plant.</p> <p><b>Interactive Community Art</b> Be creative, join in.</p> <p><b>Orchard Working Party</b> 10am start Orchard at New College <a href="http://www.transitionworcester.org.uk">www.transitionworcester.org.uk</a></p>

**Loyalty Card** - Attend events, get stamps, claim a **free chilli plant** - Saturday Crowngate near Iceland  
**Money off hot drinks**- Come grab some coffee at local coffee shops; Francini Cafe de Colombia!, Waylands Yard & Coffee#1 *Bring your own mug for money off a hot drink all week.*

We found that it was beneficial to our program to host the week in two different locations, as it attracted a greater number and a wider range of people. The two locations that were used are Guildhall and CrownGate. The benefit of using CrownGate as a secondary location was that it is privately owned, and a Merchant’s license is not required by organizations that wished to sell items during the Go Green Week. To address the City’s concern about littering cigarette butts, we discovered a company called TerraCycle that collects and recycles cigarette butts for free. As we did litter picks, we realized that the majority of the litter in the City is cigarette butts.

Based on our experiences in planning and hosting the Go Green Week, we have devised the following main recommendations for future Green Week initiatives in the community and for Worcester in its efforts to become a Transition Town:

- When planning the event, it is important to reach out to businesses and organizations as

early as possible for Go Green Week participation. We feel that if we had more time to plan the event, more businesses and organizations would have been involved because we would have been able to give them an earlier notice about Go Green Week. We suggest it would be best to reach out to organizations in an earlier planning phase with more turnover time. Less turnover time was beneficial because it allowed the event to be fresh on businesses, organizations, and community members' minds. This added a surprising benefit we were not expecting. Despite this positive aspect we still would recommend reaching out earlier, then following up closer to the event.

- We observed that receiving sponsorship from businesses was challenging. We discovered that the majority of large chain businesses are restricted by their headquarters regarding donations. Because it takes several weeks to get permissions from corporate, we suggest that if future Go Green Week teams are hoping to gain sponsorship from chains, they may find more success if they get in touch with managers before arriving in Worcester to start the process. Additionally, smaller local businesses had fewer resources to spare and therefore could not afford to donate any sort of significant funds. In terms of material items, both chain and local businesses alike were keen to donate something for the raffle during the Go Green Week. Marks & Spencer also donated a variety of fruits to dehydrate. With help from the catering staff at the University of Worcester, we were able to give away samples and promote food sustainability. We observed citizens were interested to learn about methods to conserve food and reduce waste.
- Advertisement is helpful for an event to be successful. We recommend that it would be beneficial to start advertising sooner. Many of our attendees discovered our event by chance as they were passing by, and did not know about Go Green Week beforehand. We believe the Facebook event and Worcester Business Improvement District advertising efforts were beneficial, however they may have been implemented too late to be truly effective. This is mostly because we did not have a final schedule published until a week before the Go Green Week started, as it was difficult to get organizations and businesses involved with such a short notice.
- We propose having the events start later in the day. Our observations suggest the Worcester City Centre is most populated later in the day, so we suggest starting the activities around 11:00 or 11:30 and going until 16:30.

- Having two locations was beneficial for the event, as it drew a variety of citizens. The location booked at Guildhall was behind the front gates, which we observed to be challenging since it blocked off easy access to our sustainability fair. We attempted to engage people by standing outside of the gates; however, we found it difficult to draw people in.
- Citizens tended to be more attracted to the event when there were free samples and giveaways. Once they were drawn in with the free items, particularly dried fruit and chili plants, it was easier to speak with them about the Go Green Week and expose them to the sustainable practices being promoted. We observed that people are also more likely to take surveys when there is an incentive to receive free items. We found that having a display of chili plants attracted citizens and prompted conversations concerning locally grown food and biodiversity.
- In our interactions with community members and businesses, we learned that recycling is difficult in the City. Businesses have to pay for recycling bins, which can be costly. This demonstrates a need for Worcester to address issues related to social justice. We found that some smaller, independent businesses do not recycle because of the cost. They have trouble affording this sustainable practice, and remarked that they would recycle if they could afford it. As Worcester makes efforts to become a Transition Town, we suggest that it tries to reduce or eliminate the cost of recycling for businesses.
- From our observations and interactions with participants in CrownGate, we learned that several community members in Worcester are either elderly or disabled. They rely on affordable and accessible public transportation, and they cannot drive because of their age or physical condition. Based on these interactions, we found that Worcester's transportation network addresses important aspects of sustainability, including social equity. If Worcester did not have accessible means of public transportation, some citizens may experience difficulties traveling. We recommend that the city of Worcester continues to implement sustainable transportation, and further promotes its efforts throughout the community.
- To further its efforts in promoting sustainable transportation, we recommend that Worcester educate its citizens on proper bicycle security techniques. Through interactions with several individuals, we found that they do not ride their bicycles frequently because



they are concerned about potential bicycle theft. We recommend that the Worcester police engage and educate the community about proper bike security, such as using D-locks and marking bikes to make it easier to track them if they are stolen. This is an important aspect of social equity, because if citizens are not provided with the information to make them comfortable with using their bikes in the City, then they will not utilize a valuable travel option for sustainable transportation.

- To further its efforts in becoming a Transition Town, we recommend that Worcester addresses concerns related to social equity, particularly of sustainable transportation and recycling.

We hope that these conclusions will help improve future Go Green Week initiatives. Ideally, the information that we collected in the pilot Go Green Week in the Community will be beneficial for Worcester to consider as it progresses toward becoming a Transition Town.

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Flying Tiger  
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Spokes  
Worcestershire Wellbeing Hub  
Oxfam  
Marks & Spencer  
Francini Café de Colombia  
Lush  
Wayland's Yard  
Coffee #1

# Table of Contents

<b>Authorship</b>	<b>i</b>
<b>Abstract</b>	<b>ii</b>
<b>Executive Summary</b>	<b>iii</b>
<b>Acknowledgements</b>	<b>ix</b>
<b>Chapter 1: Introduction</b>	<b>1</b>
<b>Chapter 2: Background and Literature Review</b>	<b>4</b>
2.1 Sustainability	4
2.1.1 Sustainability in the United Kingdom	12
2.1.2 The Sustainable History of Worcester, UK	14
2.1.3 Sustainability at the University of Worcester	16
2.1.4 Green Initiatives	18
2.2 Engaging the Community	20
2.2.1 University Engagement	23
2.3 Role of Local Governments in Promoting Sustainability	26
2.3.1 Community Pressure for Green Behavior	27
2.4 Fundraising and Sponsorship	29
2.5 Sustainability Metrics	31
<b>Chapter 3: Methodology</b>	<b>33</b>
3.1 Gauge Interest and Evaluate Available Resources	33
3.2 Gain Endorsement, Sponsor, and Support	34
3.3 Create a Go Green Week that is Engaging and Raises Awareness	35
3.4 Create a Metric to Measure the Impact and Effectiveness	36
3.5 Contribute to Ongoing Sustainability Efforts	37
3.6 Formulate Recommendations for Future Go Green Weeks	38
3.7 Timeline of Project Tasks	39
<b>Chapter 4: Findings, Analysis, and Recommendations</b>	<b>39</b>
4.1 Littering of Cigarette Butts	39
4.2 Bike Theft Concerns	40
4.3 Involvement of Businesses	41
4.4 Location	42
4.5 Timing	42
4.6 Free Giveaways	43
	x

4.7 Community Artwork	44
4.8 Collaboration with City/County/University	44
4.9 Recommendations for Future Go Green Weeks	45
4.10 Survey Results, Findings, and Analysis	46
<b>Chapter 5: Conclusions and Reflections</b>	<b>53</b>
<b>References</b>	<b>55</b>
<b>Appendix A: List of Attendees at Stakeholder Meeting</b>	<b>61</b>
<b>Appendix B: WPI Go Green Week Interview Questions</b>	<b>62</b>
<b>Appendix C: Letter Presented to Businesses</b>	<b>63</b>
<b>Appendix D: Activity Outlines</b>	<b>64</b>
<b>Appendix E: Go Green Week Press Release</b>	<b>65</b>
<b>Appendix F: WPI Go Green Week Survey Questions</b>	<b>67</b>
<b>Appendix G: Google Map, Sustainability Trail</b>	<b>68</b>
<b>Appendix H: Video Clips of Go Green Week</b>	<b>69</b>
<b>Appendix I: Transcripts of Interviews with Sustainable Businesses</b>	<b>70</b>
<b>Appendix I.1: Francini Café de Colombia</b>	70
<b>Appendix I.2: Waylands Yard</b>	72
<b>Appendix I.3: Lush</b>	74
<b>Appendix J: Artwork</b>	<b>78</b>
<b>Appendix K: Diary of Account for Future Go Green Week Events</b>	<b>79</b>
<b>Appendix L: Go Green Week Checklist</b>	<b>84</b>

## Table of Figures

Figure 1. People and Planet Scorecard for the University of Worcester in 2016 .....	17
Figure 2. Outline of events for Go Green Week 2017 .....	18
Figure 3. Community-University-City Relation .....	24
Figure 4. Pyramid of Key CSR Factors .....	28
Figure 5. Gantt Chart Breakdown of Project Tasks .....	39
Figure 6. Age Distribution .....	46
Figure 7. Importance of Conservation .....	46
Figure 8. Daily Needs .....	47
Figure 9. Access to Natural Resources. ....	47
Figure 10. Sustainability Issues. ....	48
Figure 11. Meaning of Sustainability.....	48
Figure 12. Sustainable Practices .....	50
Figure 13. Transportation.....	50
Figure 14. Familiarity of Sustainable Organizations. ....	51

## Chapter 1: Introduction

Globally there has been an increase in concern for the environmental degradation of the Earth. Many governments worldwide have implemented policies and acts in an attempt to prevent further resource depletion and move towards a more sustainable world. In addition to national and international approaches, local governments also play an important role. Climate change and global warming have drastically different effects depending on the location. One community may experience certain effects more than others. Local governments are responsible for addressing the environmental concerns specific to their community, and educating their citizens on sustainable practices. When issues pertaining to sustainability are broken down and addressed at a local level, the impact may be more widespread throughout the community.

Throughout Europe, there are many organizations and initiatives to provide citizens with the support and resources they need to become more sustainable. Often times, education on sustainability begins in institutions and universities. Research suggests that universities have a responsibility to educate its students on sustainability in order to generate a society that understands the importance of their impact on the environment (Filho, Shiel, & Paço, 2015). The intent is for students to bring these sustainable practices with them throughout their life, and impact the communities they become a part of. Universities in the United Kingdom are very active in promoting sustainability through a variety of actions. An organization called People & Planet provides a framework for various initiatives including “Go Green Weeks”, which occur on college campuses to educate students about the actions they can take to live sustainably. The University of Worcester in Worcester, UK is very involved with People and Planet, and have adopted the Go Green Week for its campus. Alongside their professors, first year students plan and host a Go Green Week to educate students about sustainability. Following the event, students evaluate the impact they had on their peers and faculty members of the University. Go Green Week at the University of Worcester is exclusively on the campus, and is only available for the college community to attend.

The Department of Sustainability within the University of Worcester intends to strengthen its relations with the greater Worcester community, and has proposed using the Go Green Week model as a way to achieve this goal. The University desires to develop a Go Green Week based on their existing model that engages local businesses, organizations and community

members, and promotes sustainable practices. Hosting a Go Green Week in the community potentially contributes to the city of Worcester's long-term goal of achieving full membership of the Transition Network. Developed in 2005, the Transition Network is a global movement, which encourages communities to rebuild the world and reimagine the future by advising communities to reduce carbon emissions and fossil fuel dependency, promote inclusivity and social justice, and foster collaboration and creativity (Transition Network, 2016). The city of Worcester aims to develop a sustainable community, and encourage behaviors that are less harmful to the environment (Transition Worcester). The University of Worcester, Worcester City Council, and Worcestershire County Council combined their resources to further the City's ambitions of becoming a Transition Town. The intention was to engage the community and promote the sustainability ideals outlined in the City's Transition Plan.

The goal of our project was to take the University of Worcester's Go Green Week model and develop it to engage the Worcester community and promote sustainable practices. The project began by gauging the interest of the community in sustainability and evaluating the available resources provided by local businesses and organizations. In order to develop a strong starting point, we met with key members of the community to learn about the sustainability issues most prevalent in the city of Worcester. This enabled us to develop a set of activities that were specific to the community of Worcester. Next, we gained endorsement, sponsorship, and support for our event by approaching local businesses and encouraging participation. The event was given no budget or funding, so we engaged local businesses for sponsorship and provided them with an opportunity to be more involved in their community. Businesses were involved by attending the event and donating items for prizes or free samples. The sponsorship we received helped educate citizens on sustainable practices, and encouraged community growth and local business support. Building from the University of Worcester's model, we were able to promote sustainability and strengthen the bond between the University and the city of Worcester.

We also used two surveys to measure the impact and effectiveness of the Go Green Week. The first survey was distributed during the event and collected both qualitative and quantitative data regarding participants' behaviors and attitudes towards sustainability. The second survey was sent out to Go Green Week participants via email, and collected feedback from the Go Green Week to help formulate recommendations for future events of a similar nature. We endorsed future sustainability endeavors by contributing to an ongoing interactive

Google Maps project initiated by the University of Worcester, which outlines a trail of sustainable businesses in the Worcester City Centre. We also developed a synopsis of the week in the form of a blog post, and a video compilation of the event. Because the Community Go Green Week is an ongoing project at the University, we formulated recommendations for future groups to enhance community involvement. Our project served as a pilot year for a new idea initiated by the University of Worcester. Our purpose was to strengthen existing relationships between the University, City, and community, as well as develop new partnerships to support the City's long-term goal of becoming a sustainable Transition Town.



## Chapter 2: Background and Literature Review

This chapter begins by highlighting the fundamentals of sustainability, including the three key pillars of sustainable development. We explore sustainability in the United Kingdom, Worcester, UK, and at the University of Worcester to form a basis of sustainable ambitions where our project is taking place. Various green initiatives are defined, as well as community engagement. Building from these ideas, we synthesize the roles that universities and local governments play in promoting sustainability. Furthermore, the motives that influence corporations to sponsor sustainable initiatives are identified. We then examine methods of both qualitative and quantitative data collection to support our surveying efforts. This chapter provides an insight of the several aspects associated with our project of extending the University of Worcester's Go Green Week model into the community.

### 2.1 Sustainability

Sustainable development involves an understanding of the relationship between the three pillars of sustainability: environment, economy, and society (Opp & Saunders, 2013). Although difficult, a balance among the World Commission on Environment and Development's three pillars of sustainability must be satisfied by the government, the community, and individuals to work toward achieving sustainable development.

Opp and Saunders (2013) argue that economic development involves a focus of cities enacting policies to enhance revenue for businesses. As cities strive to ensure that businesses are maximizing their efforts to gain a profit, environmental quality is not always considered (Opp & Saunders, 2013). Those following the three emphases of sustainable development attempt to address economic interests while protecting the environment and its natural resources. Peter Næss criticizes the relationship between economic growth and long-term environmental sustainability in his work, *Unsustainable Growth, Unsustainable Capitalism*. Næss (2006) believes that economic growth and "rising levels of production and consumption" are caused by the capitalist economic system (p. 199). Some economists believe that an "environmentally sustainable future" cannot be achieved by capitalist practices that solely focus on earning a profit (Næss, 2006, p. 199). Others believe that capitalism can overcome environmental problems, such as scarcity of natural resources, by investing profits into technologies to revive natural resources

(Næss, 2006). For example, Næss (2006) observes that some economists believe that CO<sub>2</sub> emissions will increase as poor, undeveloped countries become industrialized, and that affluent, developed countries will use their economic gains to develop “environmentally friendly technologies” that will balance the harm created by environmentally unsustainable practices of industrialized nations (p. 200). Næss does not agree with this view, and his argument is supported by the findings of researchers at Catholic University of Leuven. The researchers studied the relationship between economic growth and CO<sub>2</sub> emissions in 100 countries between 1960 and 1996. They discovered a “correlation between economic growth and increased CO<sub>2</sub> emissions both among poor countries, middle-income countries, and wealthy countries” (Næss, 2006, p. 200). In these different groups, regardless of the country, CO<sub>2</sub> emissions increased as the country's economic standing improved, debunking the economist theory that CO<sub>2</sub> emissions will eventually decrease when countries are affluent and developed.

Næss (2006) believes that in the long-term, resource depletion will “not only undermine natural ecosystems, human health and quality of life, but also destroy the possibility of continued economic growth” (p. 201). He does not foresee a decoupling of economic growth and environmental sustainability, as capitalism depends on natural resources to continuously earn a profit. Næss acknowledges a differing view of some economists, which argues that decoupling environmental growth and environmental degradation is possible. Economic theory defines economic growth as “a measure of changes in economic activity, defined as a volume times price for all commodities and services” (Næss, 2006, p. 214). When the economy grows from one year to another, it theoretically could be because of an increase in the average prices for all services and products, as opposed to an increase in the volume of goods and services produced (Næss, 2006). With this view, economists argue that an increase in economic growth does not always correlate with consumption. This suggests that economic growth is possible without degrading the environment.

Social development focuses on those who are lacking in their everyday needs, and is associated with the community's economic and environmental status (Opp & Saunders, 2013). Social justice can be achieved when there is an equal dispersion of “environmental amenities or goods” throughout the community (Opp & Saunders, 2013, p. 682). When everyday necessities of community members are met, individuals will not be partaking in actions that are detrimental to the environment, such as degrading land through harmful agricultural practices or going to the

bathroom in an unsanitary manner (Opp & Saunders, 2013). Social justice, however, is difficult to achieve in relation to sustainable development. Krueger (n.d.) argues that the “economic and environmental concerns have begun to converge in recent years”, but social justice concerns are lacking recognition (p. 13). Within a community, there are groups of citizens that are “disempowered, marginalized, or silenced” in the political policy processes advancing toward sustainable development (Krueger, n.d., p. 14). Such groups do not have a voice in the decisions of policymakers. Krueger observes that elite politicians and businessmen do not consider the poorer, disempowered portion of the community population. The elites pursue “aspects of sustainable development to serve their needs...[green] ways that will benefit themselves and not the larger community” (Krueger, n.d., p.15). When this occurs, various economic classes are not represented in the costly decisions to advance towards becoming a “sustainable city”.

When politicians decide to adopt green practices, such as “bike share programs, shared care schemes, and smarter public transport”, their cities become greener (Krueger, n.d., p. 14). These green practices help improve the city's economy. There are more jobs being created to make advancements towards these green practices that will eventually become sources of income for the city. Although there are benefits of such initiatives, there are also concerns about social justice within the community. Krueger (n.d.) observes that “deep injustices accompany urban sustainable development” (p.15). Improved and sustainable properties created by cities are accompanied by higher values. Krueger (n.d.) argues that “in most cases these redeveloped properties were formerly rental units or properties in low-income neighborhoods” (p.15). This leads to injustice within the community when efforts to become more sustainable are enacted, because individuals who cannot afford the newly improved housing lose their homes, and cannot afford the new housing markets. Individuals with lower incomes search for other “marginal housing”, and generally move farther away from their jobs, leading to “longer commutes, higher fuel costs, time away from family, and low-quality housing” (Krueger, n.d., p. 15). When communities make efforts to become more sustainable, they are not always considering the lower income population, leading to injustice within the community as some individuals benefit from the advancements and others suffer. As Opp and Saunders (2013) have observed, in order to be sustainable, a community must consider the three key components of sustainability: environment, society, and economy. A city can be making advancements towards sustainable development, but also make setbacks if officials are not considering the effects of their efforts on

the entire population.

Vos (2007) argues that although community participation is not one of the three key pillars of sustainable development, it is still an important parameter to consider. The Brundtland Report also recognizes that community support is vital when sustainable initiatives are enacted. According to the report, “the law alone cannot enforce the common interest. It principally needs community knowledge and support, which entails greater public participation in the decisions that affect the environment” (The World Commission on Environment and Development, 1987, p. 56). Methods to encourage the community to support advancements toward sustainability include promoting citizen’s sustainable initiatives, empowering their organizations, and strengthening local democracy. When communities are informed in decision making processes, governments will gain citizens support because citizens have been involved in decisions that have a direct impact on them (The World Commission on Environment and Development, 1987).

To have long-term success, organizations that promote sustainability need community involvement. Michael Kenny believes that the community is a “core value within the ecologically sound society which greens hope to create”, because the power of the community can act as a political means in gaining support for sustainable initiatives (as cited in Doherty & Geus, 1996, p. 17). With the support of the community, organizations are more likely to succeed because they will have volunteers, funding, and widespread attention from the community. Kenny observes that those advocating for green practices believe that community is a precondition for sustainability. He disagrees with this view, because “community can only be contingently related to ecology” (as cited in Doherty & Geus, 1996, p. 18). The community depends on the natural environment, and this aspect is prominent when the relationship between sustainability and democracy is discussed. Kenny believes that the community is not linked to sustainability or democracy, rather that sustainability and democracy are linked (as cited in Doherty & Geus, 1996).

A fine line emerges when considering how green advocates view the idea of community, and to what extent they feel that they can enforce their ecological beliefs upon citizens with differing views. Saward reveals that to greens, the idea of a community “combines a libertarian emphasis upon decentralisation, self-government, and the absence of external restraint” (as cited in Doherty & Geus, 1996, p. 19). Many greens believe that there is a sense of free will in the community, and that there should not be any outside restraint or high figures of enforcement.

This leads to an issue of “controversial policy preferences” as not everyone will agree with these views, even though they are justified by the “ecological general will” (Doherty & Geus, 1996, p. 19). If those advocating for an improvement in sustainable practices encourage community members to do the same without making individuals feel imposed upon, then the community can become a powerful tool.

Defining a sustainable environment involves identifying the relationship between humans and nature (Vos, 2007). There is a complex historical context that emerges with the Industrial Revolution and that continues to the present with respect to the human-nature relationship. The Industrial Revolution began in Britain in the 18th century, lasting from 1760 to 1830 (Britannica, 2017). It began in the United States in the 19th and 20th centuries (Britannica, 2017). During periods of the Industrial Revolution, there was overexploitation of natural resources, pollution from factories, and mass production. All of these factors were harmful to the environment, as they involved degrading air quality and using resources faster than the environment could replenish them. Although several corporations continue to release harmful emissions into the atmosphere, there has been a shift in how businesses view and treat the environment (Berry & Rondinelli, 1998).

Berry and Rondinelli (1998) observe that companies in North America, Europe, and Japan are rapidly changing to become more “proactive in environmental management” (p. 38). They have identified three stages in this revolution that demonstrate the continuous shifts of the relationship between humans and the environment. The first stage occurred in the 1960s and 1970s, when businesses were struggling to address the environmental issues that they were responsible for, and making efforts to “control the resulting damage” (Berry & Rondinelli, 1998, p. 39). Businesses were aware of the harm they were inflicting on the environment, but were still figuring out how to handle the damage. In the 1980s, the “reactive” phase emerged. Companies were required to respond to new environmental regulations of governments that addressed issues relating to waste management, pollution, and water quality (Berry & Rondinelli, 1998). The proactive environmental management strategy phase formed in the 1990s. Corporations began to predict the harm that their operations inflicted on the environment, and developed methods to reduce their impacts before they occurred by reducing pollution and waste outputs (Berry & Rondinelli, 1998). The environmental management strategy phase is presently occurring. The British government has a “plan to phase out the fossil fuel [coal] to meet its climate change

commitments” (Brown, 2017, para. 6). In 2025, the last coal power station in Britain, West Burton 1, will be closed. To address this goal, National Grid recently inhibited use of this power station for 24 hours (Brown, 2017). By committing to reducing emissions produced by the coal power station, National Grid and Britain are acknowledging the importance of conserving resources and preserving the environment for the future.

The World Commission on Environment and Development (1987) defines sustainable development, stating “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The overall idea of this definition encompasses the goal of satisfying the needs of present day society without limiting future generation’s access to natural resources. However, this definition differs from other views, some of which are described by Lozano. Lozano (2008) has identified four different interpretations of sustainability:

- Conventional economist’s perspective;
- Non-environmental degradation perspective;
- Integrational perspective;
- Inter-generational perspective.

The conventional economist's perspective describes the consumption of materials in a manner that is convenient for those in the present (Lozano, 2008). Conventional economics does not recognize the limitations of resources, and that their use must be considered wisely. This view does not take into account the impact that economic activities have on today’s environment and societies, nor does it consider the implications of economic activities for the future.

The non-environmental degradation perspective exhibits a cautious attitude toward using the world’s resources. It recognizes the scarcity of resources, and states that “consumption cannot be continued indefinitely” (Lozano, 2008, p. 1839). The non-environmental degradation perspective also emphasizes that natural resources should not be depleted (Lozano, 2008). Lozano argues that this view is more typical of developed countries. In less developed countries this definition of sustainability is not as widespread, as communities are more focused on satisfying their daily needs than they are with preserving natural resources (Lozano, 2008).

Sharma and Bhatnagar analyze the relationship between less developed countries and the mining industry. Their analysis provides an example why the non-environmental degradation perspective is not common in less developed countries. The mining industry takes advantage of undeveloped countries, causing devastation to their environments. Mining companies leave

“when an area has been exhausted of all economically valuable resources” (Sharma & Bhatnagar, 2015, p. 367). A major issue with this relationship is that the mining industry values the financial gains more than the detrimental effects on the environment. Less developed countries rely on the income that they receive from mining industries. Without the mining industry, there would be a loss of jobs, decrease in property values, and more health issues (Sharma & Bhatnagar, 2015). The effects that mining has on the environment are not as important as the requirement to satisfy pressing economic needs, exemplifying why Lozano believes that the non-environmental degradation perspective only exists in developed countries.

In contrast, there are instances in wealthier nations where the non-environmental degradation perspective does not exist. Coal mining occurs in the United States, and in 2014 the U.S. economy benefited from 46 billion dollars of coal mining revenue (U.S. Coal Mining Revenue, 2014). Even though mining companies in the US are aware of the significant environmental impacts of mining, they are more interested in making a profit than changing their practices to become more sustainable. Ditsele and Awuah-Offei (2012) reveal that the US coal mining industry still is not using “environmental sustainability evaluation tools” as much as it should be when mining (p. 288). The coal mining industry is ignoring the sustainable improvements it can make in order to make an economic gain, demonstrating that Lozano’s belief that developed countries follow the non-environmental degradation perspective is not always true. Even though corporations are aware of the environmental damage they are inflicting, they are focused on the economic gains associated with coal sales.

Lozano (2008) observes that the integrational perspective is a combination of social, economic, and environmental aspects with respect to sustainability. Those who follow this view are cautious of the decisions that they make for specific short-term choices, but are not considering the long-term consequences of their actions (Lozano, 2008). Lozano (2008) observes that a prominent issue with the integrational perspective is that social, economic, and environmental issues are not consistently treated equally. There is an imbalance among these three aspects of sustainability, and Lozano (2008) suggests this is why the integrational perspective is not associated with long-term decisions. The inter-generational perspective differs from the integrational perspective, and values the future of the environment. It satisfies “the needs of today's societies without compromising the needs of tomorrow's societies” (Lozano, 2008, p. 1840). This perspective recognizes the need for resources presently while

simultaneously protecting the future environment. The interpretations of sustainability identified by Lozano (2008) suggest that there is a wide gap in the efforts that individuals are willing to make in adopting and promoting sustainable initiatives. Some individuals, particularly those involved in green politics, are more inclined to have the non-environmental degradation perspective or the inter-generational perspective, as both views value environmental preservation.

In an effort to understand higher levels of sustainability, an important distinction must be made between sustainability and sustainable development. Sustainability explores the relationship between social behaviors and nature, and the balance between material items and the moral obligations that come with them (Doherty & Geus, 1996). Sustainability covers a broad range of environmental and human issues caused by economic development, and depicts how the needs of humans can affect the environment and deplete ecological resources (Doherty & Geus, 1996). Sustainable development attributes to how progressive economic and ecological relations affect natural and human resources. Involved with the political and technical elements of sustainability, sustainable development acts as a subset of sustainability (Doherty & Geus, 1996).

This concept poses the question, what is at stake with respect to sustainability? There are many motives that influence societal changes in sustainable behavior and practices. A question of morality and accountability comes into play (Doherty & Geus, 1996). It is not necessarily clear who is responsible for future generations, and society is faced with a dilemma. The fate of the future depends on the sacrifices society is willing to make, and the level of concern humans have for future generations (Doherty & Geus, 1996). This links to the concept described as the ethics of sustainability. The green theory argues that the present generation is aware of the power they possess over the welfare of future generations, consequently making society ethically obligated to protect their descendants (Doherty & Geus, 1996). This concept portrays future generations to be a substantial stakeholder in the implementation of sustainability. Even if there is agreement on who is responsible, more questions are posed examining what sacrifices are to be made and what generations must be protected (Doherty & Geus, 1996). There is no scientific or metaphysical solution for such moral and ethical questions, henceforth introducing the interest for political involvement (Doherty & Geus, 1996).



### 2.1.1 Sustainability in the United Kingdom

In 1973, the Green Party of England and Wales was founded in response to increased concern about environmental degradation due to human actions (Barnett, 2015). The Green Party wanted to ensure that environmental issues were included with other pressing topics. Barnett argues that economics, military spending, inequality, agriculture, biodiversity loss, mental health, and crime and poverty are all associated with one another and must be treated equally within one group. It is essential that the human race guides itself by a philosophy structured on the interaction between humans and the surrounding world (Barnett, 2015). The Green Party has a philosophical basis of which its policies are focused. Key points of the Green Party philosophical basis include diversity in the human and natural environment in which humans enrich rather than destroy life, social change based on real equality, and conservation and value of natural resources (Barnett, 2015). The Green Party does not have a large representation in Parliament, only containing one seat out of the 650 available. Nonetheless, it allows for the Green Party to have some voice in the decisions discussed with regard to the environment.

The United Kingdom has enacted multiple initiatives in an effort to advance toward a sustainable society. The UK Sustainable Development Strategy was created in 2005 to improve nationwide efforts in addressing social, environmental, and economic aspects of sustainable development. There are four broad objectives listed in the UK Sustainable Development Strategy from 2005:

- Social progress which recognizes the needs of everyone;
  - Effective protection of the environment;
  - Prudent use of natural resources;
  - Maintenance of high and stable levels of economic growth and employment.
- (Sustainable Environment, n.d., para. 1)

The UK government aims to focus on enacting these objectives in order to improve its economic situation and environmental health, and to create a workforce with suitable skills and education to improve the economy. The strategy addresses several topics associated with sustainable development, helping the UK advance toward becoming a more sustainable nation. The UK Sustainable Development Strategy recognizes the need for a more environmentally sound approach to development, especially with regard to transport, energy production, and waste management (Sustainable Environment, n.d.). Future efforts for making advancements toward a sustainable society include heavier emphasis on reducing greenhouse gas emissions,

sending less waste to landfills, reducing the overall amount of waste produced, and decreasing water consumption (Department for Environment, Food & Rural Affairs Cabinet Office, 2016). The UK government recognizes the environmental, social, and economical benefits of investing into greener operations. (Department for Environment, Food & Rural Affairs Cabinet Office, 2016). Over the last 20 years, the UK has implemented new policies, increased funding, and changed its focus with respect to sustainable initiatives every five years. This allows for observations on the success of previous actions, while enabling the government to make changes if necessary.

The UK is aware of the pressing sustainability issues it faces, and solutions are being formed through government policies, political parties, and raising awareness to businesses and citizens. Many local communities promote sustainability, including Worcester, UK. When communities adopt the nationwide efforts in promoting sustainability, more progress can be made in reaching a balance between the environment, economy, and society.

On June 23rd, 2016 the United Kingdom European Union membership referendum took place. The result was 51.9% of UK voters being in favor of leaving the European Union (EU). The complete withdrawal process, known as “Brexit,” is scheduled to be completed by March 30th, 2019. The effect of how this decision to leave will affect environmental law is unclear given that UK and EU laws are intertwined in many ways (Reid, 2016). The legal system of the EU is developed in such a way that EU laws are not separate from national laws, which means EU laws have been integrated into UK law throughout the four decades of its membership (Reid, 2016). Environmental action was taken more quickly and comprehensively in the UK due to innovations introduced into law through the EU (Reid, 2016). An example is the Urban Waste Water and Bathing Water Directives introduced by the EU, which prompted the UK to invest a lot of money into upgrading the sewage treatment systems countrywide (Reid, 2016). If it were not for EU directives, the UK would have had less of an obligation to have higher standards regarding environmental assessment, access to environmental information, bathing standards, and conservation of biodiversity (Reid, 2016). Only time will tell just how much Brexit will affect laws and regulations surrounding sustainability in the UK.

## 2.1.2 The Sustainable History of Worcester, UK

Worcester is a small city set along the River Severn in the county of Worcestershire. The town is well known for its famous Worcester Cathedral, which contains the tombs of King John and Henry the VII's eldest son, Prince Arthur (The Editors of Encyclopædia Britannica, 2013a). The landscapes include heavily wooded areas, and the climate and environment allow for bountiful fruit and vegetable cultivation. Other rural parts of the county consist of dairy farms. The manufacturing industry of Worcester includes the production of agricultural machinery, and the processing and packaging of fruit cans, ciders and milk (The Editors of Encyclopædia Britannica, 2013b). The city of Worcester is rich with culture and history, and has valued its relationship with the environment for many generations. From a first impression on the City, it is clear that many of its historical agricultural practices continue to be used in the present day. Many businesses continue to use locally grown produce and resources, and the City's flourishing wildlife and lush green fields still surround the City. Worcester values environmental preservation, and continues to encourage sustainable behaviors.

Building from its historically sustainable practices, the city of Worcester aspires to gain recognition for its endeavors by becoming a full member of the Transition Network. The Transition Network recognizes communities around the world that are shaping the future and supporting community development (Transition Network, 2016). In 2007, the Transition Worcester Initiative began as a collection of local environmental groups called One Planet Worcester. The organization grew over the years, and in 2009 the organization officially became Transition Worcester. The organization's long-term goal is to gain full membership in the Transition Network. In order to achieve this goal, the City uses focus groups which are centered around food, energy, transport, and raising awareness. Each group specializes in educating the community on important aspects of sustainability (Transition Worcester). Through this organization, the City hopes to improve community outreach and advocate sustainable practices.

Acknowledging that the environment is important to humans physically and mentally, Worcester has made strong efforts in preserving nature and biodiversity (Bratman, Hamilton, & Daily, 2012). The natural environment provides communities with physical necessities, such as food and shelter, and also provides a means of alleviating stress (Bratman, Hamilton, & Daily, 2012). Studies have shown that individuals living in urban areas have more trouble processing stress than those surrounded by more natural environments. The natural environment is a

psychological ecosystem service that should be utilized to support the physical and mental needs of communities (Bratman, Hamilton, & Daily, 2012).

Worcester provides several means for citizens to access and enjoy the outdoor environment. The Worcestershire Wildlife Trust is a charity that has over 75 nature reserves. It works with landowners, managers, and the community to “restore, recreate and reconnect fragmented natural habitats to achieve a landscape where wildlife can flourish and people can lead healthier and happier lives” (Worcestershire Wildlife Trust, n.d., para. 1). In addition to caring for nature reserves, the Worcestershire Wildlife Trust aims to protect endangered developments through campaigns, expose children to the wonders of nature, protect the biodiversity of Worcester, and encourage citizens to volunteer to protect the reserves. The Worcestershire County Council also values protecting Worcester’s biodiversity. A Biodiversity Action Plan (BAP) has been established to protect and increase the number of species that reside in Worcester (Worcestershire County Council, n.d.). Within the BAP, there are 47 Action Plans that address habitats, species, “biological recording and information, biodiversity education, awareness and involvement, and policy, grants and legislation” (Worcestershire County Council, n.d., para. 2 ). The goal of the BAP is to identify threats to species and habitats, and to ensure that organizations are working to protect them.

Another environmental concern the city of Worcester has started to address is the importance of sustainable food and health practices. The Worcester City Council has a Department for Environment, Food & Rural Affairs to help businesses become more sustainable and be more aware of how climate change is affecting Worcester (Sustainable Business, n.d.). The ability of food systems to provide sufficient nutritional and affordable food has been directly affected by climate change. Having access to healthy and sustainable food choices is an important contribution to health and climate change policy efforts. The Worcester City Council also supports Fairtrade, which is an international certification of products that ensures that products marked as “Fairtrade” are sourced from sustainable farms and that the farmers selling the products were offered fair prices for their goods (Fairtrade Worcester, n.d.). In 2006, the Worcester Trade Justice Network achieved its goal of giving Worcester the status of a Fairtrade Town (Fairtrade Worcester, n.d.).

Sustainable energy use and conservation is an issue that many communities face. Specifically in Worcester, one of the major energy issues is within citizen’s homes. This is

because homes are generally older and may not have up-to-date appliances and insulation. The Worcestershire County Council has recommendations to fix these problems, including updating boilers, insulating roofs and walls, double glazing windows, and using more efficient appliances (Worcestershire County Council, n.d.). Many homes and buildings in Worcester do not have the latest energy conserving technologies, and contribute to unnecessary CO<sub>2</sub> emissions that are responsible for global warming. There are many different companies surrounding Worcester that supply renewable energy combined with normal oil and electricity. In addition to these services, some UK energy providers supply helpful solutions that are more economically feasible so citizens do not have to switch to a new energy provider. This allows citizens to improve the heat in their homes while also protecting the environment.

Waste is a primary concern for the city of Worcester. Waste can be in the form of garbage, water, food, or other resources. In order to limit this waste, the City has taken on the tasks of reducing, reusing and recycling. According to the Worcester City Council, the City is now recycling 37% of household waste, which is an increase from the previous year. However, 40% of household waste could still be composted (Diocese of Worcester, n.d.). In order to increase participation in recycling, the City provides its citizens with many resources and instructions to successfully reduce, reuse, and recycle. For example, there are programs that recycle old textiles, furniture, electronics, and household items. Depending on the condition, the programs donate the recycled materials to those in need (Worcester City Council, n.d.). The Worcestershire County Council also promotes and encourages citizens to compost, and provides directions for creating and using compost bins (Less, 2015).

The city of Worcester has already taken the significant steps to generate a sustainable society by fostering many environmental organizations. These developments suggest the city of Worcester serves as a quintessential community to engage in sustainable activities.

### **2.1.3 Sustainability at the University of Worcester**

The University of Worcester adopted a sustainability policy in 2007. The policy has been reviewed and updated every year since its establishment in 2007. The overarching goal of the policy is to promote a wide variety of sustainability principles through teaching, research, and activities. By promoting these policies, the University hopes to promote sustainable communities, services, and use of physical resources. The sustainability department on campus

actively works to develop local, regional, national, and international networks to develop the school's sustainability agenda. The University of Worcester takes its responsibility to the environment very seriously, which is evidenced by its first class achievement in the People & Planet's Green League Table (Figure 1) (Sustainability Priorities, n.d.).

People & Planet is a network of student led campaign groups in the UK with the goal of empowering young people with resources to induce change, both at home and globally. In 2007, the organization began publishing an annual People & Planet's Green League, which ranks universities in the UK based on their environmental and ethical performances. The Green League is comprehensive in all aspects related to sustainability, and since its beginning it has expanded to include policy and performance of institutions of higher education (University League, n.d.).

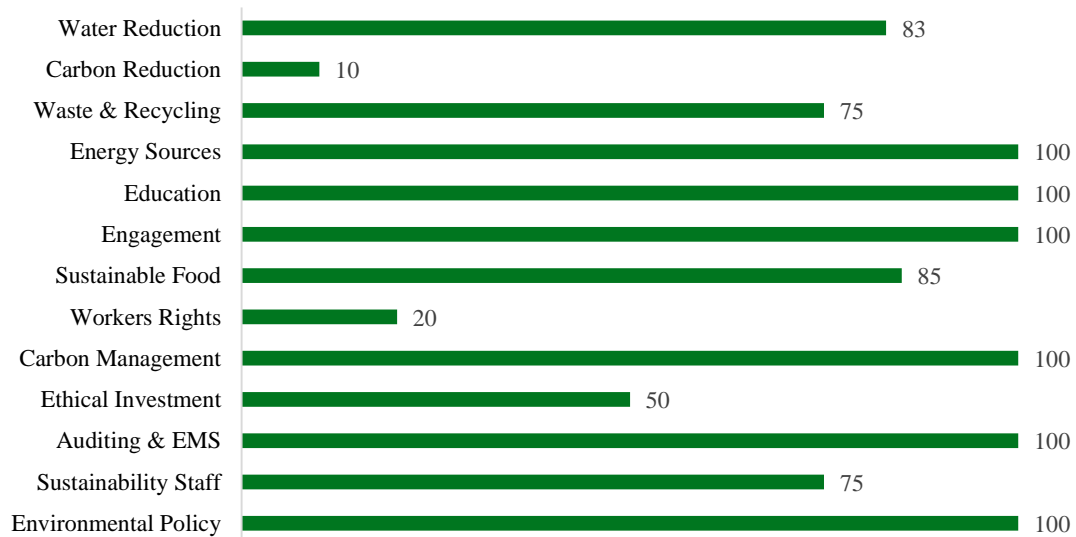


Figure 1. Summary of the People and Planet Scorecard for the University of Worcester in 2016. Adapted from University of Worcester People & Planet University League 2016 Scorecard. Retrieved from <https://peopleandplanet.org/university/158284/ul16>

In addition to the University Green League, People & Planet promotes an annual Go Green Week, which is meant to allow students to take initiative in climate action. Go Green Week provides a unique opportunity for students to lead events with the goal of raising awareness about sustainability (Go Green Week 2017, 2017). Ideally, participants will learn about proper sustainable practices and become part of the movement toward a sustainable future.

The University of Worcester has adopted the Go Green Week. It is composed of a week-long series of planned activities revolving around the ideals of sustainability. The themes of the week have traditionally included nature, food and health, transport, reuse, and energy. The week

is organized by first year students enrolled in a sustainability elective at the University of Worcester. A major part of their assessment is the organization of Go Green Week (Go Green Week, n.d.). The most recent Go Green Week at the University of Worcester was held from February 6th to February 11th of 2017 (Figure 2).

**NEW Loyalty Card - Attend events, get stamps and claim a free a chilli plant & pizza.**  
**Nature trail puzzle** - Register at Hines reception - St John's Campus walk the University Mile – two versions, one for kids  
**Food bank** – donations accepted Hines Building  
**Money off hot drinks**- 15p off all hot drinks on campus if you bring your own cup. Keep Cups £5.45 (10% off) all week

Monday	Tuesday	Wednesday	Thursday	Friday
<b>NATURE</b> <b>Sustainability Fair</b> 11:00-2:00pm - Learn about the issues and join campaigns - Lots of stalls - Ethically sourced jewellery - Free poppy seeds - Design a climate change work of art  <b>Community Litterpick</b> 2:30 - 3:30pm Meet at Malvern Gate	<b>FOOD &amp; HEALTH</b> <b>Food &amp; Health Fair</b> 10:00-2:00pm - Bake off/cake sale - Veggie and vegan food samples - Study Happy - Edible crickets! <b>Cooking demo</b> starting 12:30 & 1:30pm Learn cheap quick easy recipes - Local Food Lunches - Love Food Hate Waste  <b>Make pancakes</b> 7:00-8:00pm <b>Quiz</b> - food section 8:30pm	<b>RE-USE</b> <b>Repair Café</b> 11:00-2:00pm Bring items for repair: - Bikes, get free safety check - Clothes, get free sewing repairs - Need items gluing? <b>Also;</b> - Create a dressing up costume - Re-use carnival games - Design a climate change work of art	<b>ENERGY</b> <b>Chilli Plant Giveaway</b> 10:30-2:30pm St Johns Campus Main Reception *bring full stamp card to get a free chilli plant - Climate change art work show <b>Powerstation run on waste</b> 1:15 - 2:00pm EE 1026 <i>lunchtime talk</i>  <b>Meditation in Movement</b> 2:30-4pm The Hive Free meditation session	<b>TRANSPORT</b> <b>Transport stalls</b> 11:00-2:00pm St Johns Campus Main Reception - First Bus - Car share promotion - Free bike security marking <b>FREE Pizza</b> 12:00 – 2:00pm University Allotment Forensic House garden Severn Gate  <b>SATURDAY</b> <b>Repair Café</b> 11am start STARS Day Care Centre

All activities in the Students' Union, unless otherwise advertised

University of Worcester

Figure 2. Outline of events for Go Green Week 2017 at the University of Worcester. Reprinted from Go Green Week. Retrieved from <http://www.worcester.ac.uk/discover/go-green-week-event-organisers.html>

At the end of the week, the students partaking in the sustainability elective assemble a video with clips taken throughout Go Green Week. A student report is also written and published on the University of Worcester's website. The report summarizes each activity that occurred, and assesses the success of each activity based on attendance and public reception.

### 2.1.4 Green Initiatives

Local, community-based initiatives are most likely to have an effect on changing deeply entrenched behaviors that negatively impact the environment. Professor Tim Jackson at the

University of Surrey conducted an Economic and Social Research Council (ESRC) funded study entitled “Towards a ‘Social Psychology’ of Sustainable Consumption.’ Jackson reviewed research across many different disciplines such as social anthropology and environmental psychology. Based on Jackson’s study, it is clear that any initiatives that intend to promote change in people’s behavior must respect the symbolic role that goods play in human life (Jackson, 2005). It must also be recognized that a majority of people are “locked in” to already existing behaviors due to both habit and circumstance.

Community-based initiatives that intend to foster the growth of social norms are the best methods to break habits and reshape ideas, especially when social support is provided (Jackson, 2005). An example of such an initiative is the Global Action Plan. The Global Action Plan (GAP) focuses on identifying opportunities to improve upon individual's energy efficiency, decrease material and water waste, and change behavior (Jackson, 2005). An example of an existing GAP program is Small Change, which is a community program located in East London. Its objective is to help children in primary school and their families use energy in an efficient manner, eat healthier, and reduce waste and pollution (Jackson, 2005). GAP is also launching a National Clean Air Day (NCAD) in June of 2017. The goal is to see local schools, hospitals, and communities across the UK run their own events and inspire residents to be more self-aware of their habits that contribute to contaminating the atmosphere.

Initiatives, such as Go Green Weeks, Earth Day, Earth Hour, and environmental awareness weeks, have been founded with the goal of educating individuals about environmental issues. The purpose of these events is to induce concern in participants “that raise awareness and take action toward the struggle for climate justice” (People and Planet, n.d., para. 4). Green initiatives allow for universities, communities, and nations to gather and inform the public on pressing environmental issues. Earth Hour is a “lights off” event that was developed in Sydney, Australia in 2007 with the World Wildlife Fund (Sison, 2013). During this hour, individuals are encouraged to turn off their lights, which symbolizes environmental preservation. Environmental awareness events are beneficial because they provide entertainment and motivate individuals of the community to make changes in their daily lives. These changes are aimed at producing a better future and enforcing sustainable practices into communities.

A successful initiative that raises environmental awareness is Earth Day, which is an international holiday that has been celebrated every year since 1970. One of the main goals of



Earth Day is to inform the public on global environmental issues, such as deforestation, greenhouse gas emissions, and access to clean water. The first Earth Day started in the United States, with 20 million Americans participating in the event (Earth Day Network, 2017). Now, over 190 countries currently participate in this event. Although Earth Day is designed to take place in one day, many of the events and educational activities are adapted into Go Green Weeks. Furthermore, many locations that host Earth Day have additional events throughout the entire week (Rome, 2015).

## **2.2 Engaging the Community**

Engaging the community in sustainability practices must appeal to the needs and wants of the community. It has been observed that knowledge alone will have little impact on changing behavior (Too & Bajracharya, 2015). The attitude-behavior gap will not simply be closed with information; psychology, marketing, and urban planning must all be implemented to close this gap. Closing this gap is a key factor in changing the environment (Too & Bajracharya, 2015).

Contradictory, Vos (2007) believes that with knowledge and information about policies and environmental initiatives, the community can participate in decision making processes and promotions to make advancements toward the city's sustainability goals. This view promotes the community as a stakeholder when pursuing sustainable development (Vos, 2007). If the community is not treated as a stakeholder, it will be difficult for sustainable initiatives to be successful since individuals will not have the proper knowledge to be motivated to support such efforts (Vos, 2007). Fischer, Too, and Vos all agree that for sustainability initiatives to be effective, they must engage with society.

Many psychological studies have been conducted to steer behavior toward environmentally friendly practices. Fischer (2012) argues that the problem is no longer a lack of knowledge but rather acting on existing knowledge. Provoking action from knowledge requires evaluating individual need factors. At times, these needs cause action over environmental knowledge. There are five drivers that influence behavior: efficiency and cost-effectiveness, health and safety, performance, symbolism and status, and convenience (Too & Bajracharya, 2015). Efficiency and cost-effectiveness provide the consumer with long-term benefits and the promise of saving money. Cost is a large motivating factor when it comes to buying or not buying green. Health and safety is the main factor to certain demographics (women, children,

and the elderly) based on negative health effects associated with certain products (Too & Bajracharya, 2015). Performance is similar to efficiency, and cannot be compromised for the cost or for added environmental effects. Symbolism and status is the social aspect in marketing. There is a certain social reputation associated with specific products or brands, and many consumers feel a sense of peer-pressure to make purchases based on what is most prevalent in society. Convenience appeals to all consumers as time is considered one of the most valuable resources today. Products that save time will contribute to the green market growth (Too & Bajracharya, 2015). Both Too (2015) and Fischer (2012) argue that if used effectively these factors can positively influence green approaches.

The five drivers observed by Too and Bajracharya (2015) can be applied and implemented in the community through the 6P framework. This framework should be used either completely or in part to successfully engage the community in sustainability. The 6Ps are psychological, physical, personal, public, price, and policies. This framework is composed of factors that influence community participation (Too & Bajracharya, 2015). The “psychological” factor refers to knowledge or values, pertaining to the environment, being promoted. This serves to educate the community on how and why living green should be practiced. “Physical” is the availability of the needed resources to partake in a green event. This could include recycling bins, bike paths, water refill stations, etc. Access to these physical facilities makes it easier for one to live green, and also allows members of the community to see the effect they are making. “Personal” is specific to each community member and could include time availability, performance requirements, reward, or cost. Reward can act as an incentive to do certain activities, as people are highly motivated to participate if they get something in return. The view of the “public” influences participation as people follow social norms. Peer pressure can be an effective method to motivate the community to participate. Individuals will be more likely to join an event if their neighbors or fellow employees are participating. “Price” is a large motivating factor for people to participate or to not participate. Green items are more likely to be chosen when they are justified by the price. However, price does not always favor sustainability. Sustainable products cost more to produce prompting consumers to buy unsustainably (“Putting a Price on Sustainability”, 2015).

“Policies” are regulated and have management support. Green policies promote citizen involvement due to their organized and controlled structure. At times community engagement

requires policy intervention from those in power. This intervention must be clearly effective, practically feasible, cost efficient, and a sufficient means of accurately monitoring the impact (Shearer, Gatersleben, Morse, Smyth, & Hunt, 2016). “Nudge interventions” are becoming more prominent in these situations. They are relatively simple ideas at a low cost to the policy makers. This framework seeks to encourage individuals to change attitudes and behaviors. The most effective use of this framework is when the nudge can be applied without the individual specifically noticing (Shearer et al., 2016). These interventions are most commonly distributed by local policy makers in the form of stickers, signs, posters, or flyers. Specifically in the UK, local governments have sought to increase the amount of recycled food. To promote this goal they have distributed sticker prompts to be placed on rubbish bins (Shearer et al., 2016). A study was conducted to evaluate the effectiveness of this method of engagement, finding that visual prompts, such as the stickers, are an effective and affordable method (Shearer et al., 2016).

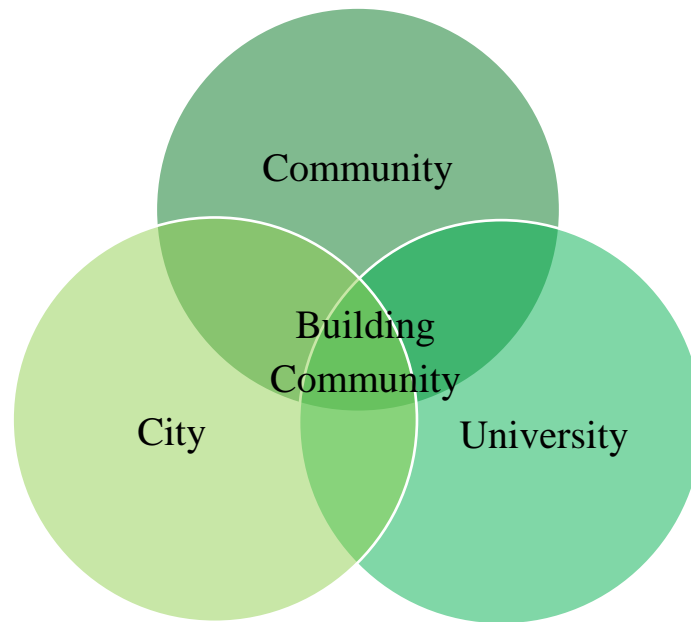
Government policies can be effective in engaging the community and enacting change. However, governments and policy makers can face limitations that prevent them from making change. Saward has observed members of the community may not be in agreement with some efforts to promote certain sustainable initiatives and policies. In this aspect, the community is still a stakeholder in making advancements toward sustainable practices, but it will be harder to make such advancements without the support and agreement from the majority of individuals within the community (as cited in Doherty & Geus, 1996). When political institutions face these limitations, community groups, foundations, and non-governmental organizations can enact change (Fischer et al., 2012). These organizations can form a key connection between the citizens and the government. Reassuring messages are subtle and inform the consumer about the “greenness” of the product. These messages can produce low levels of behavioral change but rarely enact fundamental change (Fischer et al., 2012). Threat messages advertise the decline of the ecosystem and societies. These can be as beneficial as they are detrimental. If too threatening, these messages can discourage people from taking action. Challenge messages are the correct balance of fear and knowledge. This balance encourages people to take action and reassures them that it is possible (Fischer et al., 2012).

An important aspect of engaging the community is examining what influences citizen behavior with the environment. Often a particular set of values or belief systems are the driving factors behind behavior. There can be a difference in influential values between individuals and

societies as a whole. For individuals and societies, there appears to be a shift occurring from desire based values to awareness values (Fischer et al., 2012). This means that people are becoming more aware of what they value, and the effect this value has on their behavior and therefore the environment. Fischer (2012) believes that to fully solve sustainability, the evolution of values and belief systems must be understood.

### **2.2.1 University Engagement**

The relation between universities and communities can be a contributing factor on how involved the community is in sustainability. Currently, universities around the world are being pressured to evaluate their responsibilities in the community, especially concerning economic, social, and environmental problems (Clifford & Petrescu, 2012). The collaboration that occurs between communities and universities is crucial to achieving urban sustainability (Nixon & Salazar, 2015). Universities can accomplish this crucial outreach through service projects, applied research, and community capacity building (Clifford & Petrescu, 2012). Furthermore, universities and communities are partnering with the city government to create a multidimensional relationship (Nixon & Salazar, 2015). The overlap and collaboration of these three groups creates an opportunity to build a sustainable community (Figure 3). Many universities have already taken on these tasks in areas including, but not limited to, sustainability.



*Figure 3. Community-University-City Relation. Adapted from Nixon & Salazar, 2015. Retrieved from doi://dx.doi.org/10.1016/j.cosust.2015.06.007.*

Engagement of the community poses both challenges and rewards to those involved. Challenges associated with engaging the community can be broken up into three categories: internal, external, and personal (Clifford & Petrescu, 2012). The main aspect of overcoming these challenges is to create a mutually beneficial relationship that focuses on the “larger good” (Clifford & Petrescu, 2012). Internal challenges are issues the university needs to overcome. Specifically to the University of Worcester, internal challenges would form within the department of sustainability and the other sustainability organizations. On campus departments and organizations must maintain their individual missions while keeping the community in mind. There are many different stakeholders within a university and there must be a balance of interests among them all. The University also needs to maintain its leadership role in engagement while still allowing for new partnerships and relations to be formed. External challenges involve maintaining the relationships with community organizations. In the city of Worcester, UK, there are many organizations aiming to promote sustainability. The University is tasked with working with these organizations in a partnership that does not compromise either side’s goals. An imbalance of knowledge between the community and university can affect the equity of contribution and return (Clifford & Petrescu, 2012). Lastly, personal challenges can develop when individual members of the university try to further their own careers over the good of the

community. Individuals involved in engaging the community are typically part of a larger effort, making it difficult for their own career goals to outweigh group goals. When universities can overcome these challenges and balance the efforts of all involved, a beneficial relationship with the community can evolve.

Universities are not only tasked with working with the community, but also with preparing students with the tools to be sustainable in the future. The idea is that universities are “small cities” and should serve as an exemplar of the cities students will eventually live in, work for, and experience when they graduate (Lauder, Sari, Suwartha, & Tjahjono, 2015). This creates the need for universities to do more than just implement sustainability in one context (Filho, Shiel, & Paço, 2015). Instead of restraining the incorporation of sustainability into university curriculums, there has been an increasing tendency to include the promotion of sustainable practices into every aspect of the university. Sustainability is no longer something that is taught, it is something that is experienced (Filho, Shiel, & Paço, 2015). By fusing sustainable practices into student’s everyday lives, universities are able to reiterate the importance of environmental sustainability. Environmental awareness is no longer a foreign concept, but rather a way of life that students are able to adapt to.

Many universities are currently using engagement drivers and frameworks to build off the idea of incorporating sustainability. In particular, Monash University, located in Australia, has implemented several sustainability programs (Too & Bajracharya, 2015). One of their programs, Monash Footprints, is a free, four week program for both staff and students. Participants learn valuable, practical skills to live a more sustainable life. They are taught how to cook using sustainably grown food and how to reduce their environmental footprint in water, waste, energy, and transport (Too & Bajracharya, 2015). This program utilizes personal and psychological factors to influence participants’ behavior. It recognizes that people value price and their own wellbeing. Another program the University hosts is a Sustainable Transport Fiesta (Too & Bajracharya, 2015). This is a week-long event dedicated to environmentally friendly transportation. It is meant to encourage staff and students to travel to and from the University using sustainable transportation such as bikes, walking, public transport, or carpooling. Each day of the week is dedicated to a transport mode and participants who used that mode are rewarded (Too & Bajracharya, 2015). Reward is a personal motivating factor that provides people with incentive to participate in an event. These programs use reward and other factors to encourage

people that sustainable behaviors are beneficial not only to the environment but to individuals. Both of these events and programs are hosted by The Office of Environmental Sustainability, which involves the aspect of policy affecting behavior.

Monash University is one example of universities implementing sustainability and engaging their campus communities. Universities recognize the need for change and promotion of sustainability. As a result of these recognitions, students and staff are engaging with, learning about, and adapting their behaviors toward the environment.

The objective of any community engagement technique is to break habit and provoke new behavior. New behavior can be initiated through stakeholder participation as Vos (2007) agrees with Kenny's belief that community involvement is vital in ensuring long-term success of sustainability initiatives. Stakeholder participation is an important aspect when pursuing sustainable development (Vos, 2007). Changing behavior requires knowledge of what the community values and developing services to address these needs (Too & Bajracharya, 2015). To capture the attention of the community, engagement techniques must be applied repeatedly over a period of time.

### **2.3 Role of Local Governments in Promoting Sustainability**

Although sustainability is a widespread issue, it can affect cities in different ways. There are a variety of factors that influence how a city is affected; hence, it is vital that local governments are involved in combating the issue. There are two main approaches that a city can take in enhancing its sustainability; explorative and exploitative (Ji, 2016). The exploration strategy aims to cover a comprehensive range of sustainability issues, and utilizes a variety of techniques to solve them (Ji, 2016). Through engaging activities, this method focuses on exploring new, innovative ideas to improve the city. The objective is to develop sustainability as well as community well-being (Ji, 2016). Because this approach generates a significant change, businesses and organizations in the city are forced to evolve due to competition. Although the benefits are often not immediate, they are designed to be shared among the entire community, not just the government alone (Ji, 2016). The results are also long-term, and induce significant changes. However, this strategy does pose a risk because the outcomes can be uncertain (Ji, 2016). As with any experimental approach, there is always a possibility that the results will be undesirable.

The second approach is the exploitation strategy. Differing from the exploration approach, this method only focuses on a finite assortment of sustainability issues (Ji, 2016). Formulated by taking existing practices and actions, the exploitation strategy revises these approaches to concentrate on a confined collection of issues with viable solutions (Ji, 2016). The result is a reduction in uncertainty regarding the success of the outcomes, and predictable, concise, and positive consequences (Ji, 2016). This concept examines sustainability issues, which are well known and ascertained, consequently reducing the risk of unpredictable outcomes. The solutions are designed to target specific areas of sustainability, resulting in precise actions directed explicitly towards those selected problems (Ji, 2016). While these solutions are generally consistent and successful, they are moderate and do not induce a significant change. The transformation is often minimal and not widespread throughout the whole community (Ji, 2016).

Both methods of developing sustainability in communities have various pros and cons. Though the explorative and exploitative both share the same end goal of transitioning the city to become more sustainable, they take very different approaches. It is important that the solution for sustainability is customized for each town to fulfill its needs based on what issues affect the community the most. Due to pressures generated by stakeholders, oftentimes businesses and organizations are compelled to innovate new procedures to solve the sustainability dilemma (Ji, 2016). These small changes catalyze a change in sustainable practices and lead to an advantageous outcome.

### **2.3.1 Community Pressure for Green Behavior**

Businesses face demands from the community to become more sustainable and aware of their impacts on the environment (Heyes & Kapur, 2012). In addition to following environmental regulations enforced by the government, businesses also have to be aware of the views and pressures of the community with regard to preserving the environment. Studies have determined that businesses tend to “choose socially desirable actions in order to maintain community support” once they have experienced reduced profits (Heyes & Kapur, 2012, p. 428). If the community begins to boycott a business because of its poor environmental performance, then the behavior of the business will be influenced (Heyes & Kapur, 2012). Ideally, the business will change its standing with regard to the environment, and adopt sustainable practices that will



regain community support. Businesses that adopt green behaviors receive support from the community, because individuals appreciate and approve of the efforts that businesses are making to preserve the environment while making a profit. The businesses are becoming sustainable, as they balance their economic interests in conjunction with the desires of society in preserving the environment.

By addressing environmental issues, companies enhance their likelihood of economic success. They can differentiate themselves from other companies by demonstrating that they are more aware of environmental issues, gaining an advantage over rival businesses that may not be addressing sustainability issues (Lii, Wu, & Ding, 2013). Corporate social responsibility (CSR), is a “strategic marketing approach” in which businesses adopt sustainable practices to attract consumers (Lii, Wu, & Ding, 2013, p. 1). CSR involves businesses going out of their ways to perform social acts that benefit the community. They go “beyond just the legal obligations of the firm” to do activities that will appeal to the community, generating more business for them (Lii, Wu, & Ding, 2013, p. 16). CSR incorporates economic, legal, ethical, and philanthropic concerns. CSR can be visualized in the form of a pyramid, with economic concerns being the base of the pyramid because it affects the other concerns (Figure 4).

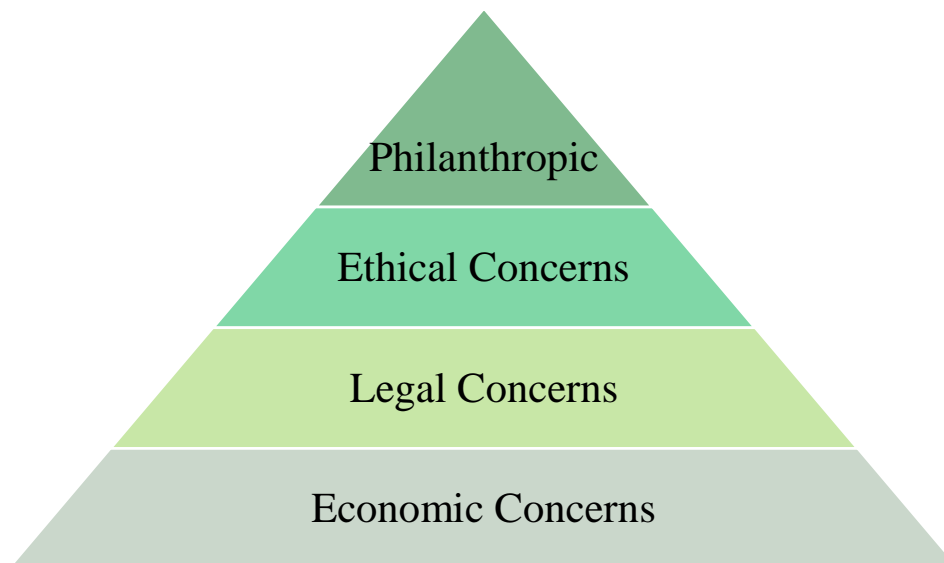


Figure 4. Pyramid of Key CSR Factors. Adapted from Lii, Wu, & Ding, 2013. Retrieved from doi:10.1002/csr.294.

The goal of CSR is to incorporate the three pillars of sustainability (social, economic, and environmental) in a means that will result in corporate success (Lii, Wu, & Ding, 2013). These aspects of sustainability are demanded by customers, and corporations will receive more support

from customers if they are addressing their patron's desires. With CSR, businesses improve their reputation through "worthy causes" (Lii, Wu, & Ding, 2013).

A common CSR initiative utilized by corporations is strategic investments, which act as a means of sponsorship (Lii, Wu, & Ding, 2013). Strategic investments can be in the form of money, people, or equipment in an activity or event that will potentially gain publicity for the corporation. Strategic investments are considered to be the leading forms of marketing campaigns. (Lii, Wu, & Ding, 2013). According to Lii, Wu, and Ding (2013), 56% of consumers believe that donating to a charitable cause is important, and 46% of consumers state that they would switch to a brand that supports a charitable cause. Any form of sponsorship that the corporation adopts will have a greater influence on consumers when the sponsored campaigns, events, or organizations are close to the community (Lii, Wu, & Ding, 2013). When consumers see their community directly benefiting from the sponsorship of a corporation, they are more likely to support the business. Lii, Wu, and Ding (2013) observe that any CSR initiative used by firms will improve their reputations and attract customers.

## **2.4 Fundraising and Sponsorship**

Based on the research of Cacija (2013), "long-term relationships with donors" result in more success with gaining sponsorship (p. 1). Organizations will not receive as many funds when they have short-term relationships with donors. Cacija (2013) has identified two approaches to raising funds: the transactional approach and the strategic approach. The transactional approach concentrates on the pressing financial needs of an organization. When this approach is used, those trying to raise funds do not have strong relationships with donors. They are attempting to collect funds on a short notice to meet the current needs of the organization (Cacija, 2013). The strategic approach is based on a long-term plan that the organization has created, and includes "multiple fundraising projects and activities" (Cacija, 2013, p. 2). This method is more successful, since organizations have a specific plan to raise their funds.

Aside from obtaining support through monetary funds and items, there are other benefits associated with gaining sponsorship. Such benefits include the formation of a donor base, involvement of donors, and visibility of the organization to the public (Cacija, 2013). When an organization receives funds, it is important for it to value donations of all sizes. Cacija (2013) has found that at least 80% of the funds that organizations generally receive are from, at most, 20%

of donors. It is important to convince donors that the organization is credible and deserves a donation (Cacija, 2013). Volunteers and leaders of the organization can prove their credibility by showing their dedication to their work through volunteering or making their own donations (Cacija, 2013). Donors are more likely to donate funds to the organization if they witness the commitment of the organization's volunteers and staff.

Cacija (2013) identifies that a common measure of sponsorship success is determining if the stakeholders, who are the donors, approve of how their donations are utilized by an organization. When stakeholders approve of how their funds are being used, the sponsorship efforts are more successful because stakeholders are more likely to support the organization again. This is also known as relationship marketing, and is a very important aspect to take into account (Cacija, 2013). One of the factors associated with relationship marketing is organizations committing "to extend the lifetime of the present stakeholders and donors by using retention strategies" (Cacija, 2013, p. 9). Organizations must be dedicated to preserving their relationship with stakeholders and satisfying them in order to continue receiving donations. The other factor that organizations must consider for relationship marketing is appealing to a number of markets and stakeholders. Having a long-term relationship with stakeholders allows for a greater period of donations (Cacija, 2013). This requires use of the strategic approach, which was discussed earlier.

Sponsorship is mutually beneficial for both the donor and the recipient. Beyond the benefits businesses and organizations receive, they have a responsibility to the community to be involved. Korschun states that "the prominence of social responsibility reflects the view that companies and their initiative have ethical and social responsibilities beyond economic and regulatory obligations." (as cited in Scheinbaum, 2015, p. 1982). Socially responsible behavior from a company can comprise from many different aspects, including supporting non-profits, promoting employee well-being, and championing environment and human rights issues (Scheinbaum 2015). Giving back to the local community can improve relations; and these relations may lead to mutual benefits between the community and the business.

## 2.5 Sustainability Metrics

Indicators of sustainability are used to help identify aspects of the environment, society, and economy that require improvement. They are composed of data or observed variables that can be used to help answer a given objective (Tanguay, Rajaonson, Lefebvre, & Lanoie, 2010). When applying indicators to sustainable development, important criteria to follow include a clear objective that the indicator is meant to achieve, who will be using the indicator, and how the indicator will be used in achieving the set objectives (Bell & Morse, 2003). When selecting indicators, it is important to ensure that the data that represents them are available to collect, easy to analyze, and responsive to abrupt changes that may occur during data collection (Bell & Morse, 2003). These criteria ensure that the results produced by the indicators will be accurate and comprehensive.

When indicators are formed, they can be synthesized into indices. Indices are a combination of indicators. The data that help form indicators are collected, and form an index to help to interpret and understand the indicator meanings as a whole (Tanguay et al., 2010). This makes it easier to address an objective, since the indicators are combined and interpreted together as a group.

Indicators can be formed using both quantitative and qualitative data, which is known as the mixed method approach (Khan & Quaddus, 2015). The mixed method approach enhances research measurements because different forms of data are used for analysis. Qualitative and quantitative data both have different limitations, and the goal of using a combination of data sets is to form well-rounded results that are not limited by one method of data collection.

Qualitative research involves interpreting the specified surroundings (Khan & Quaddus, 2015). Researchers “study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them” (Khan & Quaddus, 2015, p. 354). Once researchers assess their surroundings, they combine their observations into qualitative data. Qualitative data can also be collected in interviews. Interviews allow for the questions to be catered and specific to the individuals, which help for a better understanding and explanation of their views. Information collected in interviews can be analyzed to determine key patterns and themes among participants, which can then be used to form qualitative indicators (Khan & Quaddus, 2015).

To validate the indicators formed in qualitative research, quantitative research can be

used (Khan & Quaddus, 2015). Quantitative data can be collected using surveys (Abildgaard, Saksvik, & Nielsen, 2016; Khan & Quaddus, 2015). A successful survey that can be used to collect quantitative data is one that involves scales. The Likert Scale is a common option, in which responses are scored on a range from “strongly disagree” to “strongly agree.” In order to avoid “neutral” as an option, which is sometimes not very useful, a six-point Likert Scale can be used with the following options (Khan & Quaddus, 2015):

Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree

These scales are meant to measure the attitudes and actions of the participants in relation to the questions. The results of the surveys can be analyzed statistically to determine trends in the opinions of the participants (Abildgaard et al., 2016). Then, the quantitative data can be used to further validate the qualitative measurements.

Combining quantitative and qualitative indicators leads to a better measurement and development of sustainability indicators. It is important to note that qualitative data can be used to explain quantitative data, and vice versa. The mixed method approach ensures that different views are taken into consideration when conducting research. Ultimately, the data collected in the research can be used to develop indicators that will help individuals and communities identify progress or setbacks in efforts to advance towards their goals (Abildgaard et al., 2016).

## Chapter 3: Methodology

The goal of this project was to develop a Go Green Week for the city of Worcester, UK which successfully engaged the community to participate in sustainable practices. Our project aims to contribute to the City's long-term goal of becoming a Transition Town by enhancing a variety of societal, economic, and environmental aspects while simultaneously strengthening the relationship between the city and University of Worcester. These goals were addressed through completion of the following objectives:

- 1) Gauging the interest of the Worcester, UK community in sustainability and evaluating the available resources provided by local businesses and organizations;
- 2) Gain endorsement, sponsorship, and support for the event by approaching local businesses and encouraging participation;
- 3) Develop a Go Green Week that engages the community and increases awareness of the importance of sustainability in collaboration with local businesses and organizations;
- 4) Create a metric to measure the impact and effectiveness of the Go Green Week through qualitative and quantitative analysis of sustainable behavior;
- 5) Endorse future sustainability endeavors through an interactive map of sustainable businesses, a synopsis of the week in the form of a blog post, and a video compilation of the event;
- 6) Formulate recommendations for future Go Green Weeks to enhance community involvement.

### 3.1 Gauge Interest and Evaluate Available Resources

We began our project by holding a meeting with representatives from the University of Worcester, Heart of Worcestershire College, the Worcester City Council, the Worcestershire County Council, and the Worcester Business Improvement District (BID) to determine how they would like to collaborate with us in formation of and during the Go Green Week (Appendix A). This meeting was an important part of our project because attendees were involved supporting and participating in the Go Green Week. We led the meeting in the style of a World Cafe to gain insight on what sustainability issues are most prevalent in the community, and to share ideas for

methods to address these problems in an engaging manner during Go Green Week. A World Cafe is a style of meeting in which a large group discusses an issue by breaking up into small sections and rotating throughout the deliberation to enable everyone to hear new ideas and build off of one another. This style of conversation is very beneficial to our project because it provided us with new perspectives and allowed ideas to flow freely.

Following our meeting with the representatives, the team assembled an organized compilation of the ideas generated during our discussions. We identified which businesses and organizations in the community demonstrated interest toward sustainable initiatives. We researched local sustainability events which were scheduled during the same time period. We collaborated with the event organizers and promoted them during the Go Green Week. Our team also utilized the list of organizations involved in the University's Go Green Week to become familiar with the sustainability organizations that exist in the city of Worcester.

We also hosted a meeting with eight University of Worcester students who organized and hosted the Go Green Week in February of 2017. We gathered suggestions and ideas from the students for the community Go Green Week. We asked the students several questions to gain insight on the successes and failures they experienced while planning and hosting their campus event (Appendix B). Meeting with the students helped us understand the advantages and disadvantages of hosting certain activities.

### **3.2 Gain Endorsement, Sponsor, and Support**

A fundamental component of our project was reaching out to businesses in the Worcester City Centre to gain some form of sponsorship and support. We started this task by making a list of businesses in the City Centre, and identifying possible ways in which they could be involved in the Go Green Week. After researching these businesses, we identified which stores include sustainable practices into their strategies and missions. We developed a letter to explain the various organizations we were collaborating with, and customized it slightly for each business to outline ways in which they could be involved (Appendix C). In the letter, we invited them to participate in Go Green Week, and expressed an opportunity for sponsorship.

We reached out to businesses through emails, phone calls and in person visits and proposed collaboration. As outlined in the literature review, when approaching the notion of sponsorship, it is imperative that the idea is proposed in a method that exposes the benefits for

both the company, and the cause being supported. Businesses are more likely to support an event if the advantages are mutual, and their group is able to gain advocacy in the form of advertisements, promotion, and publicity. We introduced the event and described ways in which the business can be involved, while simultaneously illustrating the benefits to them regarding promotional and advertising advantages. After our initial interactions with the businesses, we formed a definitive list of businesses interested in participating in the Go Green Week and an outline for the event. We formed an initial understanding of the sustainable practices implemented by local companies through conversations with businesses in the Worcester City Centre.

### **3.3 Create a Go Green Week that is Engaging and Raises Awareness**

We worked with our sponsor, the Director of Sustainability at the University of Worcester, Katy Boom, and key players (Appendix A) in the event to develop and organize a list of activities to hold during Go Green Week. Our initial research determined the importance of personalizing green initiatives to the specific audience being addressed. We aimed to create events that engaged the community in an enjoyable, interactive way that had a significant impact on citizens and produced the greatest number of attendees. The University of Worcester's Go Green Week model included several environmental campaign groups, activities that promote sustainable living, and free giveaways. Developing from this model, we helped build a Go Green Week unique to the Worcester community.

The event was held in the Worcester City Centre from April 18th through the 22nd. These dates were chosen specifically in order to attract the greatest number of participants, since the Worcester City Centre tends to be the busiest around the Easter Holiday, which occurs on April 16th. We booked two locations for the Go Green Week: outside of Guildhall and in CrownGate Shopping Centre. Unlike Guildhall, CrownGate does not require vendors to purchase a Merchant's license, allowing for a variety of nonprofit organizations to sell products.

As part of our procedure, we were required to follow the specific rules and regulations outlined by the Worcester City Council. We acted as a liaison between City Council officials to ensure all permissions, forms and permits needed for our activities were satisfied. Once the proper City Council requirements were fulfilled, we planned a schedule of activities. Each day of the event consisted of a variety of educational activities that address various aspects of



sustainability. The details for each activity including the preparatory work and analysis of outcomes were planned using a template provided by the University of Worcester (Appendix D). We used it to organize our ideas and solidify our plan to ensure the event ran smoothly.

We advertised the Go Green Week event using social media, flyers, and local news outlets to reach the greatest amount of citizens. The team created a Facebook event under the University of Worcester's sustainability page to post information about the activities occurring throughout the week and promote the sustainable businesses sponsoring the week. In addition to social media, we wrote a post for the University of Worcester's sustainability blog, "susthingsout.com", which is administered by Director Katy Boom. We also wrote a section for the Worcester Business Improvement District (BID) to advertise Go Green Week to businesses in Worcester, and to encourage further participation in the week (Appendix E).

### **3.4 Create a Metric to Measure the Impact and Effectiveness**

We advanced with our procedure by formulating a series of mechanisms and approaches for measuring the short-term outcome of the Green Week. Based on the research investigated in our Literature Review, the team devised techniques to measure the success of the event using qualitative and quantitative methods of data collection.

We used two surveys to gather insight on the attitudes of Worcester citizens toward sustainability (Appendix F). We distributed the first survey during the event and collected a variety of both qualitative and quantitative information. First, we asked basic demographic questions to observe correlations between citizens' age, gender, education level, and location, and their attitudes toward sustainability. Next, we presented the participants with a collection of statements regarding sustainable practices and asked them if they strongly agree, strongly disagree, somewhat agree, somewhat disagree, or neither agree nor disagree. We then used a ranking system to calibrate how important certain aspects of sustainability are. Each question consisted of a specific sustainable practice followed by a scale from one to ten, with one being least important, and ten being most important. When we administered these surveys, we expected anecdotal comments from the participants in response to some of the questions. We used our observations of these comments and survey results to better understand how citizens view sustainability.

Our second survey was distributed after the event via email and the Facebook event page (Appendix F). The purpose of this survey was to collect feedback from our event, and gather information on how the event influenced participants' decisions with respect to sustainability. We wanted to determine if participants felt that they were informed about sustainable practices, businesses, and organizations in the City. We also asked if they had any suggestions or concerns for future Go Green Weeks in the community. The results of this survey enabled us to reflect on the impact of Go Green Week, and formulate recommendations for future green initiatives in the community.

### **3.5 Contribute to Ongoing Sustainability Efforts**

Our project serves as the pilot year for the "Go Green Week in the Community" scheme. The team aspires to leave a lasting impression on the Worcester Community that goes beyond the Go Green Week. Our purpose was to inform Worcester citizens about sustainable initiatives and actions and to develop solutions for sustainability issues affecting the community in a way that will cohere with the culture of the City. In addition to designing and hosting a community Go Green Week, the team also contributed to the long-term goal of making Worcester a Transition Town.

We contributed to an ongoing Google Maps project at the University of Worcester. We helped produce an interactive Google Map which lays out the sustainable businesses located in Worcester City Centre, and allows the user to click on each business and learn more about its mission. The team created a list of interview questions related to sustainability to ask the managers and owners of the businesses on the map. We recorded or videotaped the interviews, depending on the interviewee's preference, and uploaded them onto the map (Appendix G). The Google Map allows members of the community to explore some of the innovative ways that businesses are approaching sustainability.

We also created a closing blog post for the University of Worcester's sustainability blog "susthingsout.com". In the post, we discuss the outcomes of the event, and reflect on our experiences. Our post serves as a summary of the Go Green Week for future Go Green Week teams to reference. In addition to the blog post, we also created two video compilations of clips taken throughout the week (Appendix H). The first video includes all of the details from the event to give future teams a detailed view of the event and how each activity was run. The

second video was a shorter version to publish for public use, and endorsement for similar events in the future.

Our project serves as the beginning of a new initiative between the University of Worcester and the city of Worcester. The University of Worcester hopes to continue promoting its sustainable practices for many years to come, and this project serves as a link between the City and University to expand the University's efforts in promoting sustainability to the community. The Google Map, blog post, and video help contribute to future actions and ambitions of the Worcester community and University in promoting sustainable practices.

### **3.6 Formulate Recommendations for Future Go Green Weeks**

We analyzed the results of the surveys to understand what sustainability means to them, and how they approach the topic. We detected what areas of the event needed improvement, and what activities were most successful in our examinations and reflections of Go Green Week. We then developed a collection of suggestions for future Go Green Weeks. This is a vital part of our methodology because it justifies the importance of our strategy, and advances the efforts of the University of Worcester, as well as other sustainability groups in the City to promote environmental practices and sustainable development in the community.

### 3.7 Timeline of Project Tasks

The team devised a timeline to ensure the project ran fluently. Our project began with interviews and engaging the local businesses and organizations before hosting the event. The event itself occurred April 18th through 22nd. Following the event, we analyzed our success and developed recommendations for future green initiatives. We created a Gantt Chart to outline when each task was completed (Figure 5).

Project Task	Week						
	1	2	3	4	5	6	7
Meet with key stakeholders							
Gain sponsorship and support for our event							
Engage local sustainability organizations							
Host the Go Green Week							
Survey the community and reflect on the success of our event							
Create deliverable items and formulate suggestions for future Go Green Weeks							

Figure 5. Gantt Chart Breakdown of Project Tasks

## Chapter 4: Findings, Analysis, and Recommendations

In the first portion of the findings chapter we discuss our observations from the activities we hosted, and reflect on what we believe went well, and what aspects could use improvement. In the second portion of the findings chapter, we analyze and produce recommendations for future green initiatives and the city of Worcester based on the survey results.

### 4.1 Our findings are consistent about concerns with littering of cigarette butts in the community.

During our individual and community wide litter picks, we found that the majority of the litter in the areas we covered consisted of cigarette butts. This is consistent with the concerns of representatives from the Worcester City Council, Worcestershire County Council, Business Improvement District (BID), University of Worcester, and Heart of Worcestershire College that

were expressed in an early planning meeting for Go Green Week. Representatives have also expressed concern that individuals do not think of cigarette butts as littering. We do not have evidence to support this claim, but do recommend that the community be educated on the harms of littering and the benefits of recycling, specifically related to cigarette butts.

This is an environmental sustainability concern, as any form of littering is harmful for the environment. We implemented a program called TerraCycle that collects and recycles cigarette butts for free into plastics such as tabletops and lumber for construction into our litter collection phase. Since this program is free, it is accessible to members of all economic classes, emphasizing the importance of social equity when pursuing a sustainable initiative. We recommend that Worcester promotes and adopts the cigarette service offered by TerraCycle to further its efforts of becoming a Transition Town.

#### **4.2 Conversations with passersby and discussions with police conclude that bike theft is a concern within the City.**

We found that the concerns brought up in our first meeting with representatives of the Worcester City Council, Worcestershire County Council, Business Improvement District, Heart of Worcestershire College, and University of Worcester regarding bicycle safety continued to be expressed by participants of the Go Green Week. Through conversations with community members, as well as the West Mercia Police, we concur that bicycle theft is a concern for the city of Worcester. People are less likely to ride their bicycles if they're worried about them being stolen. Although there are a variety of solutions to preventing bicycle theft, citizens may not be well informed. The police are a possible source of this information, and we found that their efforts need to be promoted more in the community. A lack of knowledge related to bicycle security raises issues with social equality.

Through various conversations and anecdotal comments from survey questions, we discovered that using sustainable means of transportation is very important to community members. Although people are interested in using sustainable means of transportation, many may find it difficult to access supportive resources. We recommend that the City promote the sustainable transportation options they offer, and work with the police to educate citizens on bicycle safety and security. By promoting resources supporting sustainable travel, we propose

that the city of Worcester can improve upon their social equity obligations, and move towards a well-rounded sustainable town.

### **4.3 Large and small businesses have restrictions and limitations on how much they can be involved in an outside event.**

We found that businesses are differently confined in their choices, but not as we would expect. Large and small businesses differ in what limitations and choices they face. We found three tiers of businesses and their choices. Small or local businesses have more freedom to make the choices they want when sponsoring or not sponsoring an event. Large businesses or chains are typically limited to what they can provide as sponsorship. Even chains with a connection to sustainability found themselves limited in the ways they could participate, including Lush and The Body Shop. In their limitations, chain businesses would give valuable giveaways, which proved to be useful. However, when there is a commitment to sustainability from a manager or management team, corporations are willing to be more involved with the event and the concept behind it, than just providing giveaways or promotion. We found that Marks and Spencer was a valuable asset to Go Green Week due to the interest from their manager.

Based on our interviews with small businesses, we found they face limitations in other aspects of sustainability (Appendix I). Specifically to Worcester, local businesses find it difficult to recycle. This is due to the high cost the City charges a business to recycle. This prevents some businesses from recycling or creates the need for them to take the extra step to do it themselves, emphasizing an issue associated with social equity. We recommend that Worcester make efforts in reducing or eliminating the cost associated with recycling for businesses. This may help Worcester advance toward becoming a Transition Town, since recycling would be more accessible for all businesses in the community.

We found that businesses and charities already involved with green policies and sustainable practices were more inclined to participate and promote Go Green Week. In particular, Oxfam was interested in promoting Go Green Week and attending the event to promote their charity. We recommend continuing to use both large and small businesses and charities without excluding due to size.

#### **4.4 Having two locations for Go Green Week was beneficial.**

We found that having two locations for Go Green Week was very beneficial due to the differences in rules and specifications of each site. Two locations allowed for more organizations to be included and a wider variety of people to be reached. The Worcester City Guildhall has greater visibility to participants who had the time to stop by the events. However, Guildhall was located on the High Street, which requires a Merchant's license for the sale of any goods. Since CrownGate is a privately owned venue, the sale of items by charities did not require a Merchant's license. This venue allowed us to include a wider range of organizations throughout the week, including Spokes who sell refurbished bikes.

We found that each location had limitations in attracting people. Guildhall was difficult as people did not want to take the time to stop behind the gates to participate. In CrownGate many citizens were in a rush to catch a bus or to reach their destination within the City Centre, limiting the amount of interaction. We recommend to use as many locations as possible in the future in order to reach the most diverse group of participants and to increase the amount of impact within the community.

#### **4.5 The days and times that the event was held were not favorable.**

We found that hosting the Go Green Week during the Easter holiday had pros and cons. There was increased footfall in the City Centre because many people were either on vacation or not working. This created more opportunities to engage with both citizens and visitors. As part of Go Green Week, we wanted to collaborate with students and faculty from Heart of Worcestershire (HOW) College and the University of Worcester. The event was during the Easter holiday, and many students and faculty were not available to participate. This decreased the amount of collaboration with HOW College and the University of Worcester, and we could not strengthen the relationship between the City and both schools as much as we had hoped. We recommend hosting Go Green Week when all representatives can be involved. This will create the best opportunity for fostering the relationship between University, City and community.

The timing of the day could have been improved for the events of the Go Green Week. We found that we were often the busiest with participants when it was time to clean up. We

recommend that the events take place sometime between 11:00 and 16:30 in order to get the most participation possible.

#### **4.6 Giving away free food and plants provided a means for interaction and conversation about sustainability.**

We found that free food was a successful and crucial way to provoke discussion. Participants shared that they were surprised to learn about the amount of food being wasted at the Feed the 1000 event. Many community members expressed their concern for the issue, and explained how careful they are with conserving their food and reducing waste. We received many anecdotal comments from a variety of citizens who remarked that they were raised during a time when food rationing was a necessity for survival. Many citizens explained how the impact of World War II on the United Kingdom influences the behaviors of community members. We found that many people still have the mentality to conserve resources, and waste very little. We recommend that Feed the 1000 be incorporated into future sustainability events.

We also found that people were interested in the idea of drying fruit to reduce food waste. When trying to collect fruit to use for the event, we found that not all businesses can legally give away out of date produce. We discovered that Marks & Spencer was able to donate fruit to us, and were very interested in our cause. We reflected that although many large food chains have restrictions, Marks & Spencer was very eager to help because they are a very sustainable business that holds great interest in our efforts. We found that the University of Worcester catering was able to help us slice the fruit, which in turn helped form links between the University and the businesses in Worcester. We recommend handing out dried fruit, as it is an effective way to engage community members and educate them on the importance of minimizing food waste.

We found that giving away chili plants attracted individuals to the event, and prompted conversations about gardening and growing food locally. The plants served as a medium of exchange, and encouraged citizens to discuss the importance of locally grown produce as well as biodiversity and the environment. We found that the process of preparing, growing and distributing plants was worth the time and effort. By growing the seedlings from the plant at the University of Worcester, we demonstrated the importance of sustainable food production. We recommend that the University continue to promote their chili plant initiative to bring sustainable



practices into the community.

#### **4.7 Art provided a good opening for us to discuss sustainability ideas with the community**

We found the Worcester Arts Workshop IQP team was able to attract interest to the event by engaging individuals in a community wide art piece (Appendix J). In turn, this enabled discussion about topics related to sustainability. As people came to paint the artwork, they were drawn to other activities and organizations at the event. By collaborating with the Worcester Arts Workshop IQP Team for Go Green Week, we were also able to promote the organization and encourage participants to view the completed art piece in the Worcester Arts Workshop. This strengthens the connection between the Worcester Arts Workshop, the University, and the community. We recommend continuing work with the Workshop to enhance and further this relationship. Additionally we recommend that artwork be implemented into future green initiatives. It helps to attract and engage people that may not otherwise attend the event.

We learned that having a sustainable image for children to color was a successful activity (Appendix J). Children were attracted to coloring, which enabled us to engage with their parents about the event and the sustainable organizations we were promoting. We also found that parents were more likely to take our sustainability survey when their children were occupied with the coloring activity, which was helpful for us because it lead to more survey participation. We recommend having crafts or activities for children to allow for engagement with parents.

#### **4.8 Collaborating with the City and County governments helped strengthen the relationship between the City and University**

Having a location at Guildhall, where the Worcester City Council is located, proved to be beneficial in helping strengthen the relationship between the University and the City. The use of Guildhall required many permissions from the City Council, which led to numerous conversations with different individuals on the Council to make sure that our interactions with the community were authorized. The process was difficult, however having the Worcester City Council be both a stakeholder and main location proved to have many benefits.

Working in front of Guildhall was convenient for Councilor Paul Denham, the Mayor of

Worcester, to come out of his office and provide an important presence for Feed the 1000. We found that Feed the 1000 provided an effective way to for our team to introduce ourselves to the Worcester community. Additionally the Mayor interacted with citizens and visitors alike, encouraging all to stop by, have free food, and learn about the sustainability agenda we were promoting. This prompted conversations about Feed the 1000 itself, and its sponsors, such as the Worcestershire County Council. Feed the 1000 brought forward the concept of sustainability and provoked further discussion relating to this topic. The County Council funded the Love Food Roadshow that puts on the Feed the 1000 event. Hosting the event in collaboration with the Worcestershire County Council helped strengthen the ties between the University of Worcester and the local governments, which in turn helped build a relationship with the community.

Large events help to bring the County Council, City Council, and University together to promote sustainable practices in the community. We recommend that the University continue to work closely with the City and County Councils in future sustainability initiatives. It opens up an opportunity to promote the sustainable practices that both levels of government are trying to encourage, and also helps to strengthen the relationship between the City, University, and community. This three-part relationship is essential to the future of Worcester and its goal to be a Transition Town.

## **4.9 Recommendations for Future Go Green Weeks**

Several logistical recommendations based from findings are below:

- Importance of organizing space with Guildhall and CrownGate
- Changing order in which tasks are accomplished
- Timing of event

Appendix K contains in-depth reflections regarding the organization of a Go Green Week, and also links to the videos that we made to compliment the event and promote sustainable businesses. Appendix L contains a checklist we recommend for future Go Green Week organizers to use.

### 4.10 Survey Results, Findings, and Analysis

The results from our two surveys provide us with insight on the attitudes of Worcester citizens and visitors. The sample size of the first survey is small, only consisting of 105 participants. Our findings and conclusions from the first survey cannot be applied to the entire Worcester community, as the sample size does not provide a reasonable representation for the amount of citizens living in Worcester. It is also important to note that not all survey participants are citizens of Worcester, suggesting that events associated with green concerns allow a means for anyone to participate in City life.

The results of our first survey consisted of qualitative and quantitative data. We found that 69.52% of the survey participants were female, 28.57% were male, and 1.90% preferred not to say. We also found that there was a relatively widespread age distribution. There were the most participants falling in the age range of 35 to 44 (Figure 6). However, this contradicts our observation that mostly elderly people attended the event. Their numbers are not properly represented because they did not always participate in the survey.

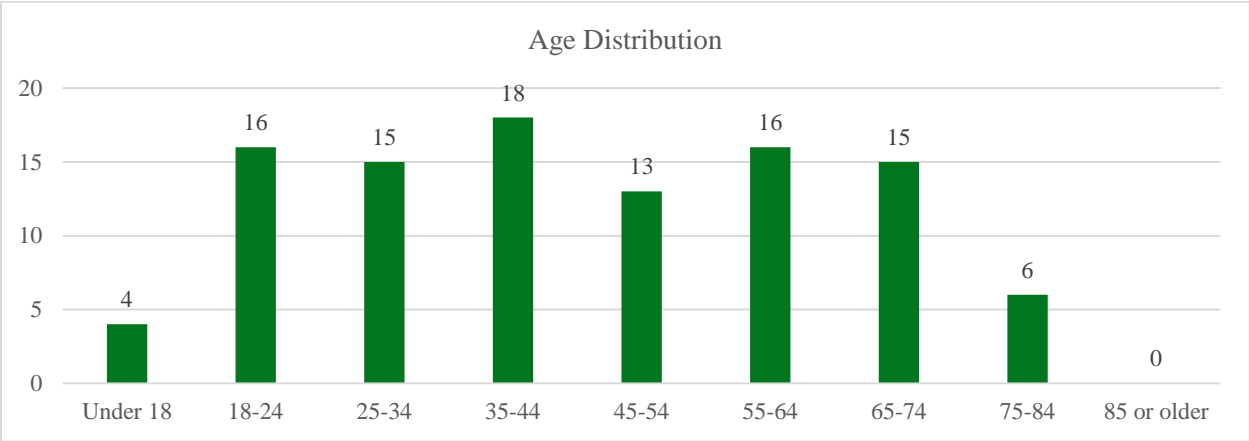


Figure 6. Age Distribution. Results from Sustainability Survey.

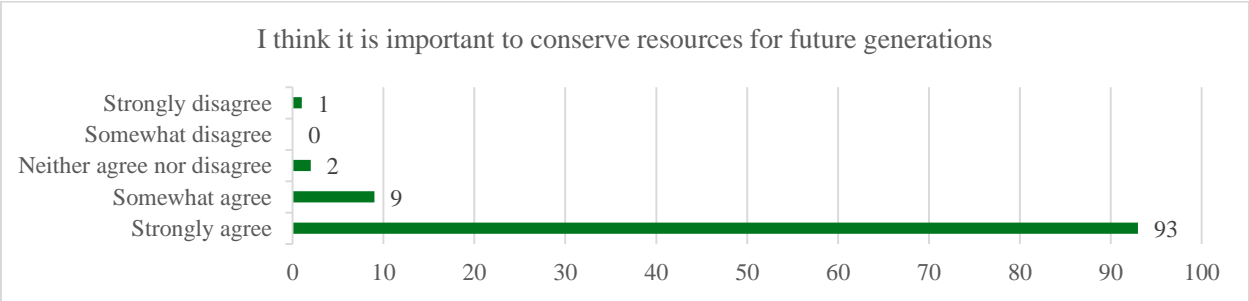


Figure 7. Importance of Conservation. Results from Sustainability Survey.

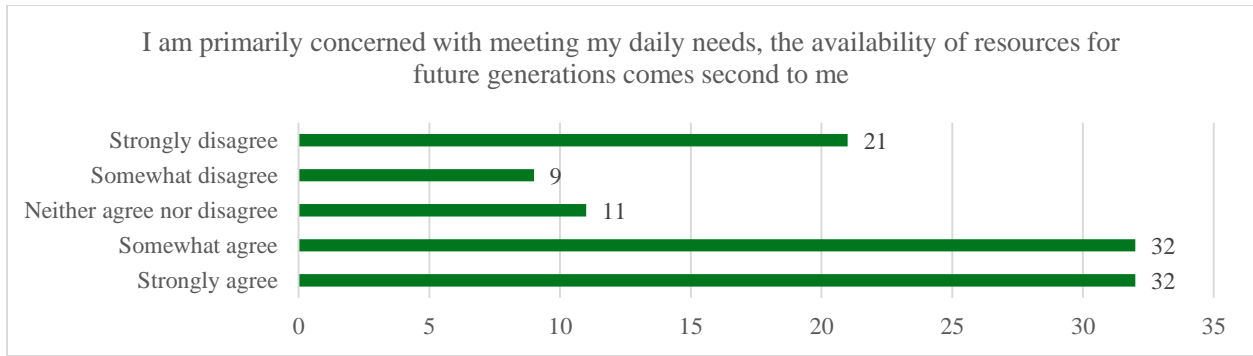


Figure 8. Daily Needs. Results from Sustainability Survey.

The results from the sustainability portion of our survey helped us get a better understanding for the attitudes of Worcester citizens and visitors. We found that 93 of the survey participants “strongly agree” that it is important to conserve natural resources for future generations (Figure 7). We received anecdotal comments from older participants in the survey when we read it aloud to them. They told us that they are concerned about resource conservation because they are worried that future generations in their families may not have access to important resources. However, the results of the following question seem to contradict the opinions that 93 of the participants have about resource conservation. Only 21 participants feel that prioritizing resource conservation for future generations should be placed before their own needs (Figure 8). This suggests that many individuals are aware of the limited supply of natural resources, but they do not feel as though they need to take actions in conservation methods. Our analysis of this contradiction is limited, as we are unable to conclude that these results occurred for a particular reason due to lack of supporting evidence.

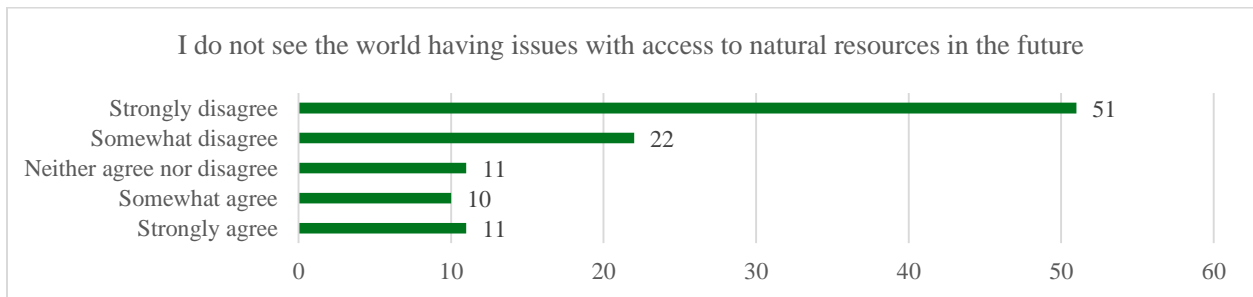


Figure 9. Access to Natural Resources. Results from Sustainability Survey.

The responses to the statement, “I do not see the world having issues with access to natural resources in the future” further support the observation that individuals are aware of limited resources. Of those surveyed, 73 disagree with the statement, demonstrating that they do believe the world will face issues with having substantial resources to satisfy the needs of future

generations (Figure 9). It is important to note that 21 participants believe that there will not be issues with access to resources in the future, which correlates to the 64 that agree with the statement related to satisfying their own needs before considering the availability of resources for future generations. These numbers are disproportionate suggesting that some of the 64 individuals may be aware that they should conserve natural resources, but instead prioritize their own needs and do not take action.

Of those surveyed, 97 individuals agree that sustainability issues are important to them (Figure 10). Most participants also feel that they have a strong understanding of what sustainability entails (Figure 11).

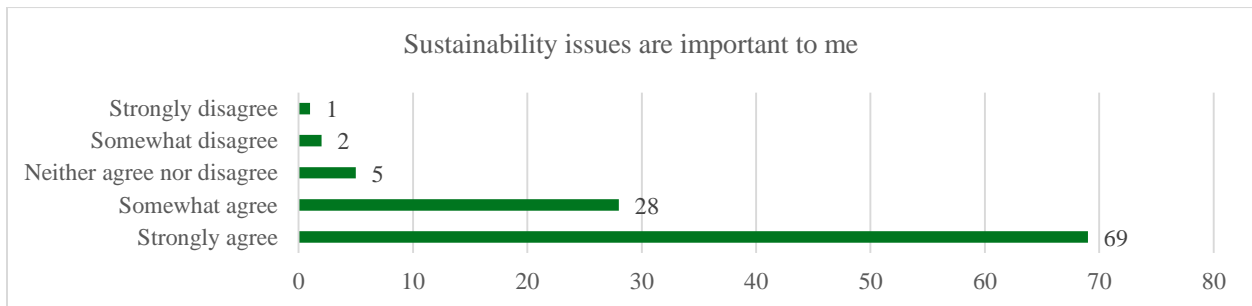


Figure 10. Sustainability Issues. Results from Sustainability Survey.

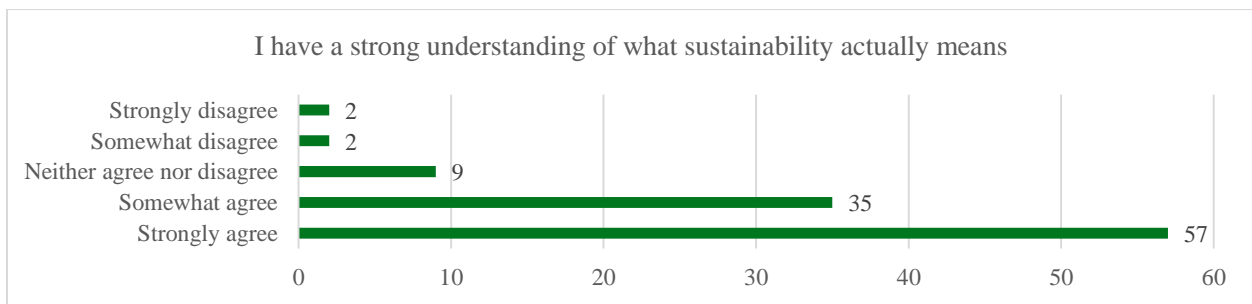


Figure 11. Meaning of Sustainability. Results from Sustainability Survey.

The quantitative ranking of several sustainable practices supports these qualitative results. We found that on a scale of one to ten, with ten being the most important, individuals ranked sustainable practices highly. When we read the survey to older participants, they had several anecdotal remarks to explain their reasoning for their responses. These data indicate citizens are aware of and have already adopted several practices.

The sustainable practice that was perceived to be the least important is eating locally grown food. In conversation, participants admitted that they gave this practice a lower ranking

because it is difficult to access locally grown food. Additionally, we found there is a knowledge gap about what locally grown food entails. We did not provide a definition or specification for what local is, allowing participants to form different opinions. This correlates to the social aspect of sustainability. It is important to ensure that sustainable practices are available to all members of the community in order to work toward being truly sustainable. In the future, we recommend that Worcester attempts to make locally grown food more accessible to the community, and provides the community with knowledge of what is locally grown. By exposing citizens to areas where they can purchase locally grown food, Worcester will further its efforts in becoming a Transition Town because individuals will have the knowledge and direction about food vendors that they should support.

We also learned that some citizens do not value water conservation as much as other sustainable practices. In conversations with several participants, they emphasized that they do not believe that it is important to conserve water because England is an island. They reasoned that if there are issues with access to drinking water, seawater desalination plants could be implemented to remove salt from ocean water. We acknowledge that although it is true that seawater desalination plants could be used to solve this issue, they are very costly to produce and operate. We recommend that the city of Worcester educates citizens on the importance of conserving water and other resources.

We received mixed responses when we asked citizens if they are “aware of the sustainable practices offered by businesses and organizations in the community” (Figure 12). Although 69 agreed with this statement, 36 either disagreed or took a neutral stance. We can observe that the responses to this question strengthen the importance of extending Go Green Week into the community. Over a third of the participants are not confident in their knowledge of sustainable practices that are promoted in the community. The event provided an opportunity for citizens to be exposed to several businesses, charities, and organizations that promote sustainable practices. Although no definitive conclusions can be made, our research has demonstrated that the community can act as an important stakeholder with respect to sustainable initiatives, practices, and organizations being promoted. It may be beneficial for the citizens of Worcester to learn more about the efforts of sustainable businesses, organizations, and charities in the community to help promote and support them, helping Worcester work toward becoming a Transition Town.

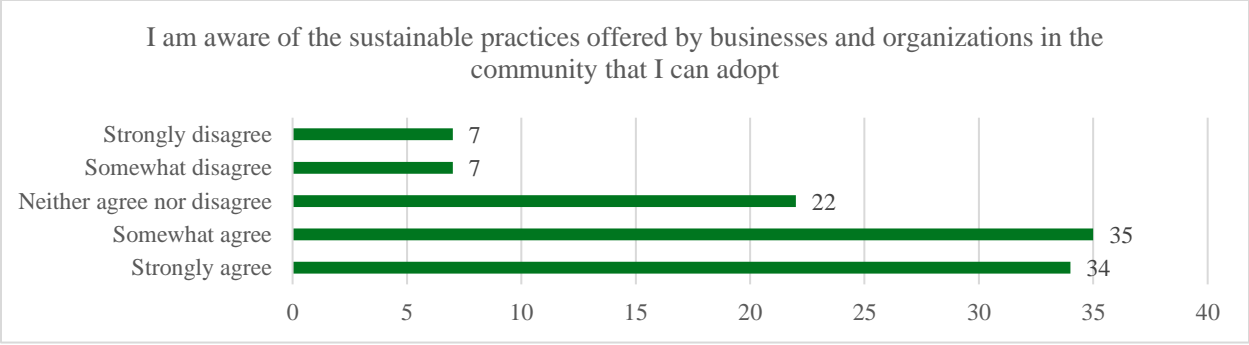


Figure 12. Sustainable Practices. Results from Sustainability Survey.

When we asked participants about their transportation habits, we found that many of them generally use public transportation rather than drive (Figure 13). Of those surveyed, 37 revealed that they use public transportation as their main method of getting to destinations. As we read the survey to some participants, they remarked that they rely on public transportation because it is the only way that they can get around. From this finding, we observe that Worcester is making efforts in ensuring that all community members have access to an important aspect of living. The City recognizes the need to address social equity within the community by providing public transportation options for citizens that cannot drive.

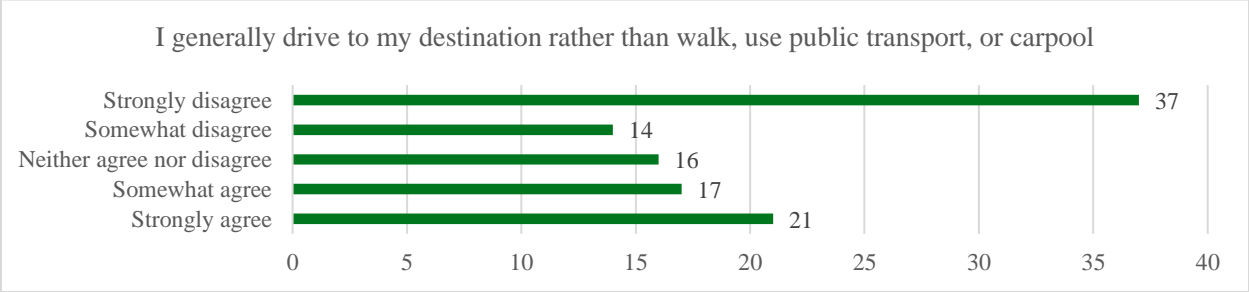


Figure 13. Transportation. Results from Sustainability Survey.

As we read the survey to older participants, we realized that some of the questions were phrased in a manner that was difficult for some individuals to understand. Even those who completed the survey on their own occasionally noted confusion with some of the questions. For example, we found that the phrasing of one of the questions, “I am primarily concerned with meeting my daily needs, the availability of resources for future generations comes second to me” was hard for some individuals to understand. For future surveys we recommend using shorter, simpler questions and testing the questions with people prior to surveying. Although surveying can prompt some discrepancies, we found that they provide insight, and we propose that future projects develop a survey for future Go Green Weeks based on our recommendations.

We distributed the follow up survey to over 40 Go Green Week participants and also posted it to the Facebook event page we created. Despite our efforts of dispersing it to as many Go Green Week participants as we could, we only received two responses. We cannot draw conclusions about these responses related to the entire Worcester community, but the information that the two individuals submitted should be discussed. This feedback may help to improve future Go Green Week efforts, as well as to understand how much respondents knew about the sustainable businesses, charities, and organizations prior to the event.

Both individuals found Go Green Week to be very enjoyable, and they have some ideas about how they would like to see the event improve in the future. Similar to our thoughts, one respondent recommends that the week be promoted earlier. The individual also feels that it would be beneficial for the University of Worcester and Heart of Worcestershire College students and staff to be more involved in the event next year to help strengthen the relationships between both schools and the City. One respondent also remarked that community art was a great way to engage with individuals during the event.

When asked if they were familiar with any of the sustainable organizations involved in Go Green Week prior to the event, the respondents had mixed results (Figure 14). This demonstrates that efforts still need to be made within the community to promote sustainable businesses, organizations, and charities in order for them to receive enough support from the public to be successful in their sustainable initiatives.

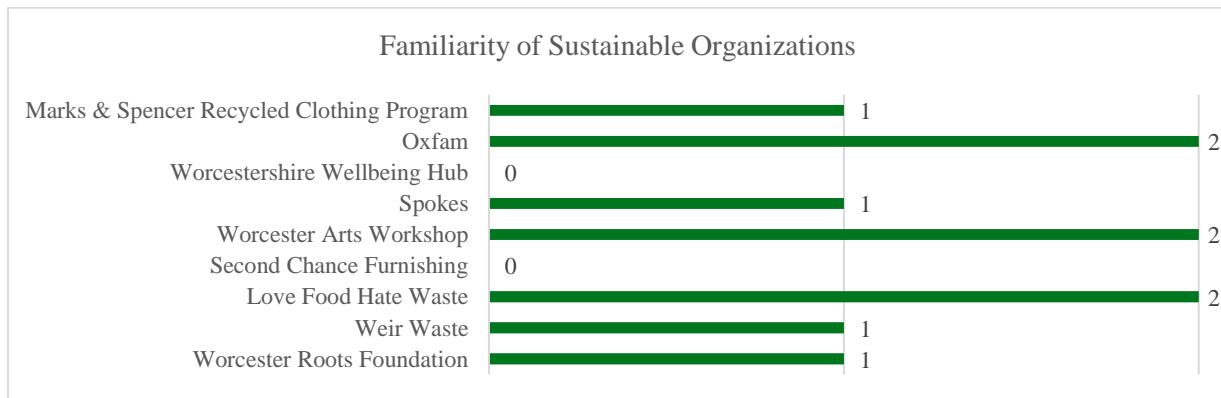


Figure 14. Familiarity of Sustainable Organizations. Results from Sustainability Follow-Up Survey.

Our analysis of the second survey is limited due to the small number of responses that we received. For more responses to follow up surveys, we recommend using an incentive program similar to the one we used to have participation in the first survey. It may also be beneficial for



Go Green Week to be held at a time other than Easter week to encourage more participation from the Universities to increase their presence and relationship with the Worcester community.

There are several key points from the surveys and our experience with Go Green Week, which bear on Worcester's efforts of becoming a Transition Town. To be recognized as a Transition Town, it is in Worcester's best interest to address the three pillars of sustainability that have been outlined by Our Common Future: social equity, environmental protection, and sustainable economic development. We have noticed that there are several instances in which there is social injustice within the community, and we recommend that Worcester works to address them. Several individuals that we spoke with expressed their concerns about their bicycles being stolen if they leave them in the City. This is a social equity concern, as citizens are lacking the knowledge they need which could help them make decisions in favor of a sustainable form of transportation. We have also learned that smaller businesses are being left out of the recycling process offered by the City, because they cannot afford the high cost associated with recycling. Many Go Green Week participants felt that they were lacking knowledge with regard to where they can obtain locally grown food. Furthermore, they were somewhat unaware of the sustainable businesses, organizations, and charities in Worcester. An important factor in achieving the status of a Transition Town is ensuring that all individuals have the knowledge and access to sustainable resources. In order for this to occur, we recommend that Worcester focusses on addressing social equity concerns revolving around transportation, recycling, and providing knowledge to the community to encourage sustainable behaviors.

## Chapter 5: Conclusions and Reflections

Our project contributed to an event which served as a pilot for an initiative implemented by the University of Worcester. Expanding sustainable development in the community is an important part of the city of Worcester's goal to become a member of the Transition Network. The Go Green Week we helped develop with the University of Worcester supported the City's long-term intentions, and engaged the community in sustainable practices.

The event planning and organization was possible with the input of many contributors. We worked closely with the Worcester City and Worcestershire County Councils to complete the required permissions and event planning considerations that are needed when hosting a large-scale event. Collaborating with these groups helped strengthen the relationships between the University and local governments. Due to the nature of our project, we had certain time restraints which posed a challenge for our advertising strategy. By working with members of the Business Improvement District, they were able to advocate the event and circulate it throughout their network. We observed that the groups we collaborated with tended to share similar concerns regarding the sustainability of their City. Members from different groups often expressed the same outlook on how certain aspects of the City's sustainability initiative could be improved. We noted recurring issues that were brought up such as littering, recycling, supporting locally grown produce, and safe, energy efficient transportation. We incorporated these ideas into the Go Green Week, and observed that community members were very open to discussing sustainability, and were eager to learn ways in which they could contribute to the City's endeavors.

Many citizens remarked that recycling in the City can be very difficult. Furthermore, many community members did not understand how to recycle, or what the proper techniques are. We reflected upon this feedback, and explored ideas for ways the City could address this in the future. Bicycle safety and security remained to be a consistent concern among community members. Although there are many resources to learn proper safety techniques, they may need to be promoted to a further extent. The City's public buses provide accessible and reliable sustainable transportation throughout the City, which many citizens rely on as their main mode of transportation. Aspects of sustainable social equity come into play, which suggest that issues pertaining to Worcester's environmental concerns are intertwined with other elements of sustainability. We remarked that focusing some of the City's efforts toward the social equity problems involving recycling, transportation and security may develop a way for the community

to adopt sustainable practices and further the City's mission to become a Transition Town.

Our project expanded upon a Go Green Week model, which encourages collaboration between the University of Worcester and the city of Worcester. Our reflections suggest that this partnership stimulates sustainable development within the community, and strengthens the City's Transition Town Initiative. Addressing the City's sustainability issues, by engaging and educating the public, can lead to a stronger community, and a brighter future.

## References

- (2015) "Putting a price on sustainability: Strategies for food products", *Strategic Direction*, Vol. 31 Issue: 7, pp.8-10, doi: 10.1108/SD-05-2015-0074
- Abildgaard, J. S., Saksvik, P. Ø, & Nielsen, K. (2016). How to Measure the Intervention Process? An assessment of qualitative and quantitative approaches to data collection in the process evaluation of organizational interventions. *Frontiers in Psychology*, 7 doi:10.3389/fpsyg.2016.01380
- Barnett, P. (2015, January 16.). What is Green Politics. *Green World*
- Bell, S., & Morse, S. (2003). *Measuring Sustainability*. London [u.a.]: Earthscan.
- Berry, Michael A. & Rondinelli, Dennis A. (1998). Proactive Corporate Environmental Management: A New Industrial Revolution. *The Academy of Management Executive (1993-2005)*, 12(2), 38-50. doi:10.5465/AME.1998.650515
- Bratman, G. N., Hamilton, J. P., & Daily, G. C. (2012). The Impacts of Nature Experience on Human Cognitive Function and Mental Health. *Annals of the New York Academy of Sciences*, 1249(1), 118-136. doi:10.1111/j.1749-6632.2011.06400.x
- Brown, G. (2017, April 21). British Power Generation Achieves First Ever Coal-Free Day. Retrieved from <https://www.theguardian.com/environment/2017/apr/21/britain-set-for-first-coal-free-day-since-the-industrial-revolution>
- Cacija, L. N. (2013). Fundraising in the Context of Nonprofit Strategic Marketing: Toward a Conceptual Model/Fundraising. *Management: Journal of Contemporary Management Issues*, 18(1), 59.
- Clifford, D., & Petrescu, C. (2012). The Keys to University–Community Engagement Sustainability. *Nonprofit Management and Leadership*, 23(1), 77-91. doi:10.1002/nml.21051
- Department for Environment, Food & Rural Affairs Cabinet Office. (2016). *Overview of*

*Reporting Requirements 2016-2020* UK.gov.

Ditsele, O., & Awuah-Offei, K. (2012). Effect of mine characteristics on life cycle impacts of US surface coal mining. *The International Journal of Life Cycle Assessment*, 17(3), 287-294.

doi:10.1007/s11367-011-0354-y

Diocese of Worcester. (2017). Waste and Water. Retrieved from <http://www.cofe-worcester.org.uk/mission-and-ministry/diocesan-environmental-strategy/waste-water/>

Doherty, B., & Geus, M. d. (1996). *Democracy and Green Political Thought*. London: Routledge.

Earth Day Network. (2017). Building the World's Largest Environmental Movement. Retrieved from <http://www.earthday.org/earthday/>

Fairtrade Worcester. (n.d.). Retrieved from <https://www.worcester.gov.uk/fair-trade>

Filho, W. L., Shiel, C., & Paço, A. d. (2015). Integrative Approaches to Environmental Sustainability at Universities: An Overview of Challenges and Priorities. *Journal of Integrative Environmental Sciences*, 12(1), 1-14. doi:10.1080/1943815X.2014.988273

Fischer, J., Dyball, R., Fazey, I., Gross, C., Dovers, S., Ehrlich, P. R., . . . Borden, R. J. (2012). Human Behavior and Sustainability. *Frontiers in Ecology and the Environment*, 10(3), 153-160.

Go Green Week. Retrieved from <http://www.worcester.ac.uk/discover/go-green-week-event-organisers.html>

Go Green Week 2017. (2017). Retrieved from <https://peopleandplanet.org/go-green-week-2017>

Habitat and Species Biodiversity Action Plans; Retrieved from [http://www.worcestershire.gov.uk/downloads/download/1088/habitat\\_and\\_species\\_biodiversity\\_action\\_plans](http://www.worcestershire.gov.uk/downloads/download/1088/habitat_and_species_biodiversity_action_plans)

Heyes, A., & Kapur, S. (2012). Community pressure for green behavior. *Journal of Environmental Economics and Management*, 64(3), 427-441.

doi:10.1016/j.jeem.2012.04.006

Transition Network. (2016). Retrieved from <http://transitionnetwork.org/>

Jackson, T. (2005). *Motivating sustainable consumption: A Review of Evidence on Consumer Behaviour and Behavioural Change*. (). London: Policy Studies Institute.

Ji, H. (2016). *Assessing local governments' sustainability strategies* Available from Dissertations & Theses Europe Full Text: Business. Retrieved from <http://search.proquest.com/docview/1810727802>

Khan, Eijaz Ahmed & Quaddus, Mohammed. (2015). Development and Validation of a Scale for Measuring Sustainability Factors of Informal Microenterprises – A Qualitative and Quantitative Approach. *Entrepreneurship Research Journal*, 5(4), 347-372. doi:10.1515/erj-2014-0017

Krueger, R. (n.d.). Sustainable Development. Retrieved April 22, 2017.

Lauder, A., Sari, R. F., Suwartha, N., & Tjahjono, G. (2015). Critical Review of a Global Campus Sustainability Ranking: GreenMetric. *Journal of Cleaner Production*, 108, Part A, 852-863. doi://dx.doi.org/10.1016/j.jclepro.2015.02.080

Less, L. W. (2015, September 28). Making and Using Compost. Retrieved April 17, 2017, from [http://www.worcestershire.gov.uk/letswasteless/info/8/composting/19/making\\_and\\_using\\_compost](http://www.worcestershire.gov.uk/letswasteless/info/8/composting/19/making_and_using_compost)

Lii, Y., Wu, K., & Ding, M. (2013). Doing Good Does Good? Sustainable Marketing of CSR and Consumer Evaluations. *Corporate Social Responsibility and Environmental Management*, 20(1), 15-28. doi:10.1002/csr.294

Lozano, R. (2008). Envisioning Sustainability Three-Dimensionally. *Journal of Cleaner Production*, 16(17), 1838-1846. doi:10.1016/j.jclepro.2008.02.008

Næss, P. (2006). Unsustainable Growth, Unsustainable Capitalism. *Journal of Critical Realism*, 5(2), 197-227. doi:10.1558/jocr.v5i2.197

- (n.d.). U.S. Coal Mining Revenue 2014. Retrieved from <https://www.statista.com/statistics/296501/revenue-coal-mining-in-the-us/>
- Nixon, H., & Salazar, D. (2015). Engaging Students and Community in Urban Environmental Sustainability: CommUniverCity San José. *Current Opinion in Environmental Sustainability*, 17, 1-9. doi://dx.doi.org/10.1016/j.cosust.2015.06.007
- Opp, S. M., & Saunders, K. L. (2013). Pillar talk: Local sustainability initiatives and policies in the united states--finding evidence of the "three E's": Economic development, environmental protection, and social equity. *Urban Affairs Review*, 49(5), 678-717. doi:10.1177/1078087412469344
- Reid, C. T. (2016). Brexit and the Future of UK Environmental Law. *Journal of Energy & Natural Resources Law*, 34(4), 407-415. doi:10.1080/02646811.2016.1218133
- Rome, Adam. (2010). The Genius of Earth Day. *Environmental History*, 15(2), 194-205. doi:10.1093/envhis/emq036
- Scheinbaum, A. C., & Lacey, R. (2015). Event social responsibility: A note to improve outcomes for sponsors and events. *Journal of Business Research*, 68(9), 1982-1986. doi:10.1016/j.jbusres.2015.01.017
- Sharma, D., & Bhatnagar, P. (2015). Corporate social responsibility of mining industries. *International Journal of Law and Management*, 57(5), 367-372. doi:10.1108/IJLMA-03-2014-0022
- Shearer, L., Gatersleben, B., Morse, S., Smyth, M., & Hunt, S. A Problem Unstuck? Evaluating the Effectiveness of Sticker Prompts for Encouraging Household Food Waste Recycling Behaviour. *Waste Management*, doi://dx.doi.org/10.1016/j.wasman.2016.09.036
- Sison, M. D. (2013). Creative Strategic Communications: A Case Study of Earth Hour. *International Journal of Strategic Communication*, 7(4), 227-240. doi:10.1080/1553118X.2013.826227
- Sustainability Priorities. Retrieved from <http://www.worcester.ac.uk/discover/sustainability->

priorities.html

Sustainable Business. Retrieved from <http://www.worcester.gov.uk/sustainable-business>

Tanguay, G. A., Rajaonson, J., Lefebvre, J., & Lanoie, P. (2010). Measuring the Sustainability of Cities: An Analysis of the Use of Local Indicators. *Ecological Indicators*, 10(2), 407-418. doi://dx.doi.org/10.1016/j.ecolind.2009.07.013

The Editors of Encyclopædia Britannica. (2017, March 09). Industrial Revolution. Retrieved from <https://www.britannica.com/event/Industrial-Revolution>

The Editors of Encyclopædia Britannica. (2013a). Worcester England, United Kingdom<br>. Retrieved from <https://www.britannica.com/place/Worcester-England>

The Editors of Encyclopædia Britannica. (2013b). Worcestershire County, England, United Kingdom<br>. Retrieved from <https://www.britannica.com/place/Worcestershire-county-England>

Too, L., & Bajracharya, B. (2015). Sustainable Campus: Engaging the Community in Sustainability. *International Journal of Sustainability in Higher Education*, 16(1), 57-71. doi:10.1108/ijsh-07-2013-0080

Transition Worcester. (n.d.). Retrieved from <http://www.transitionworcester.org.uk/>

UK Sustainable Development Strategy. (n.d.). Retrieved from [http://www.sustainable-environment.org.uk/Action/UK\\_Strategy.php](http://www.sustainable-environment.org.uk/Action/UK_Strategy.php)

University League. Retrieved from <https://peopleandplanet.org/university-league>

University of Worcester People & Planet University League 2016 Scorecard. Retrieved from <https://peopleandplanet.org/university/158284/ul16>

Vos, R. O. (2007). Defining sustainability: A conceptual orientation. *Journal of Chemical Technology & Biotechnology*, 82(4), 334-339. doi:10.1002/jctb.1675

Worcester City Council. Recycling for Worcester; Retrieved from



<http://www.worcester.gov.uk/recycling>

Worcestershire County Council. Lets Waste Less. Retrieved from  
<http://www.worcestershire.gov.uk/letswasteless/site/index.php>

Who We Are. (n.d.). Retrieved from <http://www.worcswildlifetrust.co.uk/who-we-are>

World Commission on Environment and Development. (1987). *Our Common Future*. Oxford:  
Oxford University Press.

## Appendix A: List of Attendees at Stakeholder Meeting

Organization	Name, Title
Worcester Polytechnic Institute	Kenneth Colpritt, Student
	Allison Hacker, Student
	April Locke, Student
	Allison McCarthy, Student
	Ashley White, Student
	Ruth Smith, Advisor
University of Worcester	Katy Boom, Director of Sustainability
	Matt Smith, Sustainability Coordinator
	Dr. Sian Evans
Heart of Worcestershire College	Charlotte Swain
Worcester County Council	Warwick Neale
	Rhizina Shearer, Community Partnerships Officer
	Madeline Ajetunmobi, Strategic Housing Team
Worcestershire County Council	Katie Bruton
Business Improvement District (BID)	James Bell, CityNet Call Sign – “Ranger 1”
Other	Duckworth Worcestershire Trust

## **Appendix B: WPI Go Green Week Interview Questions**

### **In Person Interviews with Students who ran past Go Green Weeks:**

1. What events were most successful?
  - a. Why do you think they were so successful? (did they have giveaways, how were they structured?)
2. Are there any particular local businesses that you think we should definitely try to incorporate into the week?
3. What were your greatest challenges?
4. Any recommendations for how we should approach advertising?
5. Since you have a better feeling for the Worcester community than us, do you think that the community will be interested in this week?

## Appendix C: Letter Presented to Businesses

[Date]

To Whom It May Concern,

The University of Worcester, in conjunction with the Worcester City Council, Business Improvement District, and HOW College is hosting a community wide Go Green Week in the Worcester community this April. We are requesting for your business to sponsor the event on behalf of the aforementioned stakeholders.

### Structure of the Go Green Week

The Go Green Week is a five-day long event beginning on Tuesday, April 18th and running until Saturday, April 22nd. The week will showcase themes of sustainability such as food and health, nature and biodiversity, reuse and recycle, energy, and travel. Tuesday will kickoff with an event called Feed the 1000, where the key message is to feed one thousand people with the amount of food that an average family wastes each year. Throughout the week, other events will be held in conjunction with local businesses and organizations that are interested in participating in the event. To encourage participation, there will be loyalty cards that will get stamped at throughout the event. Once a card is filled with stamps, participants will receive a free prize. The week will end on Earth Day, Saturday, April 22nd.

We would like to involve your business in the following ways:

1. Provide monetary sponsorship of any amount that will help fund activities for the event.
2. Provide a material item or gift card that could be given away as a prize for participants.
3. Assist in running an activity during the week.

### Benefits to You

- Advertising of your logo in all promotional materials
- Increased exposure of your business via the loyalty card program
- Potential solutions to sustainability problems you face

Should you like to play a role in the event, please contact us at [W17UKGreen@WPI.EDU](mailto:W17UKGreen@WPI.EDU). We would be happy to work with you regarding how you can contribute to this event, whether it be as a sponsor, loyalty card participant, or wanting to run an activity.

Thank you for your time and consideration.

Sincerely,

Go Green Team

## Appendix D: Activity Outlines



### Go Green Week Checklist

DAY:

PRE-EVENT/ACTIVITY - OVERVIEW	DETAILS (i.e. booked with/by)		
Identify chosen event / activity			
Brain storm, refine and describe how final event should look			
Make a clear statement how the event / activity relates to sustainability			
Establish event / activity aims, objectives, targets & measures			
Identify people involved in planning phase			
Identify people involved in delivery phase			
Identify target audience			
Identify any risks or permissions required (e.g. will you need training, Personal Protective Equipment, permit or risk assessment)			
Identify potential financial costs (is this feasible, can we afford it? Are we giving a prize? Can we get sponsorship?)			
Identify potential financial profits			
Identify suitable venues(s) / location(s) Do you need to book/get permission to use?			
Identify suitable time(s)			
Establish marketing / publicity / staff and student engagement strategy			
Identify measures to quantify success/impact			
PRE-EVENT/ACTIVITY - ACTIONS	DETAILS (i.e. booked with/by)	Person Responsible	Must be done by:
<b>Booking /Pre-event paperwork</b>			
Select, book and confirm relevant contacts			
Select, book and confirm venues / locations			
Complete risk assessment or required paperwork			
Select, book and, if appropriate, arrange collection of necessary equipment (e.g. tables, chairs, cameras,)			
Complete costing overview, agree budget with line manager and complete necessary paperwork. Remember to organise a float if selling items.			
Recruit volunteers / helpers for day			
Arrangement of guest parking permits			
<b>Publicity (in line with agreed strategy)</b>			
Design publicity materials e.g. posters, flyers etc.			
Arrange printing of publicity materials			
Create, contact and confirm guest list (if appropriate)			
Confirm arrangements with volunteers/participants			
<b>Allocate tasks for the event</b>			
Collection of necessary equipment			
Greeting contacts at reception			
Photographer/Press/Video			
Agree who will shoot video footage and take stills for assessment			
Collection of impact / success indicators			
Arrangements for cash after event			
POST-EVENT/ACTIVITY - ACTIONS	DETAILS (i.e. booked with/by)	Person Responsible	Must be done by:
<b>Post Event paperwork</b>			
Complete any statutory paperwork required			
Remove any poster/publicity materials from the campus.			
Complete thank yous			
Complete any financial requirements			
Write up summary of event			
Video footage			

## Appendix E: Go Green Week Press Release

### City Centre Sustainability Drive Shines Light on Food Waste

A challenge to feed a thousand people with the amount of food one family throw away in a year will kick-start a week of sustainability activities in Worcester.

The *Feed the 1000* event is part of the first Worcester City Go Green Week, which will see a host of activities in the City centre aimed at highlighting things we can all do to reduce our carbon footprint.

The University of Worcester has joined forces with Worcester City Council, Worcestershire County Council, the city's Business Improvement District (BID) and the Heart of Worcestershire College to bring about the venture, which runs April 18<sup>th</sup> to 22<sup>nd</sup>.

Events will be held throughout the week, predominantly at the Guildhall and the CrownGate Shopping Centre, in conjunction with local businesses and organisations, with the help of University students, who have played a key role in its organisation.

They will showcase themes of sustainability such as food and health, nature and biodiversity, reuse and recycle, energy and travel.

*Feed the 1000*, at the Guildhall, from 10am to 3pm, will offer free samples of food to the public, along with advice on how they can save money and shop and store food smarter in a bid to reduce the £13billion worth of food which is discarded unnecessarily in the UK each year.

There will be sustainability fairs on April 19<sup>th</sup> and 20<sup>th</sup>.

Other activities include interactive art, advice on improving wellbeing, a sustainable transport session, including cycle security help from the police, a compost demonstration, arts workshop and a health walk and meditation session at The Hive.

Alongside litter picks throughout the week, there will be a large-scale community litter pick on Thursday (April 20), from 3pm to 4pm, starting from the HOW College fountain.

Discarded cigarettes collected will be recycled for free by TerraCycle.

The week will end on Earth Day, Saturday, April 22<sup>nd</sup>, themed around Environmental and Climate Literacy, when the public will be asked to write their pledges towards going greener on a sustainability tree.

Marks and Spencer, in the High Street, is running a clothes drive Wednesday to Friday, 10am to 2pm, giving a voucher for a piece of donated clothing.

A number of cafes – Wayland’s Yard, Francini Café de Colombia and Coffee#1 – will offer discounts when customers bring in reusable mugs.

Residents can get stamps for attending events on a specially designed loyalty card they can pick up and, once completed, they get a prize and are entered into a draw to win prizes donated by local retailers.

The University of Worcester’s Director of Sustainability, Katy Boom, said: “This is a truly international project with students from the USA, France and Germany, alongside the University of Worcester students from a range of courses all helping to promote sustainability in the city. They have worked very hard to bring together a range of fun and engaging activities as well as putting across 10 simple steps we can all take to live our lives more sustainably. The students will be monitoring the effectiveness of their activities so we can see just what a difference this has made.”

To find out more search for ‘Worcester City Go Green Week’ on [www.facebook.com](http://www.facebook.com).

Attached is a calendar with details and locations for all the events in the Worcester City Go Green Week

## Appendix F: WPI Go Green Week Survey Questions

### Initial Questions for Worcester, UK Citizens:

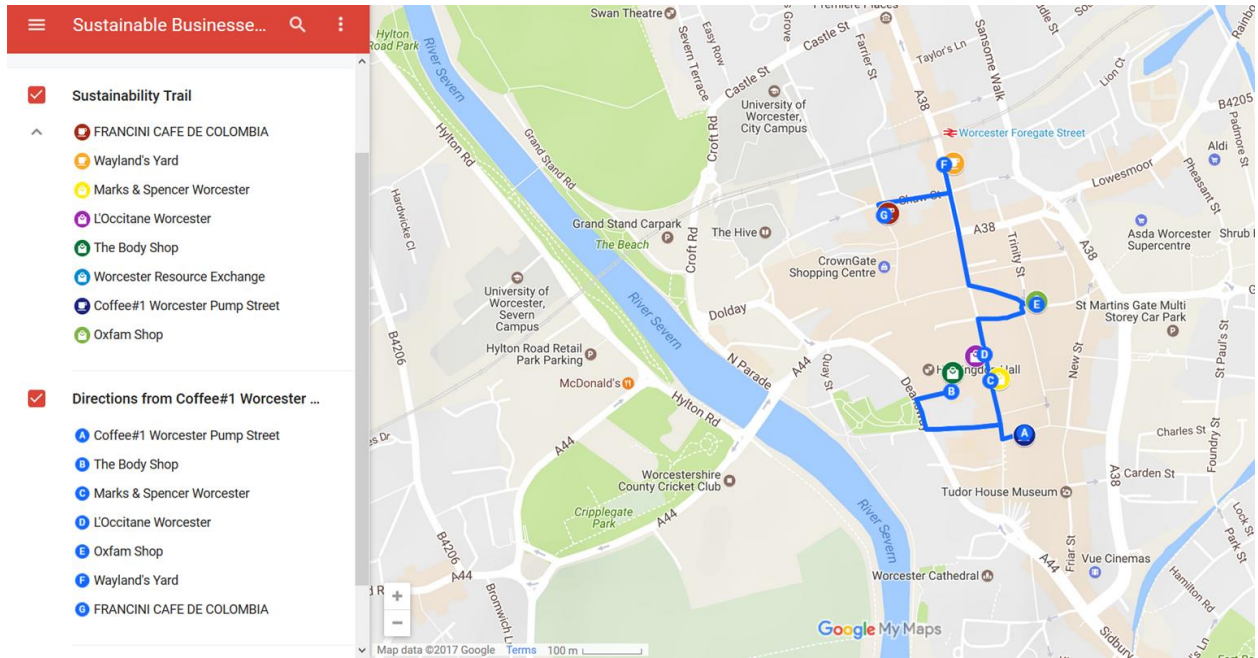
1. Please answer the following basic demographic questions:
  - 1.1. What is your age?
  - 1.2. What is your gender?
  - 1.3. What is your highest level of education?
  - 1.4. Do you live in Worcester, or in a surrounding area?
  
2. Please rank the following questions from strongly disagree to strongly agree  
Related to Sustainability:
  - 2.1. I think it is important to conserve resources for future generations
  - 2.2. I am primarily concerned with meeting my daily needs, the availability of resources for future generations comes second to me
  - 2.3. I do not see the world having issues with access to natural resources in the future
  - 2.4. Sustainability issues are important to me
  - 2.5. The climate and weather patterns are changing due to changes caused by the greenhouse effect
  - 2.6. I have a strong understanding of what sustainability actually means
  - 2.7. I am aware of the sustainable practices offered by businesses and organizations in the community that I can adopt
  - 2.8. I generally drive to my destinations rather than walk, use public transport, or carpool
  
3. Please rank each of the following questions on a scale from 1 to 10 of importance to you (1 being least important, 10 being most important)
  - 3.1. Eating locally grown food
  - 3.2. Recycling
  - 3.3. Reducing carbon emissions
  - 3.4. Water conservation
  - 3.5. Turning lights off when I am not in a room
  - 3.6. Keeping the heat turned on low when I am not home
  - 3.7. Spending time outside with nature
  - 3.8. Using reusable shopping bags

### Follow Up Questions for Worcester, UK Citizens (to be emailed):

1. Did you enjoy the Green Week?
2. What would you like to see next year?
3. What recommendations do you have?
4. Are there any activities that you could have done without?
5. Did you know about available organizations (rephrase this once we know)



## Appendix G: Google Map, Sustainability Trail



Link to Google Map:

<https://www.google.com/maps/d/u/0/viewer?mid=1T8d9jTA3kIh49SXTFd2JTWkBsBk&ll=52.19275095886444%2C-2.2219164258176534&z=15>

## Appendix H: Video Clips of Go Green Week



Shorter video giving highlights of Go Green Week activities. Link: <https://www.youtube.com/watch?v=rWPWtQtdZTk>



Longer video capturing more details from the Go Green Week events. Link: <https://www.youtube.com/watch?v=HGRzIRku9zs&t=30s>.

## Appendix I: Transcripts of Interviews with Sustainable Businesses

### In Person Interviews with Businesses:

1. How is your company approaching sustainability?
2. What areas of sustainability concern you the most? (i.e. reusing, recycling, reducing waste, etc)
3. What are the benefits for your company to be spending time on promoting sustainability? (do you feel responsible, is it to attract customers, etc)
4. What vision do you have for the city of Worcester regarding sustainability?
5. What would you like to be able to do for your company regarding sustainability?

### Appendix I.1: Francini Café de Colombia

K: Kenneth Colpritt

F: Francini Osorio

K: How is your company approaching sustainability?

F: Sometimes you have to rephrase the question because of [the language barrier].

K: What actions are you taking to be sustainable; to be green?

F: Well, what I always try to do is to not buy anything already made. I try to, for example I go to a place where they throw away pallets and I take the pallets, I bring the pallets, and as you can see most of the tables are made of the waste, basically. All these tables are pieces of wood—I found them and I recycled everything. I mean they are already cut anyway so it is already a waste but...you know I don't like to go spend on stuff that doesn't really last. I like to make things to last, and they [recycled materials] don't cost me anything, anything at all—just my time.

K: What areas of sustainability concern you the most?

F: I notice that everything is made of wood. I come from Colombia, and we have the Amazon—part of the Amazon. It kills me every time I see people cutting a tree. If we can use something instead of trees—because you know we need them [trees]. I would love for that to happen, that's why I tend to use what has already [been] destroyed. That's why I try to do that. The same with the carrier bags, everything we use here the council doesn't recycle, which is wrong. So what I do is I get everybody [workers] to separate everything and I take it myself to this tip where they recycle. Somebody has to do it, and with one you can get everyone to do it as well.

K: What are the benefits for your company to be spending time on promoting sustainability?

F: Financial benefits. If I pick out all this [references furnishings] at the tip then I'm not spending any money. So, financially, I made this with nothing—just my time.

K: What vision do you have for the city of Worcester regarding sustainability?

F: I don't know...there are many ways to recycle. It's all about educating people because you can have very good ideas, but if we are not prepared to put it into practice you are wasting your time. [For example, in] Colombia we have very good ideas on paper, but if nobody follows the rules it's not going to work. It's all about teaching people first [about] the damage that comes into our world, and then when everybody becomes conscious of the damage, then everybody is going to try to act different. Then we can put all those ideas into practice and we will do it. I think it's the only way, because you can have very good ideas but if you don't teach them properly, then you won't [be able to] do it.

K: What would you like to be able to do for your company regarding sustainability?

F: The coffee is picked up from my farm. The way we pick the coffee is by hand, so everything comes from Colombia to here [Worcester]. So basically, if you go to my farm in Colombia the way we--you see the way the farmers they wash the coffee and throw everything in the river. No, I go filters so it filters the water back into the river clean. All the waste I dry and put it back into the soil, so I'll try to [use] everything from the beginning to the end, so I lost it. Ask me again. I think a lot of things at the same time...

K: So you're talking about your farm...is there anything else you do on your farm that are sustainable? So you mentioned that you filter the water back in//

F: //Everything is sustainable, I don't buy gas I produce my own gas, I don't buy vegetables I grow my own [vegetables]...well I am not there now but if you happen there my own vegetables are there. So everything happens within my land, cause I believe that if you got a farm why should you go to a supermarket to buy food when you have a place to grow your own food. It doesn't make sense. All these big pieces of land and people don't use them. They don't use them. I think it's...I don't know, I don't like the way life is these days, everything is mass production. If you want into a supermarket *most* of the stuff that you see there is all packed. And I will say to my wife, "Can you mind the amount of tons of rubbish that is here?" To take a piece of bread or whatever is all packaging, packaging, packaging, packaging. What for? It's just for presentation, it's just to sell it to you. We don't need that. What you need is what is inside that pack, you don't need the pack. So it's the amount of waste we create [that] we don't really need. Honestly, we don't need that stuff.

## Appendix I.2: Waylands Yard

K: Kenneth Colpritt

S: Sam Smith

K: So how is your company approaching sustainability?

S: I think the massive thing in the press at the minute is sort of take away cup waste is huge and that's why we got the Keep Cups out front so--Keep Cups is a company from Australia that sort of promotes in reusing cups and stuff--and yeah so we sell those, you get your first coffee free and then people can continue to use them and it's 10% off every time they use them, so it's obviously cool for them but then it helps us reduce our waste.

K: Yeah, so it kind of leads into our second question when we ask what areas of sustainability concern you--obviously reusing, reducing waste, things like that just cause//

S: //Yeah, reusing stuff, reducing waste is huge I think. So much stuff gets chucked away and we try to be really sort of responsible in the kitchen with what we use...so we try and use the end like make sure we use the full sort of cup of meat and that kind of thing. Everything that we get rather than chucking stuff down into the bin and then obviously reusing which we promote with the Keep Cups.

K: So what benefits to your company--like what are the benefits when you promote sustainability? Are there specific benefits that you guys see over a long period of time or instantaneously?

S: Well I think with this whole reusing thing, obviously as a business you get a massive boost from people who buy a cup here then they'll obviously want to keep coming back because they're going to get 10% off for the sort of the duration of the time they have the cup//

K: //Right

S: //So obviously it...sort of repeat business obviously really good, but I guess other benefits are...you obviously a bit of your conscious--you feel like you're doing something and it might only be something small but at least it helps a little bit.//

K: //Right,

S: //If everyone sort of does one little thing--I'm sure you guys are fully aware--then it makes a big difference.

K: That's the plan, cause some of our project is tying in economic value with sustainability and social value and things like that. So that's like, kind of what we're trying to promote here--that it's not one or the other, you can have them all.

- S: A little bit of both, yeah.
- K: Right. So what vision do you have for the city of Worcester regarding sustainability? Do you know of anything that....
- S: That's not something I've ever really thought about.
- K: I mean it's similar things that you're doing just probably think you wanna have other businesses do what you do and things like that.
- S: Well yeah I guess if some businesses start doing stuff then others might [catch] on and join in. The more, I guess, as a coffee shop or a restaurant or a pub, you're quite a public figure in the respect that you're going to have hundreds of people come through every day. So if you can raise awareness by doing something positive then...yeah.
- K: Yeah, definitely. And then the last question is: What would you like to do for your company regarding sustainability. I know you pretty much do, it seems, what you think you can, but if you...do you know of anything else that you wish you could do? Or maybe in the future adapt or adopt? It seems like you've already take the steps that//
- S: //I guess it's hard. I mean that's probably all the stuff we can do, but...
- K: Like I'm not sure--with energy or other recycling, things like that...
- S: Something like... we get a lot of cardboard boxes from suppliers bringing fruits and veg and meat and stuff like that, so I think if there was some way...I guess it would have to be a whole industry thing of making that less of a thing and reducing...reduce the demand for cardboard or whatever and reduce that some way would be something we could look into to.
- K: So not even specifically you, but you're saying the whole chain of events?
- S: Yeah, I think it's not going to be sort of put into practice by a small coffee shop where it's something that could be done industry wide.
- K: Right. Awesome. Well that's it...pretty short. Awesome. Thank you very much, we appreciate it.

## Appendix I.3: Lush

K: Kenneth Colpritt

L: LUSH Worker

K: So the first question is really how is your company approaching sustainability?

L: We do it in a variety of ways, so from the product ingredients we have something called a SLush Fund. So we...It's....The S is sort of Sustainable and of course the store is called Lush. We have a separate buying amount, so it's roughly 1 million pounds a year that we use to give back to our suppliers so it helps them to set up more sustainable organizations within their local communities. And it's a nice change from us just buying the ingredients, leaving them to it, and us making a lot of profit, and them continuing to live in the not great environments that we found them in.

We also have SLush Fund ingredients. So those are ingredients that have come out of sustainable programs they've set up, and basically it uses an ecosystem that works for the natural design of plants working together. So it's basically just like a growing moringa trees, which grow really tall and shady leaves, with coffee beans that really need the shade to grow. That provides nutrients for the soil, it provides products for us, and it provides products for the local community and jobs and money for the local community as well. The three main principles are care for the Earth, care of the people, and fair sharing.

Another way we're sustainable....We're not a FairTrade company because we'd have to pay for the logo, and our founders think it's more useful to spend that money elsewhere instead of just paying to carry a logo. And I won't be surprised if they've put the money we would spend on it directly into things like the SLush Fund. We do use a lot of Fairly Traded ingredients, so cocoa butter we use is fairly traded, shea butter is fairly traded, but, again, we can't list ourselves as FairTrade because we don't pay to carry the logo.

Another thing we do...We also have an in-store recycling policy that's open to customers. Almost every pot we use is black. Black plastic isn't recycled locally, so we have in-house recycling, but if you put black plastic in that then they have to throw it away because they don't know what to do with it. At Lush we encourage customers to bring back 5 clean pots once they've use them, and we'll give them a free product to kind of thank them for bringing it back, and then we send it back to the factory and they recycle it in-house there. That also works with our clear pots which came in after the initial black pot policy, but we wanted to include everything just to make sure we know that everything is being recycled. So it's basically a 5 pot policy.

Another thing we do, which is pretty much throughout the company, and every product is we use fresh ingredients where possible. So instead of phosnonsynthetics--we do have a few because we haven't found alternatives just yet--but we focus on using fresh products and local products where possible. So here our sea salt and seaweed is collected in Poole every morning. Just hand collected by our compounding team. In Lush Japan they use the rapeseed oil from a local source

in Japan. We try to keep everything as local as possible, and based on the country that the Lush is in, the products are made in that country. So, all Lush UK products are made in the UK, all Lush America products are made in America. I think there are three main sites in America...but it's all made locally to reduce our carbon footprint in that way. Lush also taxes themselves. Well, Lush UK anyway, I'm not sure about outside of that. But every time someone travels by plane we have a set amount--I think it's 50, but I'm not sure--50 carbon tons that we tax ourselves for traveling by plane, and we use that money to go to green organizations to help them with tackling climate change and things like that. We also encourage--because of that--we encourage things like car-sharing, traveling by train, just to reduce the carbon footprint. Again, not cause that it UK based, I'm not sure how effective that's been overseas but it's definitely something we do in Lush UK.

What else do we do...We recycle bottle tops in store as well, so every time a customer buys a bottle we make sure they know at the till that they can come and recycle it in store. That's all I can think of. And we recycle boxes and stuff--I think a lot of companies do that, but in line with our ethos it's just one of the many things that we have going on in-store.

K: So that kind of leads in--you pretty much answered the second questions, too, which is we're going to ask you what areas of sustainability you guys think are most important. And we can see it's keeping things local, recycling, trying to reuse, things like that. Is there anything else, maybe, like areas that you guys focus on.

L: Again, with the [permaculture idea] we do kind of enforce three main principles across products [that would] be on the SLush Fund, so it's caring for each other, fairly sharing, and caring for the environment. One of the ways in which we care for each other is we have Charity Pot Parties in store. So the charity pot itself is a product, it's a hand and body lotion, it's made using six ingredients from the SLush Fund, so that's already supporting communities worldwide, and everything we make except VAT goes straight to the grassroots charities that we support, so it's all charitable and the fact that we support grassroots charities is even more beneficial because it makes more difference for a grassroots charity. It's a charity that makes less than 250K a year than to support a charity that's got CEOs making 250K a year, it's just more useful to do that.

K: Definitely.

L: And the charities we support are also local to the store as well, so a recent charity pot party we had was with People In Motion and they're a charity set up about 2 years ago in Worcester to help people who have been displaced by the civil movement from Syria to various places in Europe. We're having another one in a few weeks to support the nappy loans that we do. There's a nappy library in Worcester/Hereford, and that Charity Pot Party is to support them and raise awareness about what they're doing to encourage people to use reusable nappies, let them know more about it because it's something not too widely known. But we do try to put on parties quite regularly so that's kind of how we support other people in that sense. And of course with the return and getting a free face mask system we're kind of supporting the customers because it saves 10 pounds, we get to recycle stuff, and everyone is happy.



K: Yeah.

L: Yeah.

K: Awesome. So, I mean you've talked about the benefits, but just if you could maybe narrow down some very specifics, what are the benefits to promoting sustainability inside of the company.

L: It's beneficial to staff education because when I started at the company I'd recently gone vegan. I was kind of loosely aware that there were kind of sustainable eco-friendly which is part of the reason I applied for the job. But it's great for education because they do so much and they want to make sure you know about it as well, because when we talk to customers we are encouraged to mention at least one sustainable thing that we do within a consultation. So it's encouraging us to be educated and from that encouraging us to educate the local environment because one thing that I think is a problem with sustainability worldwide is that quite a few companies are sustainable but they don't say anything about it which might be a problem because if...with not being sustainable people are already doing that just unaware but when you tell them they're not being sustainable, show them what's going on--for example with the harvesting of mica that involved a lot of child labor where they're underpaid, if paid at all, and it's a very dangerous. If we showed more people that used makeup that that's what's happening for them to get a bit of makeup quite cheaply they would feel worse about it, they would boycott certain companies because people in general when they hear the ethics of how most things are sourced they're not happy with it, but because we tell customers that they feel even better about shopping with us. So it's definitely great for encouraging our personal awareness as staff and encouraging the local community. That's a great one. And it is also good for...well pretty much my education. I'm in a course that kind of links to sustainability so we have a sustainability module that I'm doing and it just helps to put the theory into practice, cause it's well and good learning about it in a classroom, but it's not the same as actually putting it into practice and being at Lush just helps you to do that.

K: I mean, as you can tell that's kind of what we're trying to do, too, is bring it into fruition here. So basically the last question is what vision do you have for the city of Worcester in terms of sustainability between people, businesses, organizations, anything like that?

L: I think Worcester is one of the few cities that's a really good place to be sustainable. When you look at in on the map there's a lot of greenery down here, which is positive, like you see more green than you see grey space which is buildings. I know the Uni's new library [The Hive] is very sustainable. It has ranked a 2nd in Europe for sustainability. But again, they need to promote that because not many people in the student body actually know that. Like you actually have to look for it. And we have a lot of local businesses here as well which is quite nice to see. When you walk around Reindeer Court is a good place to go to. You see a lot of local businesses, so there is certainly a lot of opportunity for Worcester to be sustainable, but we also, again, need to shout a bit more loudly about it. Just let people know. Cause we also house the Vegan and Veggies fair annually now, by the looks of things it looks like it's going to stay here as well. And when I was there people have literally traveled from all over the country just to be here, just to

represent their businesses. So we do have a good starting point as we are, but I think promotion is a major key to making the city kind of embrace it a bit more.

K: Well, that's it. I mean you answered the last questions already with flying colors. You killed it. I mean that's really it if there's anything else you'd like to say about your company, anything like that.

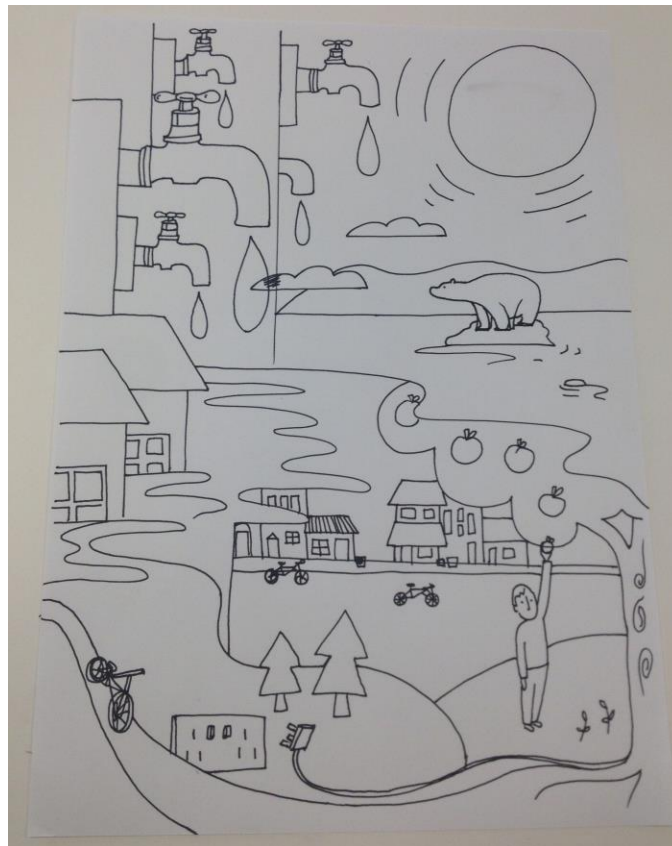
L: We do more. If you want to go online--I think it's Lush Canada that's the best for it. Search Lush Canada and they have a Lush Library. It's all the articles about our ethics and what we do. And if you go to Lush UK and just search "article" they'll all come up. And it's a range of articles talking about sustainability, the SLush Fund, our ethical buying, and why we use certain animal products. We are 100% vegetarian. We were 83% vegan at the last [statistics] check but that was about a year ago and we have switched out some of the product range since then so our whole bath bomb range is now fully vegan. The only non-vegan things we now have is honey, which is as ethically sourced as you can possibly have it. I watched the video on how we sourced it and it's just so cool. Look it up guys. And lanolin which is byproduct of pretty much just washing wool. So it's not a direct animal product as such, but it's obviously not vegan. But everything else is now vegan, so fully vegan bath bomb range, our chocolate is now vegan, the milk we use is now vegan. We're taking positive steps in that way.

K: Well thank you very much! We appreciate it. That was exceptional.

## Appendix J: Artwork



*This illustration was designed by Megan Hoppe, a student on the Worcester Arts Workshop IQP Team. Participants in the Go Green Week painted individual sections. In the image it is hanging in the Worcester Arts Workshop.*



*This image was designed by Kirby Jennings, a student at the University of Worcester, and the artwork was available for the community to color throughout the week.*

## **Appendix K: Diary of Account for Future Go Green Week Events**

The first day of Go Green Week was on Tuesday, April 18th outside of Guildhall in the Worcester City Centre. The day was centered around an event run by Love Food Roadshow called “Feed the 1000”. Sponsored by the Worcestershire County Council, the goal of this event was to educate attendees about the importance of monitoring and reducing food waste. The food handed out during the event represents the average amount of food a family of four wastes every year. We observed that attendees were often startled to hear this statistic. Many expressed their concern for the issue, and explained how careful they are with conserving their food and reducing waste. We received many anecdotal comments from a variety of citizens who remarked that they were raised during a time when food rationing was a necessity for survival. Many citizens explained how the impact of World War II on the United Kingdom influences the behaviors of community members. Many people still have the mentality to conserve resources, and waste very little.

We discovered that the best way to draw people in was to engage with them first. We invited them to try the free food samples, and proceeded to tell them about the event, and invite them to participate in other activities throughout the week. We found it was most effective to approach people who were passing by closer to the event, as opposed to walking down the street to engage people before they had reached Guildhall.

During Feed the 1000, we also passed out pre-stamped loyalty cards stapled to the Go Green Week schedule to help promote activities taking place throughout the week. This appeared to be advantageous, as it often sparked further communication with participants interested in learning more about the Go Green Week. We also invited Mayor Councilor Paul Denham, to attend our event, which helped bring the community together and draw citizens in who were passing by. We feel that the Feed the 1000 event was a rewarding and suitable event to launch the Go Green Week. It was not only enjoyable and engaging, but also very educational.

On Wednesday April 19th we hosted Go Green Week in the community at both the Guildhall and CrownGate Shopping Center. A successful activity that we had throughout our time at CrownGate was an interactive art piece. The art piece was designed by a student at the University of Worcester, and was very successful in engaging with children. We found that when the children were coloring their parents or grandparents were more likely to take our survey because their child was occupied with an activity. The events at Guildhall consisted of a

sustainability fair including Worcester Roots, Energize Worcester, and the White Bag Project, along with promoting the “Ways to Wellbeing” event. Worcester Roots provided several interactive activities in addition to free samples. They also promoted the Go Green Week and survey at their tent, sending participants down to our table. The “Ways to Wellbeing” event took place inside the Guildhall which increased footfall by our tables. Many people were interested in what we were doing outside and would stop either on their way in or out of the wellbeing event.

We recommend working with other events taking place at the venues for each day. When we promoted other’s events they were much more willing to promote ours. Not only was the advertisement helpful but having similar events in one location encouraged more people to come and learn what was happening. In addition to coordination with other events, include organizations that will support and promote the event as a whole not just their stall. We found the best organizations were those with their own volunteers and interactive activities, allowing the team of students to focus on surveys and maintaining the event as a whole. It is also recommended that there are activities designed with children in mind, because once they are attracted to the event, it is easier to engage with their parents about the sustainable practices and organizations being promoted and to have them take a survey.

On Thursday April 20th the Go Green Week was held at both Guildhall and CrownGate. At Guildhall a sustainability fair was held highlighting a compost bin demonstration promoted by the Worcestershire County Council, in addition to reuse carnival games, White Bag Project, and Weir Waste. We found that the carnival games were a successful addition to the week as they attracted children to play, allowing their parents to learn about the week and complete our survey without worrying about their children. However we found that Weir Waste and the compost bin demonstration did not attract as many people as we hoped.

At CrownGate Spokes Bikes promoted using bicycles as main forms of transportation and sold refurbished bicycles. We found that the bike display attracted people to our event, but Spokes was not very successful in selling the bikes. To inform Worcester citizens about bike security and safety, a West Mercia Police representative was present. The representative provided participants with pamphlets about riding bikes safely. She also passed out harnesses and bracelets that illuminate at night for bikers to ride safely. We found that citizens valued these items, and appreciated the safety benefits associated with these items. Specifically elderly people were thankful to receive safety gear to give to their grandchildren, which demonstrates one way

of how we were able to reach multiple generations about cycle security. The West Mercia Police representative also passed out free kits to safely mark bikes, addressing the bike theft concerns that were expressed in our meeting with the stakeholders.

We addressed concerns circulating within the Worcester community about littering by hosting a community litter pick. We quickly learned that most of the litter that we collected was cigarette butts, supporting claims that littering cigarette butts is a major issue in the Worcester community. To incorporate recycling into our litter collection, we used a company called TerraCycle. TerraCycle collects and recycles cigarettes into different materials, such as plastic lumber and boards to be used in construction projects. We collected the cigarettes, and shipped them to TerraCycle for free.

For future Go Green Weeks we recommend explicitly communicating to organizations each day to ensure that they are aware of the details of the whole event. In addition it would be beneficial to ask them to promote the week to participants visiting their table. We recommend that future Green Week initiatives continue to have police present to promote cycle safety and security. The free items from the West Mercia Police were useful to attract community members to our event, making it easier for us to educate them about cycle security and other sustainable practices. When we were planning the Go Green Week, we had hoped that we would be able to purchase D-locks for the police to promote but were unable to due to lack of monetary sponsorship. It would be beneficial to promote D-locks in the future, since we found bike security to be a pressing concern in the Worcester community. We believe TerraCycle's recycling initiative can be adopted in the future by the city of Worcester, and also the University of Worcester. It encourages recycling, and could be a new connection between the University and city in working towards becoming more sustainable.

Due to scheduling conflicts with Guildhall, we chose to solely use the space at CrownGate on Friday, April 21st. We were accompanied by Second Chance Furnishings, Oxfam, and Marks & Spencer. All three organizations were primarily promoting reuse and recycle through their own individual programs. Second Chance Furnishings is a charity that collects and sells good quality second hand furniture, Oxfam sells donated products, and Marks & Spencer was advertising their "Shwopping Scheme" in which anyone making a clothing drive donation can receive a voucher for their store. The footfall in CrownGate was the lowest of the week, and we were only able to get nine participants to take the sustainability survey. Individuals

who stopped to talk to representatives of the organizations that joined us were rarely directed to our sustainability table after their conversations. In the future, it would be beneficial to converse with participating organizations about making sure they promote the Go Green Week in addition to themselves.

Seldom people stopped by between the hours of 10:00 and 12:00. By noon we decided to set up carnival games to play in an effort to engage children so that their parents/grandparents would have an opportunity to learn about the Go Green Week and take our sustainability survey. Unfortunately, this tactic was unsuccessful. The carnival games were homemade and did not fit the aesthetic of the way the Go Green Garden was set up. Having newer, better games may have more success. Additionally, restricting carnival games and coloring to just children would make parents and grandparents more willing to let their kids stop to interact.

We strategically planned to end the Go Green Week on Earth Day Saturday, April 22nd, because we felt that it was important to acknowledge the holiday in our efforts to promote sustainable practices. Students working with the Worcester Arts Workshop designed an interactive art piece that encourages supporting and valuing the Earth (Appendix J).

We found that it was difficult to draw community members into painting the art piece as they passed by us. This prompted us to start painting the image, intriguing adults and children to stop and engage. This helped the Worcester Arts Workshop students complete their artwork, and also advertise the Worcester Arts Workshop to those who participated in the painting activity.

Since Saturday is a weekend day, we found that CrownGate was more populated than on the weekdays. However, like other days of our event, we discovered that CrownGate does not get busy until 11:30AM. There was little activity between 10:00-11:30. We advertised free chili plants to citizens, and asked them to take our sustainability survey in exchange for a plant. We found the chili plants acted as a reward to participants and were visually enticing, provoking engagement and at times further discussion. The plants created an opportunity for many community members to tell us about small gardens or potted plants they already had. These anecdotal comments allowed our team to gain insight about the community of Worcester. Another activity that we planned was for community members to write sustainability pledges and hang them on a 3D tree that the University of Worcester has used in past Go Green Weeks. This activity was not successful, and we had very few participants. We believe this is because we were already engaging with citizens through the art piece and the sustainability survey. They

were not interested in spending more time at our event, because they were on their ways to other areas of the city and had not planned to attend Go Green Week.

Community members came to redeem their loyalty cards for a free chili plant. We learned that the loyalty card scheme was not a successful method to encourage individuals to attend our events throughout the week. Only two community members turned in their loyalty cards with full stamps, and we did not receive any other cards. We believe this is because community members were too busy to attend the events every day, as they were either working during the week, caring for children, or just disinterested in the activities that we advertised.

Based on our findings on Saturday, we have several recommendations to increase participation in future Go Green Weeks. When trying to involve community members in an interactive activity, such as painting, coloring, or a game, it is best to be physically doing that activity to attract outsiders to the event. We also recommend that the Go Green Week events take advantage of both days of the weekend, as there were more people in CrownGate on the Saturday than on the weekdays. It is also important to realize that if there are too many activity options for participants to choose from, some of the activities will be ignored. This was proven to with the sustainability pledges. We recommend that the types of future activities are planned more carefully, and that not all activities are time consuming for participants. Additionally we recommend using chili plants or other visually enticing free items again to encourage participation in the surveys and other activities. Based on the lack of success associated with the loyalty cards it is recommended that they either not be used or are replaced with an electronic version for future years. A lot of paper was wasted in producing the loyalty cards, which contradicts the idea of conserving resources, and the cards were not useful tools in encouraging long-term participation throughout the week.



## Appendix L: Go Green Week Checklist

*We suggest that future Go Green Week teams follow the order of this list in their efforts to plan and host a Go Green Week event*

- Meet with members of the Worcester City Council, Worcestershire County Council, Business Improvement District, Heart of Worcestershire College, and University of Worcester to learn about activities they would like to have during the event
- Start growing and fostering chili plant seedlings so they are ready to be distributed at the event
- Make sure all venues for the event are booked well in advance
- Examine the spaces that you have booked to determine how much space you have to host other organizations and businesses
- Complete booking forms, risk assessments, and provide public liability forms for the Worcester City Council before approaching businesses
- Approach businesses for sponsorship and participation after confirming with City since businesses will ask
- Reach out to organizations which support sustainability and ask if they would like to participate
- Create a detailed outline of events based on the resources available
- Collect fruit from local grocery stores to start the dehydration process (this involves slicing, dehydrating, packaging and labeling)
- Develop an advertising strategy for the event (Facebook event, working with Worcester BID, etc.)
- Organize all supplies and giveaways necessary to host the Green Week before the event (easier to bring supplies a day early to locations)
- During Go Green Week, use free giveaways (particularly the dehydrated fruit and plants) to attract individuals to the event and to give them an incentive to take the survey
- Create a metric to measure the impact and analyze the attitudes of the citizens (i.e. survey)