

# Olympic-Sized Opportunities: An Investigation of the Olympic Games as a Tool to Promote and Advance a Sustainable Agenda

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Emma Sorrell  
Occidental College

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Professors Gottlieb and Shamasunder  
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## **Executive Summary**

During the last two decades, concerns for sustainability and the future of our planet entered into the public consciousness and became issues of global public policy. The Olympics have been especially scrutinized and criticized for extravagant use of natural resources, disregard for the natural environment and other environmental impacts, and incompatibility with sustainability principles. Although the Olympic Games may currently contribute to global environmental and sustainability problems, they also have an important role to play in identifying possible solutions. Using London 2012 as a case study, this project aims to investigate how, in addition to making the staging of the Olympic Games more sustainable, the Olympics can be used as a tool to promote and advance a long-term sustainability agenda, and how those changes can be institutionalized and integrated into the fabric of society. With proper leadership, and planning that considers its legacy from the very beginning, the Olympics can be used as a tool to improve the sustainability of both the host city and Olympic supporting industries. This report analyzes two mini case-studies: one examining the city planning and public works initiatives carried out by the London 2012 organizing committees (the London Organizing Committee for the Olympic Games (LOCOG) and the Olympic Delivery Authority (ODA)), and the other looking at LOCOG's attempt to integrate environmental sustainability efforts into the activities of their long-time corporate sponsor Coca-Cola. As a result, this report identifies if/how sustainability initiatives were successfully implemented, offers suggestions on how host cities may effectively use these strategies in the future, and presents recommendations, for host cities, NGO advocacy organizations, and the International Olympic Committee, on how to more effectively use the Olympic Games as a catalyst for change.

## Introduction

During the last two decades, concerns for sustainability and the future of our planet entered into the public consciousness and became issues of global public policy. As awareness spread through society, people began to ask questions about the long-term environmental impacts of global hallmark events, such as the Olympic Games. The Olympics have been especially scrutinized and criticized for extravagant use of natural resources, disregard for the natural environment and other environmental impacts, and incompatibility with sustainability principles.<sup>1</sup> In an attempt to address these issues, the Olympic governing bodies created regulations and guidelines to encourage sustainable development and more responsible resource use. Host cities have also been at the forefront of trying to find solutions to these ‘Olympic’-sized sustainability problems. Over the past 20 years, host cities have come up with strategies tailored towards addressing their unique strengths and challenges. The 2012 summer Olympic Games in London claimed to be the “most sustainable games ever”.<sup>2</sup> Their comprehensive *One Planet Olympics* framework integrated sustainability principles into every area of the Games, including infrastructure, food, corporate sponsors, and management systems. In the wake of the 2012 Games, there is an opportunity to study the intersection and relationship between sustainability, the Olympics, the host city, and the Olympic supporting industries, including corporate sponsors. Using London 2012 as a case study, this project aims to investigate how, in addition to making the staging of the Olympic Games more sustainable, the Olympics can be

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<sup>1</sup> Cantelon and Letters, “The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement.”

<sup>2</sup> London Organizing Committee of the Olympic Games, *Delivering Change: London 2012 Pre-Games Sustainability Report*.

used as a tool to promote and advance a long-term sustainability agenda, and how those changes can be institutionalized and integrated into the fabric of society.

Part I of this report covers the history of the Olympic Games, the structure of the organization and governing bodies, Olympic culture, and funding sources. Part II is broken down into five sections and reviews the literature on sustainability, Olympic sustainability, corporate social responsibility and how it relates to corporate sponsorship, the 2012 Olympic Games in London, and the gaps in the literature. Part III outlines the research objective, methods used in this study, and reports on the findings. Part IV gives policy recommendations for host cities, NGO advocacy organizations, and the International Olympic Committee on how to more effectively use the Olympic Games as a catalyst for change.

Sustainability issues have always been of great interest to me. Sustainability as a concept is vague and subject to interpretation; therefore, through the years it has been exploited and watered-down. To me, however, the term embodies our attempt to live within the resource constraints of a finite planet, and to strike a balance between the social, environmental, and economic spheres of human activity. For the past three years, I have worked for Occidental College's Campus Dining Department as the Intern for Sustainability Research and Implementation. We work on sustainability issues ranging from cleaning products to food sourcing, and when it came time to choose my senior comprehensive research topic, I knew I wanted to do research related to achieving sustainability objectives. The 2012 summer Olympic Games in London couldn't have come at a more opportune time. With a major focus on delivering a "sustainable Games," the London Olympics claimed to have established a holistic approach and ground breaking sustainability initiatives across the board, thereby providing the perfect case study for a comps project.

What interested me about this topic is how sustainability can be achieved at such a large scale, especially when large events such as the Olympics are thought to be perhaps fundamentally unsustainable. Initially, all of the Olympics media attention to the “Zero-Waste” efforts influenced me to examine the effectiveness of this particular program, but as my research progressed, I realized that this topic was too limited, because it only focused on the disposal phase of the consumer cycle. The existing literature on the Olympics is incredibly extensive, and covers a myriad of subjects from labor rights to world culture and everything in between. However, what captured my attention as I expanded the scope of my research were the lasting impacts of hosting the Games on the natural, physical, and social environments of the host city.<sup>3</sup> This process led me to consider how hosting the Olympic Games could be used strategically to advance long-term sustainability initiatives and ultimately benefit the host city and society as a whole.

### Research Objective

Although the Olympic Games may currently contribute to global environmental and sustainability problems, they also have an important role to play in possible solutions. Global participation in the Games gives the International Olympic Committee (IOC) enormous power to influence participating nations, and coordinate the advancement of a global agenda. Therefore, with proper leadership, and planning that considers its legacy from the very beginning, the Olympic Games can be used as a tool to improve the sustainability of both the host city and Olympic supporting industries.

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<sup>3</sup> Although not covered in this paper, the enormous costs associated with hosting the Olympic Games mean they also have an economic impact on the host city. Whether discussing host city spending on Games infrastructure or host city revenue from increased tourism, the economic ramifications of the Olympics are central to determining the overall impacts of hosting the Games.

The Olympic Games offer a completely unique situation, in which opportunities for change, unavailable under any other circumstances, are suddenly possible. The massive infrastructure and development needed for the Games demands the host city to undertake enormous and costly projects, which would be hard to complete without the Olympics acting as a motivator and funding source. Lenskyj agrees with the “Olympic as catalyst” rhetoric, and affirms that bidding cities see hosting as an opportunity to solve problems, using strategies such as urban regeneration and infrastructure development.<sup>4</sup> Many of the studies investigating the benefits of hosting the Olympics focus on economic or social benefits, which have consistently proven to be short-lived.<sup>5</sup> Job creation, in particular, has been found to be temporary and/or only impacts specific sectors.<sup>6</sup> In addition, small businesses are largely unaffected by the “economic impulses” created by the Olympic Games.<sup>7</sup> The temporary nature of these economic and social benefits is harmful to the ‘Olympics as catalyst’ rhetoric. However, changes made to infrastructure or management systems are more permanent and can be useful in creating long-term change. Many cities, including Barcelona and Sydney, have used hosting the Games as a mechanism to make infrastructural improvements to the city, remediate brownfield sites, and improve transportation networks, changes that have long-term impacts on a host city.

London makes a good case study for this research because their sustainability efforts indicate a desire to expand the Olympic Games’ existing concept of sustainability, and integrate these principles into broader society. The IOC uses the Brundtland Commission’s definition of sustainability and acknowledges that environmental, social, and economic factors are all

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<sup>4</sup> Lenskyj, *Inside the Olympic Industry*, 96.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid., 96.

<sup>7</sup> Ibid.



important. In practice, though, the Olympic Games and host cities have primarily been concerned with environmental sustainability.<sup>8</sup> Due to the limitations of this study, this investigation focuses primarily on efforts concerned with environmental sustainability, including initiatives addressing waste, carbon footprint, energy, materials, water use, transportation and the natural environment. However, the sustainability efforts undertaken for London 2012 are too numerous to cover in a single paper, and include environmental, economic, and social factors. Economic and social factors, such as health, labor rights, and community improvement are important aspects of sustainability as a whole, and London 2012 did undertake extensive efforts to address these issues.

In order to examine how the Olympic Games can be used as a tool to promote and advance an environmentally sustainable agenda, this report analyzes two mini case-studies: one examining the city planning and public works initiatives carried out by London 2012's organizing committees, and the other looking at LOCOG's attempt to integrate environmental sustainability efforts into their relationships with corporate sponsors. This corporate case-study focuses on Coca-Cola, evaluating both their voluntary and required sustainability efforts. The purpose of this research is to evaluate whether or not opportunities for sustainable planning and development are created through the activities of these two sectors, if/how London 2012 capitalized on these opportunities, where they were successful, and where they fell short or failed. As a result, this report will identify if/how sustainability initiatives were successfully implemented, offers suggestions on how host cities may effectively use these strategies in the future, and present recommendations on how to use the Olympic Games as a catalyst for change. In this proposed framework of using the Olympics as a tool for increasing sustainability, the

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<sup>8</sup> "Manual on Sport and the Environment."

concept of *Legacy* is a primary focus and will be a key role in the conclusions and recommendations (Note: The term *legacy* is used by the Olympic Movement to indicate things that will continue to exist into the future, not things that have survived from the past).

## **Part I: Background**

Since the Olympic Games were reinstated, through the efforts of French aristocrat Baron Pierre de Coubertin, they have become an integral part of modern society.<sup>9</sup> De Coubertin had dreams of establishing the games as a world-wide tradition, and worked tirelessly to promote, expand, and solidify their existence.<sup>10</sup> The first modern revival Games were held in Athens, Greece in 1896. Attended by only a few thousand spectators, and with only 245 athletes from 14 different countries, this first attempt looked nothing like the enormous Games of today.<sup>11</sup> Despite their size, the 1896 games were dubbed an undeniable success. At this time the athletes were still unaffiliated with any nationally based Olympics organization, and official national participation had not yet been formalized.<sup>12</sup> Eventually, de Coubertin's efforts paid off and he attracted the support of each participating nation, and was able to build an internationally regulated competition. Although the road to a stable Olympic Games has been rocky, the institution survived two world wars, conflicting political ideologies, and numerous economic depressions to become the largest peace-time event in the world.

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<sup>9</sup> Young and Wamsley, *Global Olympics*.

<sup>10</sup> Ibid.

<sup>11</sup> Toohey and Veal, *The Olympic Games*.

<sup>12</sup> Young and Wamsley, *Global Olympics*, 25.

## Olympic Culture

With every successive Olympiad, financial investment and participation increased, and the range of their influence widened. This growing global phenomenon led to the development of a culture surrounding the Olympic Games. Growing participation in the Olympics throughout the early twentieth century awarded the Games significant social and political importance, in which athletic victory was associated with national status and progress.<sup>13</sup> With every major world power that entered the Olympic Games, it became more and more important for the smaller and less powerful nations to establish National Olympic Committees (NOC) and take part in the Games. In order to participate, however, these global under-dogs had to invest precious funds into their Olympic programs, thereby diverting capital from domestic development.

For the very first time in history, the Olympics created a highly visible stage where world-wide political, economic, and cultural interests could all intersect. Frank Lechner and John Boli summarize both sides of this burgeoning idea of *Olympism* by affirming that “while in its rules and ritual the Olympics enshrined the formal equality of nations, they thus also provided a forum for ideological contest and national self-evaluation”.<sup>14</sup> The Olympics gave participating countries the opportunity to represent themselves to both international and domestic audiences, and nations began to use them for state-building and social/political schemes.<sup>15</sup> Celebrating both the local and the global, this new Olympic culture peacefully brought nations together and celebrated common humanity, but also promoted nationalism and highlighted differences. In addition, it gave the world an opportunity to scrutinize and comment on national problems (such

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<sup>13</sup> Ibid.

<sup>14</sup> Lechner and Boli, *World Culture*, 5.

<sup>15</sup> Young and Wamsley, *Global Olympics*.

as China's human rights concerns), thereby providing host nations with an incentive to address those issues, even if superficially.

### Governing Bodies

The growth of the Olympic Games necessitated the creation and expansion of the infrastructure organizing, governing, and supporting the Games. The Olympic institution is organized using a federal system, with the International Olympic Committee (IOC) overseeing the entire operation. Every participating nation or territory has a National Olympic Committee (NOC), whose mission is to “develop, promote and protect the Olympic Movement”.<sup>16</sup> There are currently 110 members of the IOC from 79 countries, and 204 participating NOCs, representing both sovereign nations and geographical territories.<sup>17</sup> Once selected, host cities also establish city-based organizing committees, which are responsible for the bulk of the hosting preparations. After a city is selected for hosting, its organizing committee has autonomous control over the rest of the planning and staging processes.

### Infrastructure

The Olympic Games have continued to grow with each successive year, incorporating more sporting events, participating countries, athletes, and spectators. In present times, the Olympic Games are a gargantuan, month-long event that transforms its host city and draws millions of people from around the world to a single location. Although in the beginning it was widely anticipated that the Games would have a permanent location (and infrastructure) in Greece, de Coubertin insisted that the Games rotate among the great cities of the world, as a reflection of the global spirit of the new institution. Under this system, host locations would be

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<sup>16</sup> “London 2012 Drives New International Standard for Sustainable Event Management - London 2012 Olympics.”

<sup>17</sup> “National Olympic Committees (NOC) | Olympic Movement Constituent.”

chosen from among the previous Games participants, and they would have the opportunity to compete for the honor, leading to the rise of the modern “bid” process. However, the need for major investment and infrastructure development in each host city was not accounted for in de Coubertin’s plan of having ambulatory Games, and proved to be a major problem. In the first few Games of the twentieth century these challenges were debilitating, and in order to take place, the Olympics had to rely heavily on existing World’s Fair physical and social infrastructure.<sup>18</sup> De Coubertin hated this dependence on the World’s Fair sites, and wanted the Olympics as an event to stand alone, so he prohibited any ‘piggybacking’ practices.<sup>19</sup>

De Coubertin’s vision of the Olympic Games as an autonomous event has survived to present times, and without a permanent home, the modern Games rely on host cities to build the necessary infrastructure. In order to accommodate the facilities, athletes, and spectators, host cities must spend several years planning, clearing land for, and building the necessary infrastructure. From waste management systems and stadiums, to security and transportation, the Olympic Games require an enormous physical, social, and political infrastructure. The 2012 summer Games in London were the largest Games to date, and had 10,960 athletes, represented by 204 different National Olympic Committees, competing in 36 different sports.<sup>20</sup> The 560 acre Olympic Park took seven years to construct and cost an estimated £11 billion.<sup>21</sup>

### Commercialization and Corporate Sponsorship

When the Olympics began to be televised in the 1960’s, the duality of the local/global dialog and comparison became even more central to Olympic culture. By televising the Games,

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<sup>18</sup> *Ibid*, xvi.

<sup>19</sup> *Ibid*.

<sup>20</sup> CNN, “London Olympics by the Numbers.”

<sup>21</sup> “London 2012.”

people around the world were given a unique glimpse into the host culture and city from the comfort of their own homes. This intimate view further heightened the importance of hosting the Olympics for the host country/city. For the span of several weeks, the Olympic Games act as a living billboard for the host city, allowing them to promote themselves and their culture to the global community. Winning the competitive bid process also served to validate the host country in the eyes of the world. Helen Lenskyj affirms that this visibility and self-promotion is part of why cities vie so competitively for the opportunity to host.<sup>22</sup> However, this visibility also exposes host nations to the watchful eye of the global community, revealing embarrassing conditions. Several host cities are notorious for trying to hide these situations, as was the case with Toronto's pre-Olympics initiative to remove their "human litter," rather than improving them.<sup>23</sup>

### *The Rise of Corporate Sponsorship*

In addition, televising the Games attracted corporate sponsors who wanted to use the popularity of the Olympics to increase their visibility and name recognition.<sup>24</sup> The integration of these corporate sponsors helped solve some of the funding problems that plagued the Olympic Games from the beginning.<sup>25</sup> However, televising the Olympic Games also successfully integrated the western idea of consumerism into Olympic culture and the global consciousness. In addition to promoting products/services from the corporate sponsors, television turned the host city, and in fact the entire Olympic institution, into a brand to be sold to audiences. This

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<sup>22</sup> Lenskyj, *Inside the Olympic Industry*.

<sup>23</sup> *Ibid.*, 97.

<sup>24</sup> Lenskyj, *Inside the Olympic Industry*.

<sup>25</sup> Lechner and Boli, *World Culture*.

consumer mentality spread through every part of the Olympics, and corporate sponsors now play a huge role in delivering the Games.

However, corporate sponsors did not always play such an important role in the Games. According to Simon Chadwick, professor of sports business strategy and marketing at Coventry University, the turning point for sponsor involvement in the Olympics was the 1984 Games in Los Angeles.<sup>26</sup> The growing financial burden of hosting the Games deterred many cities from submitting a bid, and in 1984 this problem hit a critical point. Tehran and Los Angeles were the only two cities to submit bids for the Games, and when Tehran dropped out, the IOC awarded the Games to Los Angeles's now unopposed bid.<sup>27</sup> However, Los Angeles refused to foot the enormous bill, which under IOC Rule 4 is the responsibility of the host city. With no other choice, and the survival of the Olympic Games at risk, the IOC allowed Los Angeles to break this rule and reach out to corporations for funding.<sup>28</sup> In exchange for sponsorship, partners were promised exclusive global marketing rights to certain products or sectors of the market.<sup>29</sup> With sufficient funding, the Los Angeles Games turned out to be a huge success and even resulted in a significant surplus. The financial and commercial success of the 1984 Games permanently integrated corporate sponsorship into the Olympic model. In 1985, the IOC initiated The Olympic Partner (TOP) program in order to consolidate the number of corporations competing for sponsorship benefits. Eleven corporations currently have contracts as TOP sponsors, including Coca-Cola, Visa, and McDonald's, and they contribute a total of \$800 million over the four year contract period.<sup>30</sup>

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<sup>26</sup> Kenyon and Palmer, "Funding and Sponsorship."

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>30</sup> Mamudi, "An Olympic Games Only the Sponsors Could Love."

*Ethical Concerns*

The incorporation and growth of corporate sponsorship has raised ethical concerns about the involvement of commercial interests in the Olympic movement. Sponsorship has become so important to the survival of the Olympic Games that private corporate funding now makes up 35% of the IOC budget.<sup>31</sup> The IOC keeps 8% of their budget to cover their own operations, and gives the other 92% to NOCs to support their planning and staging activities.<sup>32</sup> Critics have condemned this reliance on sponsor funding, arguing that there is a fundamental conflict between the ideals of the Olympics as articulated by the IOC, and their means of supporting themselves.<sup>33</sup>

In addition, concerns have been voiced about the IOC's choice of sponsors, and how 'ethically appropriate' it is to have sponsors whose corporate missions conflict with Olympic ideals.<sup>34</sup> Recently, this idea has been applied to the appropriateness of having McDonald's and Coca-Cola sponsor the Olympic Games. The Olympics aim to inspire healthy living and exercise, but worldwide rates of obesity, diabetes, and heart disease are increasing, and sponsors' products are proven to contribute to these health problems. Critical of the negative health impacts associated with certain corporate sponsors, the editors of the *Lancet Medical Journal* wrote:

The IOC has a responsibility to its brand like any other company or organization, and it makes no sense for junk food and sugared-up sodas, hardly the optimal fuel for body or brain, to be associated with world-class athletic achievement... It makes no sense, and yet the power of marketing can make it happen, which is why McDonald's and Coca-Cola are each paying up to \$100 million for access to this market. It allows them to brighten their image while expanding their brand.<sup>35</sup>

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<sup>31</sup> Kenyon and Palmer, "Funding and Sponsorship."

<sup>32</sup> *Ibid.*

<sup>33</sup> *Ibid.*

<sup>34</sup> *Ibid.*

<sup>35</sup> The *Lancet*, "Chariots of Fries."



Currently, there are no IOC ethical guidelines for being a sponsor. This lack of regulation has resulted in Olympic sponsors being selected based on their expected financial contribution, even when their missions fundamentally conflict with Olympic ideals. These ethical concerns raise questions about whether or not these types of guidelines should exist, especially when the survival of the Games is at risk.<sup>36</sup>

### *Coca-Cola's Olympic Sponsorship*

Coca-Cola is the longest continuous sponsor of the Olympic Games, building on a relationship that began in 1928.<sup>37</sup> In 1985, they were the first international corporation to sign as a TOP sponsor. In exchange for sponsorship, Coca-Cola became the exclusive distributor of non-alcoholic beverages for the Games, turning the Coca-Cola label into an Olympic tradition, and an integral part of the Olympic institution. As a TOP sponsor, predictions estimate that Coca-Cola spends as much as half a billion dollars on Olympics related planning and marketing.<sup>38</sup> Coca-Cola is one of the most controversial Olympic sponsors because of the company's links to health problems, such as obesity and diabetes, and human rights concerns, including pollution and the irresponsible use of native water sources.<sup>39</sup> However, their involvement as a TOP sponsor allows them to use the power of the Olympic Games to enhance their public image, despite this controversial history.

Positive PR and increased name recognition make corporations willing to spend millions of dollars on Olympic sponsorship. Because of the benefits of Olympic involvement for sponsors, the Olympics can use its power to persuade sponsors to make positive changes to their

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<sup>36</sup> Kenyon and Palmer, "Funding and Sponsorship."

<sup>37</sup> "Coca-Cola | Olympic Sponsor, Non-Alcoholic Beverages | Olympic.org."

<sup>38</sup> Mamudi, "Making the Most of Olympic Sponsorships."

<sup>39</sup> Stecklow, "How a Global Web of Activists Gives Coke Problems in India."

operations, and thereby leave a more sustainable legacy. Although there have been ethical concerns about Coca-Cola as an Olympic Sponsor, their sustainability efforts for London 2012 were more impactful than those of any other sponsor, including the Sustainability Partners, and they focused on making long-term changes to their systems and infrastructure. Therefore, Coca-Cola makes an excellent case-study for how the Olympics can impact corporate activities.

## **Part II: Literature Review**

Part II reviews the literature on sustainability and the Olympics, corporate social responsibility, corporate sponsorship, the 2012 Olympic Games in London, and the gaps in the literature, in order to place this study in the context of the current academic climate.

### **Sustainability: History and Discussion**

Although the IOC sets rules and regulations governing the games, issues of sustainability and the environment were noticeably absent from their guidelines and from the Olympic Charter until the late twentieth century.<sup>40</sup> But beginning in the 1980's, the obvious damage being caused by these events was brought to light by researchers, environmental activists, and local residents, spurring an awareness of the relationship between sport and the environment, and the need for sustainability considerations in the Olympic movement.<sup>41</sup>

### *Sustainability: Definition and Development*

'Sustainability' refers to the ability of something to endure over time. The term is most commonly used to describe the capacity for humans to continue living on Earth, despite the

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<sup>40</sup> Cantelon and Letters, "The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement."

<sup>41</sup> Lenskyj, *Inside the Olympic Industry*.

massive development and alterations of the natural and built environment. Therefore, sustainability has been defined using the concept of *sustainable development*. The most widely recognized definition of sustainable development was created in 1987 by the World Commission on Environment and Development (WCED). Used synonymously with the term *sustainability*, the WCED's definition states that sustainable development is "development that meets the needs of the present, without compromising the ability of future generations to meet their own needs".<sup>42</sup> Also known as the Brundtland Commission, the WCED organization was founded in 1983 by UN leaders who decided that there needed to be an independent body working on issues of the environment and sustainable development.<sup>43</sup>

The Brundtland Commission's report "Our Common Future," which contained the initial definition of sustainable development, was extremely influential for the work of the United Nations Conference on Environment and Development (the "Earth Summit") in 1992. The Earth Summit built on the work of the Brundtland Commission and produced *Agenda 21*, a major policy document which encourages UN member states to consider the environmental impact of development decisions.<sup>44</sup> Primarily a call to action, rather than a specific policy framework, *Agenda 21* integrated sustainability considerations into decision making processes; however, it provides only a rough blueprint for sustainable development, and leaves all implementation decisions to member nations.<sup>45</sup> In 2005, the World Summit on Social Development (WSSD) expanded the definition of sustainable development by articulating that sustainability requires a reconciliation of environmental, social, and economic factors.<sup>46</sup> The idea of this "triple bottom

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<sup>42</sup> World Commission on Environment and Development, *Report of the World Commission on Environment and Development: Our Common Future*.

<sup>43</sup> "Manual on Sport and the Environment."

<sup>44</sup> "Agenda 21 Fact Sheet."

<sup>45</sup> Ibid.

<sup>46</sup> "Resolution Adopted by the General Assembly: 2005 World Summit Outcome."

line” summarizes the most progressive sustainability model that is in use today. The term sustainability as used in this paper references the WCED’s definition, as well as the WSSD’s addendum, recognizing that environmental, social, and economic factors are all important to the achievement of sustainability.

### *Critiques of Sustainability*

Over the last few decades, there have been many critiques of the concept of sustainability and the WCED’s definition of sustainable development. Additionally, there is no universally accepted definition of sustainability; therefore, there is a broad spectrum of beliefs about what the goals of the movement should be and how they should be achieved.

One critique of the WCED’s definition of sustainable development argues that ‘needs’ change from one generation to the next, so is it impossible to protect the ability of future generations to meet their own needs, without knowing what their needs will be.<sup>47</sup> In addition, critics argue that ‘needs’ are defined differently by different cultures, based on their standard of living. Varying expectations about necessities lead certain groups of people to define their own needs in a way that can prevent others, even within the same generation, from meeting theirs. This conundrum is especially true when resources are a limiting factor.<sup>48</sup>

Fundamental disagreements also exist over *what* we are trying to sustain. One party argues that we need to sustain our natural capital by reaching a sustainable level of consumption of our renewable natural resources. A second group argues that we need to sustain our economy and consumption patterns, in order to achieve the same level of economic growth year after

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<sup>47</sup> Redclift, “Sustainable Development (1987–2005),” 213.

<sup>48</sup> Ibid.

year.<sup>49</sup> Scholars maintain that these two different interpretations of sustainable development are mutually exclusive. In addition, these two interpretations sometimes conflict with other sustainability factors such as human rights principles.

Furthermore, there are disagreements about the mechanisms used to achieve sustainability. The Deep Green Movement argues that our current level of consumption exceeds the sustainable rate for our renewable natural resources, and that sustainability can only be achieved by scaling back production/consumption in order to reduce natural resource dependence.<sup>50</sup> The Light Green Movement, on the other hand, advocates for a market driven approach, in which the creation of a new, technology-driven ‘green’ economy creates substitutes for natural resources, and thereby allows for continued consumption and economic growth.<sup>51</sup> Many ecologists even argue that the term sustainable development is an oxymoron, and human development of the Earth is innately unsustainable.<sup>52</sup>

WCED’s vague definition has been used as a framework for sustainable development in the absence of a more comprehensive system.<sup>53</sup> Critics of the current sustainability framework argue that the lack of agreement and unification within the movement has rendered the entire campaign ineffective.<sup>54</sup> Claiming that sustainability exists only as a theoretical concept, critics argue that we have diluted the term and adapted it to give our existing system a sustainability ‘spin’ without making hard changes. Michael Redclift argues that this use of ‘sustainability’ does not represent real change, but is actually the product of rebranding efforts.<sup>55</sup> In addition,

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<sup>49</sup> Redclift, “Sustainable Development (1987–2005).”

<sup>50</sup> *Ibid.*, 214.

<sup>51</sup> Dragun and Jakobsson, *Sustainability and Global Environmental Policy*.

<sup>52</sup> Redclift, “Sustainable Development (1987–2005),” 212.

<sup>53</sup> *Ibid.*, 213.

<sup>54</sup> Redclift, “Sustainable Development (1987–2005).”

<sup>55</sup> *Ibid.*

applications of the sustainability framework have neglected the social and economic aspects, and reduced it to be primarily associated with environmental considerations.

Despite the criticisms of sustainability and the sustainable development framework, the use of the concept of sustainability has resulted in several important changes, including a reduced dependence on certain resources, and has inspired deeper considerations about the environmental, social and economic impacts associated with development. In recent years, sustainability management standards, certifications, and reporting tools have increased the impact of sustainability efforts, and have integrated these considerations into the development process. From manufacturing to event planning, sustainability now plays an important role in the operations of industries across the board.

### Sustainability and the Olympics

Hallmark events such as the Olympic Games have been criticized for their harm to the natural environment and incompatibility with sustainability principles. In an attempt to mitigate the negative impacts of staging the Games, the IOC integrated sustainability principles into the Olympic movement and made them an important part of the planning process.

#### *Sport and the Environment*

The relationship between sport and the environment is intrinsically linked; sporting activities can be detrimental to the natural environment, and environmental conditions can affect sport participants.<sup>56</sup> Simon Lewis, program manager of WWF-UK, maintains that “at an imbedded level [sport participants] understand that their enjoyment of that sport is dependent on

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<sup>56</sup> Lenskyj, *Inside the Olympic Industry*.

the quality of the environment in which they are doing the sport”.<sup>57</sup> Lewis discussed the opportunities created through this relationship to use sport in the creation of more sustainable systems, and to engage with a wider audience around issues of sustainability. This relationship also integrates the environment and sustainability into the mainstream consciousness. Sport is viewed by millions of citizens around the world annually, and researchers have found that it has an underlying communication ability that can influence these viewers.<sup>58</sup> The sporting world has started to recognize and understand this connection between sport and the environment, and sustainability is beginning to be considered a ‘sport issue’.

### *History of Olympic Sustainability*

The Brundtland Commission’s report set the stage for NGO involvement in environment and development issues, resulting in the 1992 United Nations Conference on Environment and Development (the “Earth Summit”) in Rio de Janeiro.<sup>59</sup> The conference, which brought together representatives from 172 governments, put the environment and sustainable development on the global agenda, and established them as issues of global social policy.<sup>60</sup> Due to the emerging questions surrounding the negative environmental impacts of the Olympic Games, the IOC (which was very active at the convention) used its influence to persuade National Olympic Committees and other organizing/governing bodies to sign the same Earth Pledge that was presented at the convention.<sup>61</sup> That same year, at a time when the IOC still had no environmental policy in place to regulate host cities, the 1992 winter Olympics in Albertville, France were an

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<sup>57</sup> Sorrell, Interview Simon Lewis.

<sup>58</sup> Toohey and Veal, *The Olympic Games*.

<sup>59</sup> Redclift, “Sustainable Development (1987–2005).”

<sup>60</sup> Cantelon and Letters, “The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement.”

<sup>61</sup> “Sustainability\_Through\_Sport.pdf.”

environmental disaster, and construction destroyed many forests and mountain habitats.<sup>62</sup> This sequence of events, along with an environmentally conscious bid to host the Olympics from Lillenhammer, Norway, influenced the IOC to begin a process of considering the environment and integrating environmental sustainability into the structure of the Olympics.<sup>63</sup>

In the successive years, the IOC adopted *Environment* as the third “pillar” of the Olympic Movement after *Sport* and *Culture*,<sup>64</sup> and created a Sport and Environment Commission to design regulations and environmental standards for candidate cities.<sup>65</sup> The IOC’s definition of ecologically sustainable development is borrowed directly from the WCED.<sup>66</sup> In 1996, the Olympic Charter was amended to state that the IOC is responsible for:

Seeing that the Olympic Games are held in conditions which demonstrate a responsible concern for environmental issues and encourages the Olympic Movement to demonstrate a responsible concern for environmental issues, and takes measures to reflect such concern in its activities and educates all those connected with the Olympic Movement as to the importance of sustainable development.<sup>67</sup>

Coordinating with outside organizations, the IOC also developed a cooperative agreement with the United Nations Environment Program to work jointly on sustainability initiatives.<sup>68</sup>

Two major policy documents were produced as a result of this new found environmental concern. Produced by the IOC, these documents outline their plans to integrate sustainability into the Olympic Movement, and give host cities environmental guidelines. The *Olympic Movement’s Agenda 21* is a plan for sustainable development based on the model developed by the Rio Earth

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<sup>62</sup> Cantelon and Letters, “The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement.”

<sup>63</sup> Ibid.

<sup>64</sup> Ibid.

<sup>65</sup> “Manual on Sport and the Environment.”

<sup>66</sup> Ibid, 159.

<sup>67</sup> “Olympic Movement’s Agenda 21.”

<sup>68</sup> “Manual on Sport and the Environment.”



Summit. Establishing an expectation that all Olympic governing bodies will consider sustainability in decision making processes, the Olympic movement's *Agenda 21* lays out a development framework based on three objectives: to "improve socio-economic conditions, conserve and manage the environment and natural resources, and strengthen the role of major groups".<sup>69</sup> The second document, the *Manual on Sport and Environment*, acknowledges that there is an intrinsic relationship between sport and the environment, and that the Olympic Movement has an obligation to encourage sustainable development in sport.<sup>70</sup> Sustainability issues associated with sport are identified, including: biodiversity conservation, protection of ecosystems, land use and landscape, pollution, resource and waste management, health and safety, nuisances, and the safeguard of cultural heritage. The Manual is designed to provide basic tools to sports organizations of any size, and includes recommendations on how to be more environmentally conscious in everything from office management to site selection.<sup>71</sup> Although these documents provide guidelines and a framework for sustainable development, specific sustainability requirements and implementation plans are ultimately the responsibility of the organization or host city, with little IOC oversight.

### *Sustainability in Practice: 'Green' Games of the Last Two Decades*

Every Olympic Games since the 1998 winter Games in Nagano, Japan (the first Games where the IOC had an environmental protection policy in place for organizing committees) has had to consider sustainability as a part of the planning process.<sup>72</sup> As mandated by the *Manual on Sport and the Environment*, cities bidding for the Olympics are required to carry out

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<sup>69</sup> "Olympic Movement's Agenda 21."

<sup>70</sup> "Manual on Sport and the Environment."

<sup>71</sup> Ibid.

<sup>72</sup> Cantelon and Letters, "The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement."

environmental impact assessments on all of the proposed facilities and sites, “with special attention to the surrounding community, cultural heritage, protected areas and species, wetlands, mountains, and other vulnerable areas”.<sup>73</sup> The Olympic Games Global Impact Project (OGGI) requires that cities bidding for and hosting the Games collect data and report on 150 different indicators over an 11 year period (two years before the bid is submitted, seven years from winning the bid through Games-time, and two years after the Games).<sup>74</sup> The indicators cover environmental, social, and economic factors, and are designed to provide an in-depth prediction of the impact of the Games.<sup>75</sup> The study was formally added to the Games planning requirements for the 2010 Winter Games in Vancouver, and London 2012 is the first Summer Games required to carry out the study.<sup>76</sup> The *Olympic Movement’s Agenda 21* also includes specific considerations for water and energy use, waste, transportation, biodiversity, pollution, social inclusion, health, and culture. Although these requirements aim to reduce the negative impacts of the Olympic Games, they affect countries in different ways, and may place a prohibitive burden on resource poor countries, thereby excluding them from hosting the Games and receiving the associated benefits.

The Games held in Sydney 2000, Athens 2004, Torino 2006, Beijing 2008 and Vancouver 2010 are all considered to have been groundbreaking in terms of environmental consciousness and impact reduction. However, these efforts all focus on minimizing the negative environmental impacts of hosting the Games, but include very few provisions for improving base-line conditions. This environmentally conscious trend from both candidate and host cities shows that they have either begun prioritizing sustainability, or they feel pressure from the global

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<sup>73</sup> Lenskyj, *Inside the Olympic Industry*, 158.

<sup>74</sup> Toohey and Veal, *The Olympic Games*, 74.

<sup>75</sup> Ibid.

<sup>76</sup> *Olympic Games Impact Study- London 2012: Pre-Games Report*, 4.

community to make it a priority. From the beginning, cities have surpassed the IOC environmental requirements, indicating that they may actually see sustainability as the “carrot” not the “stick.” Accomplishing long-term sustainability projects may become an incentive to host the Olympic Games for cities who can use the Olympics as an opportunity to forward that agenda.

### *Critiques of Olympic Sustainability*

The Olympic Games have been openly criticized for many years for their negative impact on the environment. Requiring vast expanses of cleared, undeveloped land and enormous quantities of natural resources for construction/production, preparation of the necessary infrastructure for hosting the Olympic Games places a lot of stress on the natural environment. In addition, the large influx of people and heavy transportation use add an unprecedented amount of waste and pollution to these environmental concerns.<sup>77</sup> Despite attempts to reduce the negative impacts associated with staging and hosting the Olympic Games, some scholars maintain that the Olympics are fundamentally unsustainable. Frey argues that the Games contradict sustainability principles due to their brevity, ambulation, and expense.<sup>78</sup> Cantelon and Letters also critique the concept of ‘sustainable Olympic Games’ because of the enormous scale of the event, the amount of resources required, and the social impacts including displacement and human rights violations.<sup>79</sup> However, post-game impact studies, like the one on the 1997 “green” Olympics in Lillehammer, indicate that it is possible to offset some of the negative environmental impacts of hosting and staging the Games, when the leadership integrates this goal into the initial plans.<sup>80</sup>

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<sup>77</sup> Cantelon and Letters, “The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement,” 296.

<sup>78</sup> Frey, “The Impact of Wide-scale Sport Events on Local Development.”

<sup>79</sup> Ibid.

<sup>80</sup> Lesjø, “LILLEHAMMER 1994 Planning, Figurations and the ‘Green’ Winter Games.”

Although it is noted that the Olympic Games may always negatively impact the natural environment in some way, this paper maintains that studying the relationship between the Olympics and sustainability is useful because the Olympic Games are likely to endure well into the future. Therefore, integrating environmental issues into the Olympic Movement provides the potential for reducing the negative impacts of staging and hosting the Olympic Games, and establishes them as a global concern.

These critiques of the Olympic Games ignore the many possible positive impacts that are associated with the staging and/or legacy phases of hosting the Games, as identified by this study and many other Olympic scholars. Furrer cites several examples where the Olympic Games acted as a catalyst for urban renewal and regeneration, leaving the host city with a positive legacy.<sup>81</sup> Among these urban regeneration projects are numerous examples of environmental improvement projects. From cleaning up brownfield sites to planting trees and creating green space, hosting the Olympics has proven to be an effective method of urban renewal. In addition, pushing a sustainable Olympic agenda may create challenges for resource poor nations, yet there are possibilities for significant trade-offs. The Olympic Games can be used as a source of funding for large-scale infrastructure and development projects that otherwise wouldn't be possible. Using the Games as a tool in this way allows poorer nations to integrate sustainability into their systems from the beginning, and be a part of the global sustainability conversation.

### Corporate Social Responsibility

One of the primary articles of the Earth Summit's *Agenda 21* was a proposed partnership between business and environmental groups. Supported by the International Chamber of Commerce and the Business Council for Sustainable Development, the suggestion of this

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<sup>81</sup> "Sustainable Olympic Games: A Dream or a Reality?"

cooperative relationship set the stage for corporate involvement in sustainable development and sustainability initiatives. Although corporate buy-in has been hesitant, scholars consider the ‘post-Rio’ period a turning point in the corporate business-environment relationship, because during this time there was a shift towards viewing environmental concerns as a part of corporate governance and branding.<sup>82</sup>

By 2000, public opinion polls indicated that a majority of people believe the role of business is not only to maximize profit, but also to address social, economic, and environmental issues.<sup>83</sup> As the concept of sustainable development entered the mainstream, corporations were criticized for their lack of social responsibility. In response to this discourse, business began to integrate external social, environmental, and economic considerations into their operations and reporting structures. The consideration of factors outside of a firm’s “direct economic or technical interest” is now commonly referred to as *corporate social responsibility (CSR)*.<sup>84</sup> As is the case with sustainability, definitions of CSR vary from company to company, so goals and implementation techniques are decided individually at the business level.<sup>85</sup>

### *Corporate Sustainability*

One of the core principles of most CSR plans is a consideration of the environmental consequences of a firm’s activity. Although some critics maintain that corporate sustainability is an oxymoron, or nothing more than a public relations strategy, the aim of the movement is continued economic growth, without increased pollution and environmental damage.<sup>86</sup> Corporate involvement in the environment has passed through many stages over the last few decades,

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<sup>82</sup> Redclift, “Sustainable Development (1987–2005),” 214.

<sup>83</sup> Drori, Meyer, and Hwang, *Globalization and Organization*, 196.

<sup>84</sup> Paquette, “The Interpretation of Environmental Sustainability (ES) by the IOC/Olympic Games 1994-2008,” 28.

<sup>85</sup> Ibid.

<sup>86</sup> Redclift, “Sustainable Development (1987–2005),” 217.

beginning with pollution prevention in the 1980's and evolving to respond to the demands of sustainable development today.<sup>87</sup> Scholars attribute this environmental awareness to an emerging perception of consumer products as a part of both the natural *and* built environments.<sup>88</sup>

Corporations have developed numerous techniques to improve their sustainability, including “ecological modernization” (i.e., using cleaner technology), reducing resource dependence, and more responsible resource use through business and product certifications.<sup>89</sup> Michael Redclift argues that product certification is the most important method because it ensures that businesses using a certification logo are actually in compliance with defined standards and regulations.<sup>90</sup>

The certification system also serves to educate consumers about the impacts of their consumption patterns and responsible purchasing. Although certainly a step in the right direction, product certification is not perfect and is weakened by a proliferation of certification systems, and a wide variety of certification criteria for similar products. Stream-lining production systems and creating more sustainable products have yielded considerable benefits for some companies that have found financial savings in eliminating inefficiencies, and PR benefits from a green image.<sup>91</sup>

The introduction of corporate social responsibility/environmental ‘standards’ and management systems have also contributed to corporate greening. The Global Reporting Initiative (GRI) was developed in 1997 and created guidelines for corporate sustainability reporting. By 2003, 50% of the “Global 100” published reports on social and/or environmental factors, and there are currently over 5,000 organizations using the GRI reporting framework.<sup>92</sup>

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<sup>87</sup> Ibid., 216.

<sup>88</sup> Ibid.

<sup>89</sup> Ibid., 217.

<sup>90</sup> Ibid.

<sup>91</sup> Ibid., 216.

<sup>92</sup> Drori, Meyer, and Hwang, *Globalization and Organization*, 197.

The UN's Global Compact, created in 1999, constructed a framework for CSR by outlining Ten Principles relating to human rights, labor, the environment, and anti-corruption measures (See Chart 1 in Appendix A).<sup>93</sup> Today, the Global Compact has 6,066 active business participants in 132 countries; however, similar to Agenda 21, signing the compact marks a commitment only, and does not carry any regulatory power or serve as a certification.<sup>94</sup> The International Organization for Standardization (ISO) has also developed systems for environmental management and social responsibility. These efforts aim to internalize some of the necessary environmental costs associated with business activities and globalization; but for the most part, corporate involvement is voluntary and there are no regulatory structures in place to ensure compliance.<sup>95</sup>

### *Sustainability and Corporate Sponsorship*

Businesses have been participating in sponsorship activities for hundreds of years, but the birth of modern corporate sponsorship corresponded with the media boom of the twentieth century.<sup>96</sup> Corporate sponsorship has been increasing ever since, but it exploded to unprecedented levels in the 1980's and 90's, and now plays a major role in hallmark events such as the Olympic Games.<sup>97</sup>

With a growing concern for corporate social responsibility, sustainability is a developing component of corporate sponsorship. Corporations who have integrated sustainability into their normal operations are extending these efforts to their sponsorship activities as well. Furthermore,

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<sup>93</sup> "United Nations Global Compact: The Ten Principles."

<sup>94</sup> United Nations Global Compact, *Number of Expelled Companies Reaches 2,000 as Global Compact Strengthens Disclosure Framework*.

<sup>95</sup> Redclift, "Sustainable Development (1987–2005)," 216.

<sup>96</sup> Lenskyj, *Inside the Olympic Industry*.

<sup>97</sup> *Ibid.*

advocacy organizations and NGOs are pushing for sustainability to be a factor in sponsor selection processes, thereby encouraging potential corporate sponsors to include sustainable initiatives in their sponsorship programs. Evidence shows that sustainability in sponsorship is also important to consumers. In a general survey undertaken by Populous, a sports event planning and research institution, 71% of respondents indicated that they would feel more positively towards a brand/business if they knew their sponsorship activities were having a positive impact on the community.<sup>98</sup> According to James Kenyon, there is also evidence that sponsoring sport, and the Olympic Games in particular, effectively transfers the positive public attention generated by the event to the sponsor.<sup>99</sup> Therefore, in order to reap the positive PR benefits associated with sponsorship and sustainability, corporations are willing to make sustainable changes to their products and systems.

Many organizations, including the UN, now include CSR and sustainability initiatives in their list of criteria for private sector partnerships, specifically when selecting businesses to play a sponsor role. The UN utilizes the criteria from their Global Compact and a Due Diligence questionnaire when considering potential sponsors. Their guidelines also state that a partner must demonstrate ‘responsible citizenship’ by supporting all UN treaties and conventions, committing to exceed the principles of the Global Compact, and not violating any UN guidelines, specifically human rights abuses.<sup>100</sup> These guidelines provide a useful model for responsible sponsorship, which could be adapted and used by other institutions relying on private sector sponsorship.

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<sup>98</sup> “Coca-Cola Great Britain Commits To Measure The Social Value Of Its Sponsorship Of The London 2012 Olympic And Paralympic Games.”

<sup>99</sup> Kenyon and Palmer, “Funding and Sponsorship,” 31.

<sup>100</sup> Report of the Secretary-General, *Cooperation Between the United Nations and All Relevant Partners, in Particular the Private Sector*, 60.



With a major focus on sustainability and the environment, the 2012 London Olympics looked to expand these efforts into sectors that hadn't been included by previous Games. For the first time in the history of the Games, sustainability extended to include sponsorship activities. The London Organizing Committee for the Olympic Games (LOCOG) created strict sustainability regulations for all sponsors, covering everything from material procurement and packaging, to waste management and carbon emissions. The LOCOG also created a new category of sponsors called Sustainability Partners. These sponsors (BMW, BP, British Telecom, Cisco, EDF Energy, and GE) paid additional funds to hold the title of Sustainability Partner and were touted as contributing to the overall sustainability of the Games.

### *Corporate Greenwashing*

Despite some legitimate efforts to improve corporate sustainability, critics of 'corporate greening' argue that certain corporate initiatives are nothing more than *greenwashing*, a form of PR spin that gives companies an environmentally friendly appearance, without actually making changes to their systems or structures.<sup>101</sup>

There are two types of greenwashing identified in the literature. The first type is categorized by misleading or false claims about practices or products. Product labeling such as "All Natural" falls into this category of greenwashing, because there is no certification to verify the claim, and it is simply being used to generate a more positive perception about a product. Haagen-Dazs ice cream has been publicly condemned for their use of this type of greenwashing. Haagen-Dazs 5 was released in 2009 and boasted being made from "5 all-natural ingredients." However, plain Haagen-Dazs flavors already contained only five ingredients, so instead of

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<sup>101</sup> Redclift, "Sustainable Development (1987–2005)," 217.

improving their product, they simply redesigned the packaging to highlight the ingredients, thereby giving it a more natural spin. This type of greenwashing aims to suggest compliance with the sustainability movement, without making any real changes to the existing system.

The second type of greenwashing identified in the literature is that of corporate sustainability efforts that are undertaken as a part of “rebranding” efforts. Corporations see sustainability as an opportunity to improve their image, specifically if they have a reputation for environmental degradation or irresponsible behavior.<sup>102</sup> BP is known globally for providing an unsustainable product and causing environmental harm from numerous oil spills. Yet, they were one of the London 2012 Sustainability Partners. The LOCOG has been criticized for their choice of Sustainability Partners because the cost premium for this designation implies that these corporations might be more interested in the title and positive PR, than they are in sustainability.<sup>103</sup> Activists from the group Platform described the list of Sustainability Partners as a “rogue gallery,” being composed of some of the most controversial corporations in the world, instead of corporations who have demonstrated a commitment to sustainability.<sup>104</sup> They also condemned the Sustainability Partner program as an attempt to greenwash the 2012 Games.<sup>105</sup>

Regardless of their motivation, however, all of the sponsors for the London Games were required to follow strict sustainability guidelines covering their entire sponsorship program. London 2012 adopted the British Standard Sustainable Event Management System, BS 8901, which covered the activities of venue managers, suppliers, corporate sponsors, and media organizations.<sup>106</sup> This system includes guidelines for venue selection and management,

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<sup>102</sup> Kenyon and Palmer, “Funding and Sponsorship,” 31.

<sup>103</sup> Ibid.

<sup>104</sup> “Will London 2012 Sponsors BP, Dow, EDF and Rio Tinto Tarnish the Olympic Brand?”

<sup>105</sup> Ibid.

<sup>106</sup> *Sustainable Events Guidelines*, 5.

transportation and travel, sourcing of products and services, health, safety, security, energy, waste, food, and communications.<sup>107</sup> For the purposes of this paper, sustainability efforts associated with rebranding are not considered green washing, because despite the intentions behind the sustainability initiatives, corporations are making changes that improve the sustainability of their systems.

## London 2012

### *XXX Olympiad*

London first submitted their application to be considered as a host for the 2012 summer Olympics in July, 2003. After an exhaustive evaluation process (including considerations such as infrastructure and environment) London was selected as one of five candidate cities in 2004. The LOCOG's plan focused on the Lower Lea Valley, a brown-field and run-down industrial zone, which would be transformed into a sustainable Olympic Park and Village, and later converted into the largest European urban park in over 150 years.<sup>108</sup> After winning the bid, London 2012 created two organizations that would be responsible for staging and delivering the 2012 London Olympic Games. The Olympic Delivery Authority (ODA) is a public sector organization directly funded by the government, and was responsible for constructing the venues and infrastructure needed for hosting the Games. Their budget came from the Exchequer, the National Lottery, the Greater London Authority, and the London Development Agency. Meanwhile the London Organizing Committee of the Olympic Games (LOCOG) is a private enterprise responsible for staging the Games, and was funded entirely by private subsidies and the IOC.<sup>109</sup> This funding

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<sup>107</sup> Ibid., 8.

<sup>108</sup> Always Touch Out: Transport Projects in London, "Stratford Olympic Park."

<sup>109</sup> Kenyon and Palmer, "Funding and Sponsorship."

allows corporate partners to have a voice in the planning process, thereby promoting and protecting commercial interests.

### *LOCOG Sustainability Plan*

London's bid for the 2012 Games claimed to be the first ever "truly sustainable" Games. Although that claim is still being debated, the LOCOG did extend sustainability initiatives into sectors not covered by previous Games, and they used the Games in an attempt to further a sustainable agenda. In addition to thinking in the short-term about reducing the footprint of the Games, the LOCOG was evolutionary because their plans considered legacy and long-term change in the sustainability of the city's public works and management systems. In addition, the LOCOG recognized the central role corporate sponsors play in the culture and staging of the Olympic Games, and therefore extended sustainability regulations to cover the behaviors of their partners as well. Their plans attempted to integrate new, sustainable systems into the existing fabric of the city and the actions of their corporate sponsors, in order to effect long-term change.

At the heart of London's bid was the *One Planet Olympics* vision, which was jointly developed by the London 2012 committee and the NGO environmental organizations WWF-UK and BioRegional. This framework was inspired by the original *One Planet Living* initiative (also by WWF and BioRegional), which discusses how, as a global community, we have been living outside of the regeneration capacity of the planet, and that we need to live in a way that respects our finite resources.<sup>110</sup> The *One Planet Olympics* framework was constructed by adapting the ten *One Planet Living* Principles, and turning them into 76 sustainability promises for the Games (See Chart 2 in Appendix A). London's bid identifies sustainable development as one of the fundamental objectives of the Olympic Movement, and uses the Olympic's Agenda 21 as a

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<sup>110</sup> "Towards a One Planet Olympics."

guide. Therefore, they claim that their *One Planet Olympics* vision “provides a critical ‘implementation’ link between the aspirations of Agenda 21 and the analysis and benchmarking facilitated by the Olympic Games Global Impact (OGGI) project”.<sup>111</sup>

London 2012 was the first Olympic Games to formally adopt a “triple-bottom line” sustainability management framework, which breaks sustainability into environmental, social and economic spheres.<sup>112</sup> This comprehensive approach to sustainability filled the gaps resulting from a strictly environmental sustainability perspective. LOCOG’s Sustainability Plan was structured around five sustainability themes: climate change, waste, biodiversity, inclusion and healthy living, and was further divided into three delivery phases: construction, staging, and post-games legacy.<sup>113</sup> Paul Deighton, the CEO of the LOCOG stated that in terms of sustainability, LOCOG was “trying to address sustainability in areas that have not been considered before, especially in the context of major events and their supporting industries,” such as corporate sponsors.<sup>114</sup> This three-pronged approach also addresses sustainability issues that have been a problem for other Games, such as labor and human rights violations.

### Gaps in Literature

While there is extensive research recording and measuring the economic impacts of the Olympics, the existing literature on the social and environmental impacts is much more sporadic and limited.<sup>115</sup> Numerous studies have been conducted on the sustainability of past Olympic

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<sup>111</sup> Ibid.

<sup>112</sup> The triple-bottom line refers to the “Three E’s” of sustainability (Economy, Ecology, and Equity) that were developed by the 2005 World Summit on Social Development. Although none of these three spheres have strict definitions, economy generally refers to economic systems, ecology refers to the environment, natural resources, and consumption, and equity refers to culture, inclusion, health, labor, and human rights.

*Resolution Adopted by the General Assembly: 2005 World Summit Outcome*, October 24, 2005, 12.

<sup>113</sup> “A Blueprint for Change: Sustainability Report London 2012.”

<sup>114</sup> “Delivering Change: London 2012 Pre-Games Sustainability Report.”

<sup>115</sup> Collins et al., “Assessing the Environmental Consequences of Major Sporting Events,” 5.

Games (by both Olympic committees and independent researchers), but these studies focus on evaluating how successful/effective specific sustainability efforts were (i.e., pollution reduction), and do not explore the broader consequences of hosting this major event.<sup>116</sup> There is very little research quantifying the overall impacts of hallmark sporting events on the environment, likely because of the lack of a standard for measuring sustainability.<sup>117</sup> In addition, most of the research on sustainability and the Olympics focuses on the negative effects of hosting the Games in the pre-Games and Legacy periods. Very little research has been done exploring the connection between sport and the environment, and therefore sustainability and hallmark sporting events like the Olympic Games. Furthermore, the focus on the negative impacts has neglected the investigation of the possible positive connections between sport and environment, and the opportunities that are created through this relationship.

Although the International Olympic Committee (IOC) has developed general sustainability guides, and individual cities have created specific sustainability plans, these initiatives mainly focus on reducing the impact and footprint of hosting the Olympic Games. There is a significant gap in the literature and research when it comes to how the Olympics can be used as a tool to promote and advance a long-term sustainability agenda, thereby improving baseline sustainability. This knowledge is an essential resource during the planning stages for host cities who may want to pursue sustainability in the long-term. An investigation of the opportunities created by the Olympic Games for improving sustainability would be useful to numerous sectors of society, because the Olympics involve so many people and industries. This

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<sup>116</sup> “Beijing Report.”

<sup>117</sup> “Sustainable Olympic Games: A Dream or a Reality?”.

knowledge gap could be a result of the absence of strong knowledge-sharing networks among past and future Olympic host cities, a problem that the IOC is currently working to correct.

My study aims to fill a small portion of this knowledge gap by studying the efforts of the 2012 London Olympics, and how they used the Olympics as a tool to increase the sustainability of their city and corporate sponsors. By conducting these two case studies, there is an attempt to examine the activities and opportunities created by the two main powers behind each Olympic Games: the host city and the corporate sponsors. Through the host city planning process, it is possible to analyze internal city dynamics and the potential for long-term urban-based change. Coca Cola, on the other hand, acts as an example of wider commercial impact and the potential to influence long-term change at the corporate level. Evidence indicates that the Olympic Games are not inherently unsustainable. A study undertaken by the United Nations Environment Programme surveying 200 environmental experts from 50 countries (including IOC and NOC members), found “poor governance” as the 4<sup>th</sup> “critical environmental issue” out of 36. This survey indicates that the problems surrounding sustainability and legacy may be attributed more to “poor governance” than to inherent issues with the institution, thereby validating the usefulness of this policy framework in creating long-term change.<sup>118</sup>

### **Part III: Research and Findings**

This study sought to investigate the sustainability efforts undertaken for the London 2012 Olympic Games, with a particular focus on their attempts to reduce the negative environmental impact of hosting the Games, and use the Games as a tool to leave a more sustainable legacy by integrating sustainability into existing structures. The outcome of this study aims to evaluate the

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<sup>118</sup> “Olympic Studies: Current Intellectual Crossroads, 69.”

effectiveness of these sustainability efforts, identify opportunities for the future, discuss how future Games can learn from London 2012, and give recommendations for sustainability policies for both the IOC and host cities.

Two case studies were undertaken in order to evaluate the sustainability efforts associated with the planning, staging, and legacy phases of London 2012. The first case study focuses on the sustainability initiatives carried out by the Olympic Delivery Agency (ODA) and the London Organizing Committee for the Olympic Games (LOCOG), in the creation of the physical infrastructure and management systems for the Games. The second case study looks at Coca-Cola's sustainability efforts as a corporate sponsor. Both case studies are broken down into multiple parts, investigating: efforts to reduce the negative impacts of hosting the Games; how sustainability was integrated into existing structures/systems; and the legacy of these efforts. Additionally, this study looked at the IOC sustainability policies, and the codes, regulations, and policies used by London 2012 in their staging of the Games.

Within each case study, choices were required about which environmental sustainability efforts to analyze. These choices were made based on the impact each initiative had on the sustainability of the Games, and the importance of the legacy it left behind. It is also noted that environmental efforts have broader consequences, affecting human rights, health, labor, etc., but these factors are not included in this study.<sup>119</sup>

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<sup>119</sup> London 2012 did attempt to address the broader consequences associated with environmental efforts through their specific codes and regulation. Their sourcing code, for instance, included considerations for who created the product, what it was made of, and where it was made. Seemingly absent from these considerations, however, were reflections on *what* the products were. Attention to this factor may help resolve ethical concerns related to products and sponsors.



Although London started this process from a relatively advanced sustainability base-line, this tool should be accessible to any city chosen by the IOC as a host, regardless of their base-line. This framework may be impractical for developing countries for a variety of reasons, but the bid process is exhaustive and eliminates host cities/countries that don't appear capable of hosting the Olympics. Therefore this tool should be relevant and useful to anyone who is deemed "capable."

### Methods

The primary method used in the course of this research was document analysis. The documents used span a wide variety of topics and come from an assortment of primary, secondary, tertiary, and academic sources, such as host city planning documents, sustainability reports, Olympic environmental impact assessments, Olympic policy manuals, Olympic histories, and news articles. The primary focus of the study is on the 2012 London Olympics because they are the most recent Games, and London attempted to host the "most sustainable games ever" by undertaking many groundbreaking sustainable projects for the first time in the history of the games. In this study, the definition of sustainability will be based on both the IOC definition from the Brundtland commission, and the ten sustainability principles developed by WWF and BioRegional for the London Olympic Games Organizing Committee as part of the *One Planet Olympics* vision (listed in Appendix A of this report).

Interviews were also used to supplement and clarify the information found in the course of the research. An interview with Simon Lewis, London 2012 Program Manager with World Wildlife Fund UK (WWF- UK), provided insight into the process of creating the sustainability framework used by London 2012, and WWF's role in evaluating whether all sustainability promises were met. A second interview with Olivia Knight-Adams, Sustainability Advisor for

the ODA and later Sustainable Games Project Coordinator with Coca-Cola, focused on Coke's involvement in sustainability efforts as a TOP sponsor. The aim of these interviews was to gain some insight into best-practices, challenges, successes, and further opportunities that have yet to be attempted. This information provided context in which to better understand the challenges and future opportunities associated with this proposed policy tool.

## Findings

The organizing committees for London 2012 were successful in reducing the footprint and negative impacts of hosting the Olympic Games, and through strategic planning, were able to leave a more sustainable legacy, by integrating sustainability into existing systems and infrastructure. Cutting-edge initiatives were undertaken during all phases of construction and Games-time operations, and extended to cover not only industries directly involved in the Games, but also the operations of contracted suppliers. Visionary, far-sighted planning successfully capitalized on many opportunities for improving long-term sustainability, which are created through hosting the Olympic Games.

These revolutionary sustainability efforts stem from the exceptional team behind the delivery of London 2012, and should not be attributed to the regulations created by the IOC. The IOC currently has no eligibility criteria for cities who want to host, or corporations who want to sponsor the Games. The current system also gives host cities ultimate control over planning the Games. The bid process requires potential host cities to undertake an impact study of hosting the Games, but this report is the only indicator of the sustainability of the host city, and is not sufficient to ensure that the city is making long-term sustainability plans and including them in their development goals. The IOC needs to create sustainability criteria for host cities and

sponsors, expand their sustainability regulations, and make their policies more specific, so that host cities have more extensive guidelines when making their own policies.

London 2012's most important legacy are the groundbreaking sustainability codes, policies, and management systems that were developed for the Games. These frameworks represent best-practice across the board; therefore they provide a structure for future events to build upon, and supply valuable resources for event-planners pursuing sustainability. The *One Planet Olympics* framework was successful in helping London 2012 organize and prioritize their sustainability efforts. It was effective in helping them set a timeline, integrate these plans into the Olympic framework, and monitor projects throughout the entire process. It also allowed outside organizations to ensure compliance, accountability, and transparency.

London 2012's biggest failure, on the other hand, was their Sustainability Partners sponsorship program. There was very little information in the literature about the Sustainability Partners, and according to Simon Lewis, this is because London 2012 was so harshly criticized for their selection of sustainability partners that they decided it was a PR risk to promote the program and the work these partners were doing. Of the six Sustainability Partners, four are involved in the energy, fossil fuel and automotive industries, sectors that are the most at odds with sustainability principles.<sup>120</sup> Although these partners were involved in improving the sustainability of the Games, (BMW provided electric vehicles for the official Olympic fleet and BP featured their new biofuels) none of their initiatives aimed to make long-term changes to their existing systems. Simon Lewis confirmed how under-utilized this opportunity was, and stated that these companies essentially "bought the badge" for the positive PR.<sup>121</sup> This was

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<sup>120</sup> Gee, "Blinkered Justice."

<sup>121</sup> Sorrell, Interview Simon Lewis.

London's largest failure and most significant missed opportunity. The Sustainability Partner program failed on many fronts, but as a concept, it has the potential to make a big impact on Olympic supporting industries, and should be a standard part of the Olympic Sponsorship Program. Coca-Cola was not a Sustainability Partner, but their sustainability efforts are the perfect example of how a sponsor was influenced by the organizing committee to pursue these objectives, and became more sustainable as a result of their involvement in the Games.

The two case-studies undertaken in the course of this research describe very specific sustainability initiatives associated with only a fraction of the activities that took place during the planning and staging phases of the Games. These findings, although noteworthy on their own, are most significant when related to the sustainability efforts overall, because they communicate valuable information and lessons about the planning that went into these initiatives, and the process of embedding sustainability in the Olympic Games. Where successful, the findings indicate efforts that are effective and worthwhile, and where unsuccessful, they reveal opportunities for improvement in the future. This 'learning-legacy' provides invaluable information for future events pursuing sustainability. Overall, these specific findings also validate the concept of using the Olympic Games as a tool to improve the sustainability of the host city, and promote sustainability to a wider, global audience. Finally, they also verify that the Olympic Games have enough authority to significantly influence the behaviors of other institutions, and therefore can use this power to provoke change on a global scale.

### *Case Study 1: Olympic Organizing Committees*

#### *Research Question 1:*

What did the LOCOG and the ODA attempt, in both the planning and staging phases, in order to reduce the footprint of hosting the Games? How successful were these efforts?

*Findings:*

Through their sustainability efforts, the organizing committees saved approximately 400 ktCO<sub>2</sub>e<sup>122</sup> against the reference footprint,<sup>123</sup> across both construction and staging phases of the Games, principally through design modifications, materials selection, procurement policies and operational interventions during the Games.<sup>124</sup>

The most significant sustainability initiatives undertaken by the ODA and LOCOG during the planning and staging phases were those related to construction and the physical infrastructure necessary for hosting the Games. Measurements have determined that half of the total carbon emissions of hosting the Olympic Games come from the construction of the venues, so efforts in this category were hugely important to making the games more sustainable.<sup>125</sup>

Physical Infrastructure

Efforts to reduce the embedded carbon footprint of the physical infrastructure were very successful. The venues used by London 2012 significantly reduced their embedded carbon in comparison with the original designs, and the final values were lower than comparable venues elsewhere. The final calculation found that the carbon footprint of the main Stadium was 38% lower than the original design, the Aquatics Center was 10% lower than the original design, the

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<sup>122</sup> Kt CO<sub>2</sub>e stand for kilo tons of carbon dioxide equivalent. Some greenhouse gases are more potent than others, but we frequently talk about emissions in terms of carbon dioxide. Therefore, for footprint calculations, all gases are converted to their carbon dioxide equivalent and reported as a single number: the carbon footprint.

<sup>123</sup> A 'reference footprint' is the estimation of a carbon footprint before it can be measured. In this case, the reference footprint was an estimated calculation of the carbon footprint of the London Olympic venues before they were constructed and functioning. The reference footprint was calculated using the original designs for the venues, and although they already had a low carbon footprint when compared to venues elsewhere, London 2012 looked for ways to decrease the footprint throughout the construction phase. This resulted in a lower measured footprint, when compared to the reference footprint.

<sup>124</sup> *London 2012 Post Games Sustainability Report*, 19.

<sup>125</sup> "Towards A One Planet Olympics Revisited."

was Velodrome 15% lower than the original design, and structures, bridges and highways were 14% lower than the original design.<sup>126</sup>

### Materials

The ODA also achieved significant success in using sustainable construction materials, through the creation and implementation of their comprehensive Sustainable Sourcing Code. The code covered all of the materials used in the construction of facilities, and extended to include any accessories constructed off-site (ie: bed frames) by contractors. The Code is composed of four principles: "sustainable sourcing, use of secondary materials, minimizing embodied impacts, and healthy materials".<sup>127</sup> Several key accomplishments can be attributed to the Sustainable Sourcing Code. Lower impact concrete mixes were achieved across the park by adopting central procurement through the provider who demonstrated the most efficient production plant and best capacity to support cement replacement. This resulted in an estimated savings of 30,000 tons CO2e or 24% reduction in embodied carbon.<sup>128</sup> The PVC Policy pushed for PVC reuse and designing out PVC, thereby driving the market to develop phthalate-free PVC alternatives.<sup>129</sup> Finally, the Code also facilitated more sustainable wood sourcing, achieving the use of 100% legal and sustainable timber, 42% recycled aggregate, and 34% containing recycled content.<sup>130</sup>

### Waste Management

Waste management plays a significant role in the construction industry and major events, but the ODA was only partially successful in their efforts to reduce waste. During construction, the ODA aimed to achieve greater than 90% reuse or recycling of materials during the

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<sup>126</sup> *Beyond the Finish.pdf*, 18.

<sup>127</sup> *LOCOG Sustainable Sourcing Code*.

<sup>128</sup> *Ibid.*

<sup>129</sup> BioRegional, "Reuse And Recycling on the London 2012 Olympic Park."

<sup>130</sup> *Ibid.*

demolition phase, and greater than 90% reuse, recycling, or recovery during the building phase.<sup>131</sup> These targets were substantially exceeded with figures of 98.5% and 99% respectively.<sup>132</sup> The LOGOC was also successful in reducing waste directly to landfill during Games-time. London 2012 was the first summer Games to declare a target of zero waste, and 70% of operational waste was re-used, recycled, or composted.<sup>133</sup> Typical events of this magnitude only achieve 15% diversion from landfill.<sup>134</sup> As part of their plan to reach this goal, the LOCOG implemented packaging guidelines that applied to all products sold within the Olympic park, including food packaging, which was recyclable or compostable.<sup>135</sup>

Despite these successes, there were significant missed opportunities in the waste-management systems for the construction phase. During construction, high levels of recycling and recovery were achieved, but the re-use rate was less than 1%, which is considerably below best-practice in the industry.<sup>136</sup> Of the waste generated during construction, 13% was new, unused materials, so reuse would have been a good strategy for waste reduction and should have been prioritized.<sup>137</sup> According to BioRegional's review of this oversight, "having a joint target (reuse and recycling) did not reinforce adopting the waste hierarchy, hence the simpler and more controllable options of recycling and recovery took precedence".<sup>138</sup> Reuse has also been found to be the most sustainable waste management option. Reclaimed and reused steel sections typically have a 25 times lower environmental impact than new, even though new sections typically have

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<sup>131</sup> Ibid.

<sup>132</sup> Ibid.

<sup>133</sup> "Towards A One Planet Olympics Revisited."

<sup>134</sup> BioRegional, "Reuse And Recycling on the London 2012 Olympic Park."

<sup>135</sup> *Commission For A Sustainable London 2012: Post Games Report.*

<sup>136</sup> "Towards A One Planet Olympics Revisited."

<sup>137</sup> BioRegional, "Reuse And Recycling on the London 2012 Olympic Park."

<sup>138</sup> Ibid.

a 60% recycled content, so reuse should be the main focus of construction waste management plans.<sup>139</sup>

### Energy

In addition to construction and materials, the ODA and LOCOG identified energy as an important issue for their sustainability efforts. The UK has a goal to reduce their carbon emissions by 80% by 2050, and energy production makes up the largest single element of the national carbon footprint.<sup>140</sup> London 2012's overall goal was to reduce emissions from Games-time activities, and lay a foundation for future renewable energy. The ODA and Legacy Corporation aimed to reduce the carbon for the operation of the built environment 50% by 2013, and supply 20% of the required energy from onsite renewable sources.<sup>141</sup> LOCOG, on the other hand aimed to provide 20% of the electricity requirements for the Olympic Park during Games-time from new local renewable energy sources.<sup>142</sup> Final calculations indicate that the ODA and Legacy Corporation did meet their 50% carbon reduction target, but neither the ODA, LOCOG nor the Legacy Corporation met the challenge to generate 20% of their energy from onsite renewables. Only 10.8% of on-site energy came from renewable sources. This failure can be attributed to their inability to build an onsite wind turbines, and the use of mainly fossil fuels in the Combined Heat and Power Energy Center, which was originally designed to run on renewable fuel.<sup>143</sup> Hosting the Olympic Games provided a rare opportunity for the city to create this infrastructure on a large scale, but the organizing committees failed to capitalize on it.

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<sup>139</sup> Ibid., 5.

<sup>140</sup> *London 2012 Post Games Sustainability Report*, 12.

<sup>141</sup> London Organizing Committee of the Olympic Games, *Delivering Change: London 2012 Pre-Games Sustainability Report*, 33.

<sup>142</sup> Ibid., 121.

<sup>143</sup> Ibid., 32.



Although it was a part of their energy strategy from the beginning, these plans were completely abandoned in the face of roadblocks, instead of adapted to address the setbacks.

*Research Question 2:*

How did the ODA and the LOCOG integrate sustainability into the existing fabric of the city and advance sustainability in the long-term?

*Findings:*

Although not all initiatives were successful, the ODA and LOCOG were able to make significant and long-term improvements to the sustainability of London through their preparations for hosting the Games.

Materials

The legacy resulting from their materials policy is one of their most significant accomplishments. The Construction and Demolition sector is the source of at least 15% of the UK's national CO<sub>2</sub> emissions, and is the largest single producer of waste in England, generating 120 million tons of waste per year.<sup>144</sup> The Demolition Protocol created by London 2012 provides a framework for maximizing resource efficiency through reclamation and reuse efforts. London 2012 anticipated that this document will have a significant impact on the practices of the British construction industry, and it will be a useful guide for construction companies in the future.<sup>145</sup> Their final sustainability report indicates that there is already a noticeable shift in the industry towards incorporating these policies.<sup>146</sup> At the peak of construction, 11,000 workers from many

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<sup>144</sup> BioRegional, "Reuse And Recycling on the London 2012 Olympic Park."

<sup>145</sup> "Towards A One Planet Olympics Revisited."

<sup>146</sup> *London 2012 Post Games Sustainability Report*.

different construction companies were working on the Olympic Park at once.<sup>147</sup> This huge market participation fosters systematic changes, by requiring huge numbers of companies to comply with strict guidelines, and acts as an educational opportunity to teach these methods. Reclaiming materials also lowered the costs of waste management and new materials, indicating that these methods are economically viable for individual companies. In addition, the PVC Policy pushed the market to develop PVC alternatives, which have been mostly unavailable until now.<sup>148</sup>

### Waste Management

Despite major success in the construction and Games-time phases, the ODA and LOCOG's five waste initiatives for the legacy phase were largely unsuccessful. The LOCOG hoped to extend zero-waste policies across East London by increasing recycling rates and converting residual waste to compost and renewable energy.<sup>149</sup> They also hoped to establish an increased market for recycled products, provide training and job opportunities to the local community in (re)manufacturing, and maintain the local and sustainable materials supply chains. Finally, they wanted to create a 'green' business hub. None of these goals were met, as the LOCOG found it too difficult to influence the behavior of individuals outside of the direct authority of the Games.<sup>150</sup> Without direct incentives, the organizing committees realized they had little influence on these zones of activity.

Although not a part of their waste-management legacy plan, the ODA's zero-waste policies seem to have left a positive legacy across the construction industry. Removing

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<sup>147</sup> London Organizing Committee of the Olympic Games, *Delivering Change: London 2012 Pre-Games Sustainability Report*.

<sup>148</sup> *Ibid.*

<sup>149</sup> *Ibid.*, 270.

<sup>150</sup> *Ibid.*, 140.

landfilling as a waste disposal method acted as a powerful incentive for contractors to find alternative means of disposing of construction waste. Using contract-selection as an incentive, the process of engaging with material and waste contractors early on motivated them to utilize innovative approaches, and ultimately resulted in sustainable improvements across the industry.<sup>151</sup> This process activated a new supply chain for reclaimed and reusable products, which previously did not exist in the UK.

### Energy

Despite the failure to develop permanent renewable energy sources, the ODA was able to make some long-term changes to energy infrastructure in the city, and leave a more sustainable energy legacy. In order to compensate for the lack of renewable energy on site, the ODA partnered with the Greater London Authority to retrofit 2,800 local 'domestic properties' and 12 schools, using techniques such as efficient lighting, heating controls, draught proofing, insulation, smart meters, and water efficiency.<sup>152</sup> They also constructed the Kings Yard Energy Center, a low carbon heat and power facility, which provides energy to all of the permanent venues in the Olympic and Paralympic villages. The center uses a biomass boiler, several small wind turbines, and photovoltaic panels, and has the capacity to support all of the new developments on the Park in legacy. It also connects to a district network, which supports the nearby Westfield Stratford City shopping center. Through these initiatives, the ODA achieved a total carbon savings of 58.6%.<sup>153</sup>

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<sup>151</sup> BioRegional, "Reuse And Recycling on the London 2012 Olympic Park," 22.

<sup>152</sup> London Organizing Committee of the Olympic Games, *Delivering Change: London 2012 Pre-Games Sustainability Report*, 33.

<sup>153</sup> *Ibid.*, 34.

## Water

The ODA achieved success in their legacy plans for water use and treatment. The Old Ford Water Recycling Plant was constructed in 2011 at the Olympic Park, and has been connected to the largest non-potable water supply network in the UK. The plant delivers reclaimed wastewater from the Northern Outfall Sewer for use around the park and will reduce the Park's potable footprint by 40%.<sup>154</sup> They also developed a new standard for this type of direct non-potable water re-use. The creation of a groundwater treatment system will also reduce the impact of contaminated groundwater. The ODA believes the research behind these initiatives will inform future projects, and that this strategy may be able to solve water problems in the UK.<sup>155</sup>

## Nature

The ODA's work on the Olympic Park allowed them to leave an important legacy of restored natural habitats and protected wildlife. Construction of the Park transformed 100 hectares of industrial brownfield into parkland, creating the largest urban park in the UK in a century, with an additional 45 hectares being installed in legacy. Two million tons of contaminated soil were cleaned and 80% was re-used on site. The park design also includes habitats for a variety of different local species. Among the constructed habitats are 700 bird and bat boxes, 4,000 trees and over 400,000 plants and bulbs to create a densely woven mix of habitats.<sup>156</sup> The installation of this extensive green space will help to resolve many sustainability issues arising from urban environments. The new parkland, and trees especially, will naturally

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<sup>154</sup> Ibid., 36.

<sup>155</sup> Ibid.

<sup>156</sup> Ibid., 46.

filter rainwater, help regulate the micro-climate of London, and will act as a carbon sink, thereby offsetting the carbon produced through urban activities.<sup>157</sup>

### Transportation

Investment in public transportation infrastructure made long-term improvements to the existing transportation system, and is leaving a more sustainable legacy for London. LOCOG included transit passes in the tickets to certain events, so 80% of spectators were expected to travel to and from the events by rail, with a goal of all spectators traveling by public transit, walking, or biking.<sup>158</sup> In order to accommodate the increase in transit ridership, the ODA invested £199 million in the Stratford Regional Station, the station expected to have the most traffic, and host 15,000 spectators per hour.<sup>159</sup> The ODA also constructed many new stations and lines to expand the transit network. The new London Over-Ground Link doubled the number of trains serving London, and construction of the Docklands Light Railway, a new extension that includes 4 new stations and connects to 5 Olympic venues, increased the capacity of the entire network by 50%.<sup>160</sup> The ODA also upgraded the existing infrastructure by purchasing 57 new air-conditioned trains, and completing major upgrades to the lighting and signage in most stations.<sup>161</sup> Smart electricity meters were installed in 120 London Underground stations to measure and track the reduction of energy consumption from measures like efficient lighting.<sup>162</sup>

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<sup>157</sup> Armour, Job, and Canavan, “The Benefits of Large Species Trees in Urban Landscapes; A Costing, Design and Management Guide,” 6.

<sup>158</sup> London Organizing Committee of the Olympic Games, *Delivering Change: London 2012 Pre-Games Sustainability Report*, 74.

<sup>159</sup> *Ibid.*

<sup>160</sup> *Ibid.*, 76.

<sup>161</sup> *Ibid.*, 75.

<sup>162</sup> *Ibid.*, 76.

In addition to improving the rail system, the ODA retrofitted all vehicles over five years old in the bus and coach routes with diesel particulate filters, so they meet the Euro IV particulate standard.<sup>163</sup> In an attempt to encourage people to bike and walk to the Olympic Park, a bike share program was implemented that provided 8,000 new bikes, 570 docking stations and 15,000 docking points. The ODA also invested £11 million in upgrading walking and cycling routes leading to Game venues, both inside and outside of the city, including resurfacing, widening, improving access to, and improving the safety of routes. All of these improvements to London's transportation system will encourage people to use car-alternatives, thereby reducing carbon emissions associated with transportation.

#### *Case Study 2: Coca-Cola*

##### *Research Question 3:*

What initiatives did Coca-Cola undertake in order to reduce the footprint of their sponsorship program?

##### *Findings:*

As a corporate sponsor, Coca-Cola was obligated to comply with the sustainability regulations mandated by the ODA and LOCOG in an effort to reduce the footprint associated with hosting the Olympic Games. However, their efforts went above and beyond the requirements, and significantly reduced the footprint of their sponsorship. In order to accomplish their initiatives, they used a comprehensive sustainability management system, and incorporated WWF recommendations in their environmental strategy. Olivia Knight-Adams, Sustainability Advisor for the ODA and later Sustainable Games Project Coordinator with Coca-Cola,

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<sup>163</sup> Ibid., 77.

maintains that Coca-Cola's biggest sustainability achievement was their adoption of an environmental management certification.<sup>164</sup> Coca-Cola's London 2012 operations were certified by ISO2012-1, the International Standard for sustainable event management, and through the implementation, they were able to embed sustainability into their sponsorship activities. Coca-Cola is the first major corporation to be verified using this standard.<sup>165</sup>

### Materials

Material selection played an important role in Coca-Cola's efforts to reduce the footprint of their sponsorship. All of the plastic bottles used for the Games were recyclable and contained 25% recycled material, as compared with bottles containing 0% recycled materials elsewhere, drastically cutting down on the amount of petroleum based plastic needed during and after the Games.<sup>166</sup> Many of the vehicles delivering products to outlets and venues were powered by biogas, and the remaining vehicles were powered with liquid natural gas (LNG), a lower carbon fuel type than diesel.<sup>167</sup> In addition, 100% of on-site drink coolers were free of hydro-fluorocarbons.<sup>168</sup> Coca-Cola also used recycled materials wherever possible, in everything from staff uniforms to sales stands.<sup>169</sup> In addition to holding themselves accountable, Coca-Cola required their suppliers to act and source their materials more sustainably by using recycled materials and reducing packaging.<sup>170</sup>

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<sup>164</sup> Sorrell, Interview with Olivia Knight-Adams.

<sup>165</sup> Ibid.

<sup>166</sup> The Coca-Cola Company, *Coca-Cola: Our Sustainability Legacy*, 34.

<sup>167</sup> Ibid., 15.

<sup>168</sup> Ibid., 3.

<sup>169</sup> Ibid., 2.

<sup>170</sup> Ibid., 6.

### Waste Management

Coca-Cola created and implemented their own sustainability initiatives surrounding waste management. They committed to recycle every piece of clear PET (polyethylene terephthalate) plastic disposed of in the Olympic Park, and repurpose it into a new Coca-Cola bottle within six weeks.<sup>171</sup> They employed roving 'recycling ambassadors' to ensure spectator education of, and participation in recycling efforts.<sup>172</sup> Coca-Cola achieved its target of recycling 10.5 million plastic bottles used at the Olympic and Paralympic Games, resulting in 42 million 'new' bottles, each containing 25% rPET (recycled PET).<sup>173</sup>

#### *Research Question 4:*

Through their Olympic sponsorship program, how did Coca-Cola integrate sustainability into the existing fabric of their operations?

#### *Findings:*

Many of Coca-Cola's sustainability efforts for London 2012 aimed to not only reduce the environmental impact of hosting the Games, but also to use their sponsorship as an opportunity to integrate sustainability into the framework of their existing systems, and therefore leave a more sustainable legacy.

### Infrastructure

The most significant legacy left behind by Coca-Cola's sponsorship program is the new infrastructure created for the Games and later integrated into the fabric of their operations. Coca-Cola partnered with ECO Plastics to construct a new recycling center in Lincolnshire called

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<sup>171</sup> Ibid., 17.

<sup>172</sup> Ibid., 40.

<sup>173</sup> Ibid., 17.



Continuum Recycling. It is a state-of-the-art low carbon warehouse facility (the largest plastic recycling center in the world) and will more than double the amount of rPET produced in Britain.<sup>174</sup> This facility represents the very first partnership between the beverage and recycling industries, marking an important step towards coordinating multiple levels of the supply chain. The plant will process 15,000 tons of rigid plastic packaging (such as tubs, pots and trays) every year, and has advanced technology so it can process mixed plastics.<sup>175</sup> The annual benefit from the Continuum Recycling Facility could be as much as 33,500 tons CO<sub>2</sub>e, the equivalent of taking 15,715 cars off the road, and will create 30 new jobs in the UK.<sup>176</sup> The facility allowed Coca-Cola to hit their target of including 25% rPET in all PET packaging by the end of 2012.<sup>177</sup>

In addition to the Continuum Recycling Center, investment in a new warehouse in Dagenham created a local facility to deliver products to Olympic venues and the greater London area. Known as Voltaic, the new warehouse includes photovoltaic roof panels to generate solar electricity, skylights covering 15% of the roof (against an industry norm of 10%), motion-censor lighting to reduce electricity usage, a ground source heat pump using the earth's geothermal energy to supply to heat and cool the offices, and a rainwater harvesting system to reduce water consumption.<sup>178</sup> The Voltaic warehouse is estimated to save 322 tons CO<sub>2</sub>e over the course of a five year lease.<sup>179</sup>

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<sup>174</sup> The Coca-Cola Company, *Coca-Cola: Our Sustainability Legacy*.

<sup>175</sup> MT Waste Management, "New Plant Represents Mixed-Plastics Management Breakthrough."

<sup>176</sup> The Coca-Cola Company, *Coca-Cola: Our Sustainability Legacy*, 17.

<sup>177</sup> *Ibid.*

<sup>178</sup> *Ibid.*, 14.

<sup>179</sup> *Ibid.*, 15.

## Materials

Coca-Cola's material choices also contribute to their sustainable legacy. The hydro-fluorocarbon free coolers used across the Park were redistributed to European customers after the Games to help accelerate Coca-Cola's transition to HFC-free coolers.<sup>180</sup> Coca-Cola developed the 'PlantBottle,' which is a fully recyclable PET plastic bottle partly made from plant material. It contains up to 22.5% plastic made from plant-based materials, up to 25% recycled plastic, and the remainder is plastic made from petroleum sources.<sup>181</sup> This new packaging represents a step towards achieving Coca-Cola's goal of producing bottles that are made entirely with 100% recycled and renewable raw materials.<sup>182</sup> The PlantBottle packaging is available in more than 24 countries worldwide and since the package launched in 2009, its use has eliminated the equivalent of almost 100,000 metric tons of carbon dioxide emissions, the equivalent of 200,000 barrels of oil, from Coca-Cola's PET plastic packaging.<sup>183</sup> The PlantBottle is made using sustainably sourced sugarcane and sugarcane processing waste from Brazil. Coca-Cola's Olympic sponsorship also inspired a partnership with JBF Industries Ltd. to further expand the production of the plant-based material.<sup>184</sup>

The £1.75 million investment in a fleet of 14 bio-gas fueled trucks (powered by methane captured from a landfill site in Surrey), and the re-fuelling infrastructure, permitted these vehicles to be integrated into the normal Coca-Cola distribution systems. The biogas trucks will

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<sup>180</sup> Ibid.

<sup>181</sup> Ibid., 18.

<sup>182</sup> Ibid.

<sup>183</sup> The Coca-Cola Company, "What Is PlantBottle Packaging?"

<sup>184</sup> The Coca-Cola Company, "The Coca-Cola Company Accelerates Global Production of Plastic Packaging Made from Plants."

cut the carbon footprint of the distribution system by an estimated 1,800 tons over their expected six-year lifetime.<sup>185</sup>

### Waste Management

Coca-Cola's sponsorship program surrounding waste also leaves a positive legacy for London. Coca-Cola placed 260 new permanent recycling bins in locations all around London.<sup>186</sup> In addition to physical waste infrastructure, Coca-Cola's waste education program facilitated increased recycling rates in London. On Oxford Street alone, the new recycling bins are now collecting over one ton of recyclable material every day.<sup>187</sup> A survey of London 2012 attendees also found that 70% said they would now be more likely to recycle at home, as a result of this waste education.<sup>188</sup>

### Management Systems

Coca-Cola's development of new management systems for large scale events is another important aspect of their sustainable legacy. In preparation for the Games, Coca-Cola developed two new models: A guide for best-practice, efficient, waste-management and recycling, which was implemented during the Games, and a model for effective carbon foot-printing. These two systems were developed with help from independent monitoring and management system organizations, and are available for use by future events through a learning legacy network.<sup>189</sup> In addition, Coca-Cola-Great Britain's London head-office was certified to the ISO 14001

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<sup>185</sup> The Coca-Cola Company, *Coca-Cola: Our Sustainability Legacy*.

<sup>186</sup> *Ibid.*, 16.

<sup>187</sup> *Ibid.*

<sup>188</sup> *Ibid.*, 17.

<sup>189</sup> *Ibid.*, 3.

Environmental Management System, which will ensure that their office operations meet standards for best-practices for many years to come.<sup>190</sup>

### Transparency

One final finding relating to Coca-Cola's sponsorship of London 2012 is a lack of transparency. Although Coca-Cola reported all of their successful initiatives, it was very difficult to find any information on initiatives that were not fully realized or failed. Perhaps they achieved every initiative they undertook; however, this may indicate that they didn't push themselves to attempt projects that would have deeply impacted their existing system. In addition, beyond the sustainability requirements mandated by the ODA and LOCOG, all of Coca-Cola's sustainability efforts were self-reported, and were clearly presented as part of a PR campaign. This reporting style omitted information about the challenges faced in the course of implementation, which is important knowledge for the future. These findings are related to the deep contradictions inherent in corporate sponsorship, where corporations provide funding in exchange for an opportunity to further their own goals and profit motives, even when they conflict with the missions of the sponsored organization.

### Conclusions

While Coca-Cola's environmental sustainability initiatives for the Olympic Games were significant, their efforts do not neutralize the ethical concerns related to their sponsorship of the Games. The WWF-UK affirmed that they continue to work closely with Coca-Cola to help them reduce, and be more responsible in, their water use, but these efforts were absent from Olympic sustainability requirements/guidelines.<sup>191</sup> In addition, the health concerns associated with Coca-

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<sup>190</sup> Ibid., 10.

<sup>191</sup> *Towards a One Planet Olympics*.

Cola's products were addressed, but these efforts were marginalized in reporting. Coca-Cola participated in the UK's Public Health Responsibility Deal and worked with LOCOG's Food Advisory Group to provide the largest variety of beverages to date. As a result, 73% of the beverages Coca-Cola sold during the Games were water, juice, or low/no-calorie options.<sup>192</sup> Although these health related initiatives were successful, Coca-Cola's self-reporting allowed them choose the focus of their reports and the information they dispensed to the public. Health issues, as one of their biggest PR risks, were not highlighted, indicating that Coca-Cola was using the power of the Olympics to draw positive attention to other areas of their operations, in an attempt to distract the public from these ethical concerns and contradictions of Coca-Cola's involvement in the Olympic Games. Regardless of this issue, however, the Olympic Games were successful in influencing long-term improvements to Coca-Cola's environmental sustainability.

The most significant limitation encountered during this study was the difficulty of breaking through the PR façade and finding real information. Most of the sources used in the course of research contained self-reported information, and although they were somewhat self-critical where appropriate, they still attempted to present a positive public image. The reports produced by London 2012 tended to be more self-critical and contain more detail on challenges, than those produced by Coca-Cola; however this trend is to be expected because host cities have a responsibility to report to the IOC on their activities, and share their experiences through the learning legacy network. Transparency problems were further compounded by my status as an undergraduate student. These challenges represent an opportunity for further research into the

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<sup>192</sup> The Coca-Cola Company, *Coca-Cola: Our Sustainability Legacy*, 8.

challenges and failures of Olympic sustainability, specifically regarding corporate sponsors, and methods for ensuring transparency.

## **Part IV: Recommendations**

Based on the findings from this research, the following recommendations are proposed, for both host cities and the IOC, to help facilitate a more effective use of the Olympic Games as a tool to promote and advance a long-term, global sustainability agenda. These recommendations are based on best-practice standards, successful initiatives, and opportunities for the future, as identified by studying the efforts of London 2012. Also included are suggestions for how to institutionalize sustainability, and permanently embed these concepts into the Olympic framework. These recommendations range from ‘low-hanging fruit’ to ideal systematic changes, therefore they will be useful immediately by host cities, and in the future as the IOC considers the evolution of the Olympic institution.

### **Host City**

#### *Organizing Committee Strategies:*

Host cities should partner with NGOs and environmental groups during the bid writing process to integrate sustainability initiatives into long-term plans from the beginning. These experts can help identify opportunities, push for groundbreaking initiatives, and will ensure accountability and transparency throughout the process. When the bid is awarded, these partnerships will be an important resource for the official organizing committees, providing support with implementation and overcoming challenges. London 2012’s partnerships with WWF and BioRegional fulfilled all of these roles, and were central to the success of their sustainability efforts.

London 2012's sustainability framework was also a product of the organizing committee's relationship with these NGOs. The *One Planet Olympics* sustainability framework organized the sustainability efforts for the Games, and it is critical that future organizing committees adopt or develop a similar structure. All hosts should have a comprehensive framework that addresses every activity associated with the Games, and attends to a triple bottom line. The *One Planet Olympics* framework created by London 2012 provides an excellent model for future Games to adapt and build upon. It represents best-practices across the board, and considers sectors never previously included in Olympic sustainability initiatives. Future host cities should use this structure as a base-line when designing their own sustainability frameworks. However, the challenges faced by London 2012 indicate that within a sustainability framework, goals should be broken down into smaller, more specific sub-sections. As previously discussed in relation to construction waste, generalized goals can result in missed and underutilized opportunities. London 2012's construction waste strategy should have made distinct reclamation, reuse, and recycling targets, instead of having an overall landfill diversion target. These types of distinctions need to be considered in goal setting. In addition, the framework should encourage sector-specific goals that address the sustainability issues inherent in each (ie: packaging for food). Organizing committees should incorporate these goals into contracts with the Olympic supporting industries, and use contract awarding as an incentive for industries to comply with these targets.

In addition to working with outside groups, the organizing committees should have a sustainability team composed of sustainability experts from a variety of sectors. They should be placed at the heart of the planning and development agency, so they have access to, and play an integral role in, all of the activities of this body. Sustainability team members should also be

embedded in other departments so they can play a hands-on role with advising and decision making. For London 2012, this structure was successful in ensuring that sustainability remained a top priority throughout the planning and staging phases of the Games, and was considered as a part of every decision making process.

London 2012 also created an independent regulatory body to monitor their progress on sustainable initiatives. The Commission for a Sustainable London was set up to provide assurance to the Olympic Board and the public on how the organizing committees for the Games were meeting their sustainability commitments. Host cities should create equivalent organizations that can act as a regulatory body, thereby ensuring compliance and transparency.

#### *Sustainability Partners*

London 2012 created a category for corporate sponsors called Sustainability Partners; however, the corporations they chose to hold this title were highly inappropriate, and reflected the size of their investment, rather than their sustainability credentials. The failure of this program represents London 2012's most significant missed opportunity. This program should be re-envisioned and used by future Games as a way to showcase and involve companies that are truly working to be more sustainable. Organizing committees should base selection of sustainability partners off of the ten principles outlined in the UN's Global Compact, and award this title at a reduced sponsorship fee, rather than at a higher fee as London did.

## IOC

#### *Sustainability Regulations for Host Cities*

As the governing body overseeing the entire Olympic movement, the IOC should play a more active role in the promotion and implementation of sustainability principles. The IOC



should aggressively build and manage the Olympic Games Knowledge Management program to include sustainability knowledge, and ensure that this network that can effectively communicate best-practices, challenges, and opportunities to future host cities. These tools will provide a sustainability base-line for each host to build upon.

The IOC was granted official UN Observer status in 2009, and following the precedent set by the Olympic Movement's adoption of Agenda 21, the IOC should adopt other UN policies governing the sustainability of host cities and corporate sponsors.<sup>193</sup> The UN functions as a perfect model for the policies of the Olympic Games, because it reflects the global nature of the institution. In 2001, the City of Melbourne proposed that cities should be allowed to join the UN Global Compact, which led to the creation of the UN Global Compact Cities Program. Today, of the 58 member cities, only five have ever hosted the Olympic Games, and none of the cities who hosted 'green' Games over the last two decades have signed this commitment.<sup>194</sup> The IOC should endorse the UN Global Compact Cities Program and mandate that every city bidding to host the Games has signed the agreement.

#### *Corporate Sponsor Eligibility*

The IOC should also adopt the UN's Global Compact, the only existing framework defining the terms of corporate social responsibility, and use this criteria as a pre-requisite for Olympic sponsorship. The UN currently requires that all private-sector entities looking to partner with the UN (including corporations playing a sponsorship role) have signed this pledge. In addition, the UN states that in order to be eligible for UN partnership, private-sector companies must support all UN treaties, and not violate any UN regulations. Following this model, the IOC

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<sup>193</sup> International Olympic Committee, "FOCUS on Sport and Sustainability."

<sup>194</sup> "The Cities Programme - The Cities Programme."

should require that all sponsors align with the missions of the Olympic Movement, as articulated by the Olympic charter and guidelines. This stipulation may require long-standing sponsors such as Coca-Cola to address the ethical concerns that have been raised surrounding their sponsorship of the Games.

## **Conclusions**

As the largest peace-time event in the world, the Olympic Games have an incredible influence on the beliefs and actions of the world community. Their ability to transform host cities and build partnerships with the world's largest corporations places them strategically to be a powerful force for change. As we look to the future of our planet and seek to find a balance between human development and the natural world, the Olympic Games have a responsibility to use their influence to promote a more sustainable way of life. The 2012 Summer Games in London confirm that the Olympics can in fact be used as a tool to advance a sustainable agenda, and integrate these changes into the fabric of society. Although these recommendations are too late to be useful for Sochi 2014, Rio 2016 or Pyeongchang 2018, as their planning has already been underway for several years, this framework will help future cities bidding for the Olympics integrate sustainability into their plans, and use the Games as a tool to improve their sustainability.

The findings from this research conclude that London's most important legacy is their learning legacy, through the codes, policies, and frameworks that they developed for the Games. This is partially because these documents are innovative and progressive, and partially because London is already highly developed, so their opportunities to address 'low hanging fruit' were minimal. Based on this conclusion, it is critical that London 2012 makes these tools very

accessible to the planning committees of other hallmark events, through the creation and maintenance of strong knowledge-sharing networks. Because the base-line conditions of host cities vary so widely, this knowledge-sharing model allows host cities to review the efforts of previous hosts, and construct a comprehensive sustainability framework addressing their specific needs.

Future host cities stand to benefit enormously from this framework of using the Olympics as a tool for increasing sustainability. By considering legacy and sustainability from the beginning, cities can use hosting the Games as a tool to improve their sustainability, and integrate these changes into their existing infrastructure and new developments.

Including sustainability in the bid process for the Games also integrates these efforts into the plans of every city who submits a bid, regardless of whether they win or not. The bid writing process requires that cities create long-term development plans, and if the bid is unsuccessful, these plans are frequently adopted anyway, thereby permanently embedding sustainability into a city's development strategy. Therefore, the bid process allows the Olympic Games to have a larger global impact, and influence the development plans of cities beyond the winning host.

Furthermore, the Olympic Games can serve as a tool to influence the behaviors of the Olympic supporting industries, including corporations world-wide. London's experience extending sustainability regulations to cover the activities of these sectors confirms that the benefits of being associated with the Games are powerful enough to induce systematic change. The Olympic Games can also be used as a tool to promote sustainability more generally, by integrating sustainability into the IOC guidelines, and setting an example for the global community.

## Appendix A: Charts

**Chart 1: UN Global Compact- Ten Principles<sup>195</sup>**

<b>Human Rights</b>	
Principle 1:	Support and respect the protection of internationally proclaimed <u>human rights</u> ; and
Principle 2:	Make sure that they are not complicit in <u>human rights abuses</u> .
<b>Labor Standards</b>	
Principle 3:	the <u>freedom of association</u> and the effective recognition of the <u>right to collective bargaining</u> ;
Principle 4:	the elimination of all forms of forced and <u>compulsory labour</u> ;
Principle 5:	The effective abolition of <u>child labour</u> ; and
Principle 6:	The elimination of discrimination in employment and occupation.
<b>Environment</b>	
Principle 7:	Support a <u>precautionary approach</u> to environmental challenges;
Principle 8:	Undertake initiatives to promote environmental responsibility; and
Principle 9:	Encourage the development and diffusion of environmentally friendly technologies.
<b>Anti-Corruption</b>	
Principle 10:	Businesses should work against <u>corruption</u> in all its forms, including <u>extortion</u> and <u>bribery</u> .

<sup>195</sup> “United Nations Global Compact: The Ten Principles.”

Chart 2: One Planet Olympics- Themes and Promises<sup>196</sup>

London 2012 Headline Theme	One Planet Living Principle	Strategy	Games Promises	Progress	Legacy Promises	Progress
Climate Change	Zero Carbon	Reducing carbon dioxide emissions by minimising building energy demand and supplying from zero / low carbon and renewable resources	Design and construction of facilities based on maximising energy efficiency and using low carbon and local renewable energy sources	Orange	Athletes' Village capable of being energy self-sufficient	Red
			Basic for long-term sustainable energy infrastructure to be established	Red	Distributed network of heating, cooling and power serving local communities	Green
				Green	Energy efficient sports venues	Green
Waste	Zero Waste	Developing closed resource loops. Reducing the amounts of waste produced, then reclaiming, recycling and reworking	No Games waste direct to landfill	Green	Zero waste policies extend across East London based on high recycling rates and residual waste converted to compost and renewable energy	Red
			Zero waste target a pivotal procurement driver	Orange	Closed-loop waste management to be standard practice for major sports events	Orange
			Closed-loop waste management at all venues	Orange	Increased market for recycled products	Red
			Public information campaign to promote high quality front-of-house waste separation	Green		
Climate Change / Inclusion	Sustainable Transport	Reducing the need to travel and providing sustainable alternatives to private car use	All spectators travelling by public transport, walking or cycling to venues	Green	Increased connectivity across and between legacy developments and neighbouring communities	Green
			Low / no emission Olympic vehicle fleet	Orange	Reduced car dependency	Orange
			Olympic Park Low Emission Zone	Orange	Car free events policy adopted for other major events	Orange
			Carbon offset programme for international travel	Orange	Greater market for zero carbon transport	Orange
			Individualised travel plans as part of integrated ticketing process	Green		
Climate Change / Waste	Local and Sustainable Materials	Materials chosen to give high performance in use with minimized impact in manufacture and delivery. Using local materials can have further benefits to local economies and in supporting traditional solutions	Reclaimed, recycled and local construction materials used	Orange	Training and job opportunities locally in (re)manufacturing	Red
			Temporary buildings made for reuse elsewhere	Green	Reclaimed, recycled and local construction materials used during construction into legacy mode	Red
			Healthy materials used for construction and merchandise	Green	Local and sustainable materials supply chains maintained	Red
			Materials with low environmental impact used for merchandising	Orange		
			Robust procurement and management systems implemented	Green		
Climate Change / Waste / Healthy Living	Local and Sustainable Food	Supporting consumption of local, seasonal and organic produce, with reduced amount of animal protein and packaging	Promotion of local, seasonal, healthy and organic produce	Green	Increased markets for farmers in the region	Orange
			Promotion of links between healthy eating, sport and wellbeing	Red	Markets, catering and retail outlets supplying local and seasonal food	Green
Climate Change	Sustainable Water	Reducing water demand with sustainable management of rain and waste water	Olympic Park incorporating water recycling, rainwater harvesting and water conserving appliances	Orange	Long-term sustainable water supply and management	Orange
			Dual water quality supplies to new buildings	Green	Water efficient homes and infrastructure	Orange
			Recycled water used for irrigation or vehicle washing	Green	Lower Lea Valley self-sufficient in water	Red
			Sewage and grey water fed into energy production	Green	Ongoing management of waterways to provide amenity and wildlife habitat	Green
Biodiversity	Natural Habitats and Wildlife	Existing biodiversity conserved with opportunities taken to increase ecological value and access to nature	Remediation of land and creation of large new urban park	Green	Net gain of ecologically valuable green space	Orange
			Waterways rejuvenated to provide amenity and wildlife habitats	Green	Biodiversity an integral component of urban and park environment	Orange
			Olympic Biodiversity Action Plan implemented	Green	People have greater local access to nature	Green
			Buildings and infrastructure designed to minimise ecological impact	Orange	Lea Valley green corridor connected to River Thames	Orange
			Landscaping, planting and building design to increase biodiversity	Orange		
Inclusion	Culture and Heritage	Cultural heritage acknowledged and interpreted. Sense of place and identity engendered to contribute towards future heritage	Development of Olympic Park to reflect local heritage and contemporary culture	Red	Creation of a vibrant and diverse legacy community	Green
			Facilities to acknowledge, reflect and support diversity of local audience and global visitors	Green	Local and traditional industries revived to create employment and sense of identity	Orange
				Green	Ongoing development and management of legacy community to include public and stakeholder consultation	Green
Inclusion	Equity and Fair Trade	Create a sense of community. Provide accessible, inclusive and affordable facilities and services	Fully-accessible facilities for all	Green	High proportion of affordable housing	Orange
			Equity and Fair Trade an integral element of procurement and management systems	Green	Mixed-use development to create sense of community	Green
			Affordable ticketing and accommodation	Red	Opportunities for local employment and education	Orange
			Commitment to ethical business transactions	Green	Green business hub	Red
			Green	Fairtrade community status achieved	Green	
Healthy Living	Health and Happiness	Promote health and wellbeing. Establish long-term management and support strategies	Extensive public and stakeholder consultation	Orange	Healthy internal environments in homes and other facilities	Green
			Programme to promote the health benefits of sport and exercise	Red	Improved air quality, visual amenity and soundscape	Orange
			Healthy internal and external environments in the Olympic Park	Green	Community facilities to provide healthcare, vocational training and other support structures	Green
			Safe and secure facilities and environments provided	Green	Legacy community management and support structures to facilitate long-term sustainable living	Green
			Facilities for worship and spiritual development	Green		

<sup>196</sup> “Towards A One Planet Olympics Revisited.”

## Appendix B: List of Sources by Subject

### **Corporate Social Responsibility and Sustainability:**

- Drori, Gili S., John W. Meyer, and Hokyu Hwang, eds. *Globalization and Organization: World Society and Organizational Change*. Oxford University Press, USA, 2006.
- Kenyon, James, and Clive Palmer. "Funding and Sponsorship: The Commercial Impact of the 2012 London Olympic Games — Some Considerations." *Journal of Qualitative Research in Sports Studies* 2, no. 1: 29–44. Accessed February 2, 2013.
- Paquette, Justine. "The Interpretation of Environmental Sustainability (ES) by the IOC/Olympic Games 1994-2008." Applied Health Sciences Brock University. Accessed January 25, 2013. [http://dr.library.brocku.ca/bitstream/handle/10464/3038/Brock\\_Paquette\\_Justine\\_2010.pdf?sequence=1](http://dr.library.brocku.ca/bitstream/handle/10464/3038/Brock_Paquette_Justine_2010.pdf?sequence=1).
- Redclift, Michael. "Sustainable Development (1987–2005): An Oxymoron Comes of Age." *Sustainable Development* 13, no. 4 (2005): 212–227. doi:10.1002/sd.281.
- Report of the Secretary-General. *Cooperation Between the United Nations and All Relevant Partners, in Particular the Private Sector*. United Nations: General Assembly, August 28, 2001. <http://www.un.org/documents/ga/docs/56/a56323.pdf>.
- "United Nations Global Compact: The Ten Principles." *United Nations Global Compact*. Accessed March 30, 2013. <http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/>.
- United Nations Global Compact. *Number of Expelled Companies Reaches 2,000 as Global Compact Strengthens Disclosure Framework*. United Nations Global Compact, January 20, 2011. <http://www.unglobalcompact.org/news/95-01-20-2011>.

### **Impacts of the Olympic Games:**

- Collins, Andrea, Andrew Flynn, Max Munday, and Annette Roberts. "Assessing the Environmental Consequences of Major Sporting Events: The 2003/04 FA Cup Final." *Urban Studies* 44, no. 3 (March 1, 2007): 457–476. doi:10.1080/00420980601131878.
- "Olympic Studies: Current Intellectual Crossroads." Accessed October 11, 2012. <http://www.aafra.org/SportsLibrary/Books/OlympicStudies.pdf>.
- "Sustainable Olympic Games: A Dream or a Reality?" Accessed October 10, 2012. [http://www.omero.unito.it/web/Furrer%20\(eng.\).PDF](http://www.omero.unito.it/web/Furrer%20(eng.).PDF).

### **International Olympic Committee:**

- "National Olympic Committees (NOC) | Olympic Movement Constituent." Accessed December 9, 2012. <http://www.olympic.org/national-olympic-committees>.

### **LOCOG Planning Documents:**

A Blueprint for Change: Sustainability Report London 2012.” Accessed October 18, 2012.

<http://www.london2012.com/documents/sustainability/london-2012-sustainability-report-a-blueprint-for-change.pdf>.

“Delivering Change: London 2012 Pre-Games Sustainability Report.” Accessed October 11, 2012.

[http://www.london2012.com/mm%5CDocument%5CPublications%5CSustainability%5C01%5C25%5C43%5C65%5Cpre-games-sustainability-report\\_Neutral.pdf](http://www.london2012.com/mm%5CDocument%5CPublications%5CSustainability%5C01%5C25%5C43%5C65%5Cpre-games-sustainability-report_Neutral.pdf).

“London 2012 Drives New International Standard for Sustainable Event Management - London 2012 Olympics.” Accessed November 1, 2012. <http://www.london2012.com/media-centre/article=london-2012-drives-new-international-standard-for-sustainable-event-management.html>.

*London 2012 Post Games Sustainability Report*, December 2012.

“London 2012 Zero Waste Games Vision.” Accessed October 3, 2012.

[http://www.london2012.com/mm/Document/Documents/Publications/01/25/44/50/London2012ZeroWasteGamesVision\\_Neutral.pdf](http://www.london2012.com/mm/Document/Documents/Publications/01/25/44/50/London2012ZeroWasteGamesVision_Neutral.pdf).

“Towards a One Planet Olympics.” Accessed October 28, 2012.

[http://www.london2012.com/mm/Document/Publications/Sustainability/01/25/66/62/One-planet-olympics-2005\\_Neutral.pdf](http://www.london2012.com/mm/Document/Publications/Sustainability/01/25/66/62/One-planet-olympics-2005_Neutral.pdf).

### **Olympic History and Culture:**

Lechner, Frank J., and John Boli. *World Culture: Origins and Consequences*. 1st ed. Wiley-Blackwell, 2005.

Lenskyj, Helen Jefferson. *Inside the Olympic Industry: Power, Politics, and Activism*. State Univ of New York Pr, 2000.

Toohey, K., and A. J. Veal. *The Olympic Games: A Social Science Perspective*. First Edition. CABI, 1999.

Young, and Wamsley. *Global Olympics: Historical and Sociological Studies of the Modern Games*. 1st ed. Emerald Group Publishing Limited, 2005.

### **Olympic Sustainability Policies and Agenda 21:**

Cantelon, Hart, and Michael Letters. “The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement.” *International Review for the Sociology of Sport* 35, no. 3 (September 1, 2000): 294–308. doi:10.1177/101269000035003004.

“Manual on Sport and the Environment.” Accessed October 9, 2012.

[http://www.olympic.org/Documents/Commissions\\_PDFfiles/manuel\\_sport\\_environment\\_en.pdf](http://www.olympic.org/Documents/Commissions_PDFfiles/manuel_sport_environment_en.pdf).

“Olympic Movement’s Agenda 21.” Accessed October 11, 2012.

[http://www.olympic.org/documents/reports/EN/en\\_report\\_300.pdf](http://www.olympic.org/documents/reports/EN/en_report_300.pdf).

“Sustainability\_Through\_Sport.pdf.” Accessed October 10, 2012.

[http://www.olympic.org/Documents/Commissions\\_PDFfiles/SportAndEnvironment/Sustainability\\_Through\\_Sport.pdf](http://www.olympic.org/Documents/Commissions_PDFfiles/SportAndEnvironment/Sustainability_Through_Sport.pdf).

### **XXX Olympiad:**

CNN. “London Olympics by the Numbers.” Accessed December 5, 2012.

<http://www.cnn.com/2012/07/27/world/olympics-numbers/index.html>.

“Coca-Cola | Olympic Sponsor, Non-Alcoholic Beverages | Olympic.org.” Accessed December 10, 2012. <http://www.olympic.org/sponsors/coca-cola>.

“How the Olympics’ Costs Vaulted from Early Estimates to £11bn Tab.” *International Business Times*, July 23, 2012. <http://www.ibtimes.co.uk/articles/365848/20120723/london-2012-olympic-games-hosting-cost-taxpayers.htm>.



## Bibliography

- “A Blueprint for Change: Sustainability Report London 2012.” Accessed October 18, 2012. <http://www.london2012.com/documents/sustainability/london-2012-sustainability-report-a-blueprint-for-change.pdf>.
- “Agenda 21 Fact Sheet.” Accessed February 20, 2013. [http://www.unausa.org/images/content/Advocacy/Agenda21\\_Fact\\_Sheet.pdf](http://www.unausa.org/images/content/Advocacy/Agenda21_Fact_Sheet.pdf).
- Always Touch Out: Transport Projects in London. “Stratford Olympic Park.” Accessed December 7, 2012. <http://www.alwaystouchout.com/project/44>.
- Armour, Tom, Mark Job, and Rory Canavan. “The Benefits of Large Species Trees in Urban Landscapes; A Costing, Design and Management Guide.” CIRIA, Classic House, 2012. [http://www.ciria.org/service/Web\\_Site/AM/ContentManagerNet/ContentDisplay.aspx?Section=Web\\_Site&ContentID=22853](http://www.ciria.org/service/Web_Site/AM/ContentManagerNet/ContentDisplay.aspx?Section=Web_Site&ContentID=22853).
- “Beijing Report.” Accessed October 9, 2012. <http://www.unep.org/publications/eBooks/beijing-report/pdfs/BeijingReport.pdf>.
- Beyond the Finish.pdf*. Forum for the Future. Accessed March 7, 2013. [http://www.forumforthefuture.org/sites/default/files/images/GreenFutures/Beyond\\_the\\_Finish/Beyond%20the%20Finish.pdf](http://www.forumforthefuture.org/sites/default/files/images/GreenFutures/Beyond_the_Finish/Beyond%20the%20Finish.pdf).
- BioRegional. “Reuse And Recycling on the London 2012 Olympic Park.” Accessed February 21, 2013. <http://www.bioregional.com/files/publications/Reuse-and-recycling-on-London-2012-olympic-park-Oct-2011.pdf>.
- Cantelon, Hart, and Michael Letters. “The Making of the Ioc Environmental Policy as the Third Dimension of the Olympic Movement.” *International Review for the Sociology of Sport* 35, no. 3 (September 1, 2000): 294–308. doi:10.1177/101269000035003004.
- CNN. “London Olympics by the Numbers.” Accessed December 5, 2012. <http://www.cnn.com/2012/07/27/world/olympics-numbers/index.html>.
- “Coca-Cola | Olympic Sponsor, Non-Alcoholic Beverages | Olympic.org.” Accessed December 10, 2012. <http://www.olympic.org/sponsors/coca-cola>.
- “Coca-Cola Great Britain Commits To Measure The Social Value Of Its Sponsorship Of The London 2012 Olympic And Paralympic Games.” *Coca-Cola GB*. Accessed March 30, 2013. <http://www.coca-cola.co.uk/press-centre/2012/april/coca-cola-measure-social-value.html>.
- Collins, Andrea, Andrew Flynn, Max Munday, and Annette Roberts. “Assessing the Environmental Consequences of Major Sporting Events: The 2003/04 FA Cup Final.” *Urban Studies* 44, no. 3 (March 1, 2007): 457–476. doi:10.1080/00420980601131878.
- Commission For A Sustainable London 2012: Post Games Report*. Commission For A Sustainable London. Accessed March 7, 2013. [http://www.cs london.org/wp-content/uploads/downloads/2012/11/CSL\\_Post%20Games%20Report\\_Final.pdf](http://www.cs london.org/wp-content/uploads/downloads/2012/11/CSL_Post%20Games%20Report_Final.pdf).
- “Delivering Change: London 2012 Pre-Games Sustainability Report.” Accessed October 11, 2012. [http://www.london2012.com/mm%5Cdocument%5CPublications%5CSustainability%5C01%5C25%5C43%5C65%5Cpre-games-sustainability-report\\_Neutral.pdf](http://www.london2012.com/mm%5Cdocument%5CPublications%5CSustainability%5C01%5C25%5C43%5C65%5Cpre-games-sustainability-report_Neutral.pdf).
- Dragun, Andrew K., and Kristin M. Jakobsson, eds. *Sustainability and Global Environmental Policy: New Perspectives*. Edward Elgar Pub, 1997.
- Drori, Gili S., John W. Meyer, and Hokyung Hwang, eds. *Globalization and Organization: World Society and Organizational Change*. Oxford University Press, USA, 2006.

- Frey, Marco. "The Impact of Wide-scale Sport Events on Local Development: An Assessment of the XXth Torino Olympics Through the Sustainability Report". Accessed January 26, 2013. [http://www.academia.edu/734054/The\\_impact\\_of\\_wide-scale\\_sport\\_events\\_on\\_local\\_development\\_an\\_assessment\\_of\\_the\\_XXth\\_Torino\\_olympics\\_through\\_the\\_sustainability\\_report](http://www.academia.edu/734054/The_impact_of_wide-scale_sport_events_on_local_development_an_assessment_of_the_XXth_Torino_olympics_through_the_sustainability_report).
- Gee, Mark. "Blinkered Justice: London 2012: Sustainable Partners?" *Blinkered Justice*, November 26, 2011. <http://blinkeredjustice.blogspot.com/2011/11/london-2012-sustainable-partners.html>.
- "How the Olympics' Costs Vaulted from Early Estimates to £11bn Tab." *International Business Times*, July 23, 2012. <http://www.ibtimes.co.uk/articles/365848/20120723/london-2012-olympic-games-hosting-cost-taxpayers.htm>.
- International Olympic Committee. "FOCUS on Sport and Sustainability." Accessed April 6, 2013. <http://www.uncsd2012.org/index.php?page=view&type=400&nr=304&menu=45>.
- Kenyon, James, and Clive Palmer. "Funding and Sponsorship: The Commercial Impact of the 2012 London Olympic Games — Some Considerations." *Journal of Qualitative Research in Sports Studies* 2, no. 1: 29–44. Accessed February 2, 2013.
- Lechner, Frank J., and John Boli. *World Culture: Origins and Consequences*. 1st ed. Wiley-Blackwell, 2005.
- Lenskyj, Helen Jefferson. *Inside the Olympic Industry: Power, Politics, and Activism*. State Univ of New York Pr, 2000.
- Lesjø, Jon Helge. "LILLEHAMMER 1994 Planning, Figurations and the 'Green' Winter Games." *International Review for the Sociology of Sport* 35, no. 3 (September 1, 2000): 282–293. doi:10.1177/101269000035003003.
- LOCOS Sustainable Sourcing Code, July 2011. <http://www.london2012.com/documents/locog-publications/sustainable-sourcing-code.pdf>.
- "London 2012 Drives New International Standard for Sustainable Event Management - London 2012 Olympics." Accessed November 1, 2012. <http://www.london2012.com/media-centre/article=london-2012-drives-new-international-standard-for-sustainable-event-management.html>.
- London 2012 Post Games Sustainability Report*, December 2012.
- London Organizing Committee of the Olympic Games. *Delivering Change: London 2012 Pre-Games Sustainability Report*, April 2012. [http://www.london2012.com/mm%5CDocument%5CPublications%5CSustainability%5C01%5C25%5C43%5C65%5Cpre-games-sustainability-report\\_Neutral.pdf](http://www.london2012.com/mm%5CDocument%5CPublications%5CSustainability%5C01%5C25%5C43%5C65%5Cpre-games-sustainability-report_Neutral.pdf).
- Mamudi, Sam. "An Olympic Games Only the Sponsors Could Love." *Market Watch*, July 27, 2012. [http://articles.marketwatch.com/2012-07-27/general/32871127\\_1\\_london-olympics-olympic-and-paralympic-games-olympic-committee-last-month](http://articles.marketwatch.com/2012-07-27/general/32871127_1_london-olympics-olympic-and-paralympic-games-olympic-committee-last-month).
- "Making the Most of Olympic Sponsorships." *MarketWatch*. Accessed February 14, 2013. <http://www.marketwatch.com/story/making-the-most-of-olympic-sponsorships-2012-06-12>.
- "Manual on Sport and the Environment." Accessed October 9, 2012. [http://www.olympic.org/Documents/Commissions\\_PDFfiles/manuel\\_sport\\_environment\\_en.pdf](http://www.olympic.org/Documents/Commissions_PDFfiles/manuel_sport_environment_en.pdf).
- MT Waste Management. "New Plant Represents Mixed-Plastics Management Breakthrough." Accessed March 7, 2013.

- [http://www.mtwaste.co.uk/index.php/news/detail/new\\_plant\\_represents\\_mixed-plastics\\_management\\_breakthrough/](http://www.mtwaste.co.uk/index.php/news/detail/new_plant_represents_mixed-plastics_management_breakthrough/).
- “National Olympic Committees (NOC) | Olympic Movement Constituent.” Accessed December 9, 2012. <http://www.olympic.org/national-olympic-committees>.
- Olympic Games Impact Study- London 2012: Pre-Games Report*. Economic and Social Research Council, October 2010. [http://www.uel.ac.uk/geo-information/documents/UEL\\_TGIfS\\_PreGames\\_OGI\\_Release.pdf](http://www.uel.ac.uk/geo-information/documents/UEL_TGIfS_PreGames_OGI_Release.pdf).
- “Olympic Movement’s Agenda 21.” Accessed October 11, 2012. [http://www.olympic.org/documents/reports/EN/en\\_report\\_300.pdf](http://www.olympic.org/documents/reports/EN/en_report_300.pdf).
- “Olympic Studies: Current Intellectual Crossroads.” Accessed October 11, 2012. <http://www.aafla.org/SportsLibrary/Books/OlympicStudies.pdf>.
- Paquette, Justine. “The Interpretation of Environmental Sustainability (ES) by the IOC/Olympic Games 1994-2008.” Applied Health Sciences Brock University. Accessed January 25, 2013. [http://dr.library.brocku.ca/bitstream/handle/10464/3038/Brock\\_Paquette\\_Justine\\_2010.pdf?sequence=1](http://dr.library.brocku.ca/bitstream/handle/10464/3038/Brock_Paquette_Justine_2010.pdf?sequence=1).
- Redclift, Michael. “Sustainable Development (1987–2005): An Oxymoron Comes of Age.” *Sustainable Development* 13, no. 4 (2005): 212–227. doi:10.1002/sd.281.
- Report of the Secretary-General. *Cooperation Between the United Nations and All Relevant Partners, in Particular the Private Sector*. United Nations: General Assembly, August 28, 2001. <http://www.un.org/documents/ga/docs/56/a56323.pdf>.
- Resolution Adopted by the General Assembly: 2005 World Summit Outcome*. United Nations General Assembly, October 24, 2005. [http://data.unaids.org/Topics/UniversalAccess/worldsummitoutcome\\_resolution\\_24oct2005\\_en.pdf](http://data.unaids.org/Topics/UniversalAccess/worldsummitoutcome_resolution_24oct2005_en.pdf).
- “Resolution Adopted by the General Assembly: 2005 World Summit Outcome.” Accessed February 18, 2013. [http://data.unaids.org/Topics/UniversalAccess/worldsummitoutcome\\_resolution\\_24oct2005\\_en.pdf](http://data.unaids.org/Topics/UniversalAccess/worldsummitoutcome_resolution_24oct2005_en.pdf).
- Sorrell, Emma. Interview Simon Lewis. Accessed February 20, 2013. [https://docs.google.com/a/oxy.edu/viewer?a=v&pid=gmail&attid=0.1&thid=13cf5b0f1cc89da8&mt=application/vnd.openxmlformats-officedocument.wordprocessingml.document&url=https://mail.google.com/mail/u/0/?ui%3D2%26ik%3Db0b0faeabb%26view%3Datt%26th%3D13cf5b0f1cc89da8%26attid%3D0.1%26disp%3Dsafe%26realattid%3Df\\_hddxpknw0%26zw&sig=AHIEtbSnHxYIMUn9Ou-Y-tU38BxA3w\\_gUw](https://docs.google.com/a/oxy.edu/viewer?a=v&pid=gmail&attid=0.1&thid=13cf5b0f1cc89da8&mt=application/vnd.openxmlformats-officedocument.wordprocessingml.document&url=https://mail.google.com/mail/u/0/?ui%3D2%26ik%3Db0b0faeabb%26view%3Datt%26th%3D13cf5b0f1cc89da8%26attid%3D0.1%26disp%3Dsafe%26realattid%3Df_hddxpknw0%26zw&sig=AHIEtbSnHxYIMUn9Ou-Y-tU38BxA3w_gUw).
- Interview with Olivia Knight-Adams, n.d.
- Stecklow, Steve. “How a Global Web of Activists Gives Coke Problems in India.” *The Wall Street Journal*, June 7, 2005. <http://www.indiaresource.org/news/2005/1062.html>.
- “Sustainability\_Through\_Sport.pdf.” Accessed October 10, 2012. [http://www.olympic.org/Documents/Commissions\\_PDFfiles/SportAndEnvironment/Sustainability\\_Through\\_Sport.pdf](http://www.olympic.org/Documents/Commissions_PDFfiles/SportAndEnvironment/Sustainability_Through_Sport.pdf).
- Sustainable Events Guidelines*. London Organizing Committee for the Olympic Games, February 2009. <http://www.sel.org.uk/uploads/London-2012-Sustainable-Events-Guideline-Feb-09.pdf>.

- “Sustainable Olympic Games: A Dream or a Reality?” Accessed October 10, 2012.  
[http://www.omero.unito.it/web/Furrer%20\(eng.\).PDF](http://www.omero.unito.it/web/Furrer%20(eng.).PDF).
- “The Cities Programme - The Cities Programme.” *Global Compact Cities Programme*. Accessed April 7, 2013. <http://citiesprogramme.com/aboutus/the-cities-programme>.
- The Coca-Cola Company. *Coca-Cola: Our Sustainability Legacy*. Accessed March 7, 2013.  
[http://www.resource.uk.com/sites/default/files/Coca-Cola\\_Our\\_Sustainability\\_Legacy\\_FINAL\\_REPORT.pdf](http://www.resource.uk.com/sites/default/files/Coca-Cola_Our_Sustainability_Legacy_FINAL_REPORT.pdf).
- “The Coca-Cola Company Accelerates Global Production of Plastic Packaging Made from Plants,” September 27, 2012. [http://www.csrwire.com/press\\_releases/34674-The-Coca-Cola-Company-Accelerates-Global-Production-Of-Plastic-Packaging-Made-From-Plants](http://www.csrwire.com/press_releases/34674-The-Coca-Cola-Company-Accelerates-Global-Production-Of-Plastic-Packaging-Made-From-Plants).
- “What Is PlantBottle Packaging? PlantBottle PET Plastic Packaging : FAQ.” *Coca-Cola GB*. Accessed March 7, 2013. <http://www.coca-cola.co.uk/faq/environment/what-is-plantbottle-packaging.html>.
- The Lancet. “Chariots of Fries.” *The Lancet* 380, no. 9838 (July 2012): 188. doi:10.1016/S0140-6736(12)61198-2.
- Toohy, K., and A. J. Veal. *The Olympic Games: A Social Science Perspective*. First Edition. CABI, 1999.
- “Towards a One Planet Olympics.” Accessed October 28, 2012.  
[http://www.london2012.com/mm/Document/Publications/Sustainability/01/25/66/62/One-planet-olympics-2005\\_Neutral.pdf](http://www.london2012.com/mm/Document/Publications/Sustainability/01/25/66/62/One-planet-olympics-2005_Neutral.pdf).
- Towards a One Planet Olympics*. London 2012. Accessed October 28, 2012.  
[http://www.london2012.com/mm/Document/Publications/Sustainability/01/25/66/62/One-planet-olympics-2005\\_Neutral.pdf](http://www.london2012.com/mm/Document/Publications/Sustainability/01/25/66/62/One-planet-olympics-2005_Neutral.pdf).
- “Towards A One Planet Olympics Revisited.” Accessed October 28, 2012.  
<http://www.bioregional.com/files/publications/towards-a-one-planet-olympics-revisited.pdf>.
- United Nations Global Compact. *Number of Expelled Companies Reaches 2,000 as Global Compact Strengthens Disclosure Framework*. United Nations Global Compact, January 20, 2011. <http://www.unglobalcompact.org/news/95-01-20-2011>.
- “United Nations Global Compact: The Ten Principles.” *United Nations Global Compact*. Accessed March 30, 2013.  
<http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/>.
- “Will London 2012 Sponsors BP, Dow, EDF and Rio Tinto Tarnish the Olympic Brand?” *The Ecologist*. Accessed January 8, 2013.  
[http://www.theecologist.org/News/news\\_analysis/1165157/will\\_london\\_2012\\_sponsors\\_bp\\_dow\\_edf\\_and\\_rio\\_tinto\\_tarnish\\_the\\_olympic\\_brand.html](http://www.theecologist.org/News/news_analysis/1165157/will_london_2012_sponsors_bp_dow_edf_and_rio_tinto_tarnish_the_olympic_brand.html).
- World Commission on Environment and Development. *Report of the World Commission on Environment and Development: Our Common Future*. Accessed February 18, 2013.  
<http://www.un-documents.net/wced-ocf.htm>.
- Young, and Wamsley. *Global Olympics: Historical and Sociological Studies of the Modern Games*. 1st ed. Emerald Group Publishing Limited, 2005.