

CREATING A SUSTAINABLE OLYMPIC GAMES

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INTRODUCTION

It is a symbol recognized throughout the world – five interconnected rings of brilliant and bold colors.¹ The Olympic Symbol represents the five inhabited continents interconnected, while the rings' colors encompass the shades included in each nation's flag in the global community.² The first modern Olympic Games were held in 1894 in

1. Robert Knight Barney, *This Great Symbol: Tricks of History*, 301 OLYMPIC R. 627, 627 (1992).

2. *Id.* at 629.

Athens, Greece.³ Tracing its roots to antiquity, the Olympic Games sought to unify the world through peace, competition, and sport.⁴

Since its modern inception over one-hundred-and-twenty years ago the Olympic Games have valiantly trumpeted these values and withstood both World Wars, the de-colonization period of the 1960s, and the Cold War.⁵ Yet, despite initiating programs, committees, and promises for over two decades, the Olympic Games have failed to respond properly to global anthropogenic climate disruption and the Olympic Games impact on the earth's environment.⁶

This paper seeks to explore the Olympic Games' relationship with anthropogenic climate disruption: the International Olympic Committee's [hereinafter IOC] response to developing international law, the Olympic Games' impact on sustainable culture and the natural environment (both positive and negative), and a normative framework built off of existing platforms and programs to allow the IOC to better address the deteriorating natural world. Divided into three sections, the paper presents a comprehensive narrative of the Olympic Games and climate change. The first section will present and explain the current paradigms in sustainability, environmental awareness, and the IOC's current programs and responses to anthropogenic climate disruption.⁷ The second section will examine past and future Olympic Games: how each Game either advanced or abandoned sustainable practices and the national and localized responses to the Olympic Games in the context of the environment.⁸ The third section will attempt to provide an alternative program for the IOC to adopt.⁹

SECTION I

A. The International Community's Response to Global Climate Change,

3. Brian Chalkley & Stephen Essex, *Learning from the Olympic Games*, 25 TEACHING GEOGRAPHY 112, 112-13 (2000).

4. *Id.*

5. Evelyn S. Meyer, *The Olympic Games and World Politics: A Select Annotated Bibliography*, 23 RQ 297, 297-99 (1984).

6. See generally INTERNATIONAL OLYMPIC COMMITTEE, INTERNATIONAL OLYMPIC COMMITTEE ANNUAL REPORT 2014: CREDIBILITY, SUSTAINABILITY AND YOUTH 96 (2014).

7. *Infra* Section I.

8. *Infra* Section II. Additionally, at point of publication the 'future' games may be 'past' games.

9. *Infra* Section III. This section will present a framework hoping to strengthen existing initiatives, introduce new guidelines, and establish new protocols to combat global climate change and mitigate the Olympic Games consequences on the natural environment.

the IOC, & Sustainable Olympic Initiatives

“Climate change, because of its all-embracing nature and its roots in essential human activities, poses an enormous challenge for international cooperation.”¹⁰

B. Late-Twentieth Century's International Response to Climate Disruption

The IOC's endorsement of environmental awareness and focus on sustainable development was responsive in nature rather than propulsive. Prior to the IOC's dedication to environmental causes, members of the global community were taking part in radical and revolutionary measures to address the earth's increasingly fragile climate. In 1987, the nations of the world partnered to institute the Montreal Protocol,¹¹ followed by the United Nations Earth Summit in Rio de Janeiro in 1992,¹² and closing the millennium with the Kyoto Protocol in 1997.¹³

1. Montreal Protocol

Once heralded for both their scientific and commercial achievements, chlorofluorocarbons [hereinafter CFCs] began to come under intense international scrutiny during the 1970s and 1980s.¹⁴ CFCs represented a tangible threat to the global community requiring coordinated action due to their significant “role in stratospheric ozone destruction.”¹⁵

In 1985, the Vienna Convention was adopted to formalize international cooperation on this issue. Additional efforts resulted

10. John Vogler, *Environmental Issues*, in *THE GLOBALIZATION OF WORLD POLITICS: AN INTRODUCTION TO INTERNATIONAL RELATIONS* 347, 359 (John Baylis et al. eds., 5th ed. 2011). John Vogler is a professor of international relations with Keele University in the United Kingdom.

11. *The Montreal Protocol on Substances that Deplete the Ozone Layer*, UNITED NATIONS ENVIRONMENT PROGRAMME (2015), available at <http://ozone.unep.org/en/treaties-and-decisions/montreal-protocol-substances-deplete-ozone-layer> (last visited Mar. 27, 2017).

12. *UN Conference on Environment and Development (1992)*, UNITED NATIONS (May 23, 1997), available at <http://www.un.org/geninfo/bp/enviro.html> (last visited Mar. 27, 2017).

13. See *Kyoto Protocol*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (2014), available at http://unfccc.int/kyoto_protocol/items/2830.php (last visited Mar. 14, 2017).

14. *Ozone Layer Protection: International Treaties and Cooperation*, ENVIRONMENTAL PROTECTION AGENCY, available at <https://www.epa.gov/ozone-layer-protection/international-treaties-and-cooperation> (last visited May 30, 2017) [hereinafter *Ozone Science*].

15. RICHARD MEYERS, *BASICS OF THE HARD SCIENCES: THE BASICS OF CHEMISTRY* 202 (2003).

in the signing of the Montreal Protocol in 1987. The original protocol would have reduced the production of CFCs by half by 1998. After the original Protocol was signed, new measurements showed worse damage to the ozone layer than was originally expected. In 1992, reacting to the latest scientific assessment of the ozone layer, the Parties to the Protocol decided to completely end production of halons by the beginning of 1994 and of CFCs by the beginning of 1996 in developed countries.¹⁶

The Montreal Protocol is significant for many reasons; among the more important contributions, it represented a first in international law – a multinational treaty addressing and acknowledging anthropogenic climate disruption.¹⁷ Thus, the Montreal Protocol created a mark in time, representing a shift in the international zeitgeist and establishing a new paradigm in international thought and policy: the global environment is a universal concern, requiring uniformed multinational action.¹⁸

Beyond the importance of establishing a new wave of environmental international efforts, the Montreal Protocol represented a shift in the collective conscious of society in general.¹⁹ The Montreal Protocol was a response to a growing societal concern as much as it was a response to a growing scientific consensus.²⁰ Health, travel, and air quality were among the general population's concerns regarding the depletion of the ozone due to CFCs.²¹ In addition to concerns originating from the public concerning CFCs, the Montreal Protocol provided a platform for a cross-section of the uninformed public to become familiar with a new phase of the environmental movement.²²

16. *Ozone Science*, *supra* note 15.

17. See Peter M. Morrisette, *The Evolution of Policy Responses to Stratospheric Ozone Depletion*, 29 NAT. RES. J. 793, 794 (1989) (stating “[t]he Montreal Protocol is a landmark agreement in that it is the first international treaty for mitigating a global atmospheric problem before serious environmental impacts have been conclusively detected”).

18. Donald Kaniaru et al., *Strengthening the Montreal Protocol by Accelerating the Phase-Out of HCFCs at the 20th Anniversary Meeting of the Parties: Supplement, Frequently Asked Questions*, in THE MONTREAL PROTOCOL: CELEBRATING 20 YEARS OF ENVIRONMENTAL PROGRESS (Donald Kaniaru ed. 2007).

19. See generally Brian J. Gareau, *The Limited Influence of Global Civil Society: International Environmental Non-Governmental Organisations and the Methyl Bromide Controversy*, 88 ENVTL. POL. 88, 90 (2012).

20. See Morrisette, *supra* note 18, at 793-94.

21. See generally *id.* at 793-804.

22. Richard E. Benedick, *Lessons from the Montreal Protocol*, ENCYCLOPEDIA OF EARTH (Cutler J. Cleveland ed., May 19, 2007, 10:03 PM), available at <http://www.eoearth.org/view/article/154231/> (last visited Mar. 14, 2017).

2. *United Nations Earth Summit in Rio de Janeiro*

In 1992, the nations of the world again addressed the earth's climate, this time in the form of the United Nations Conference on Environment and Development, more commonly known as the United Nations Earth Summit in Rio de Janeiro.²³ This event, similar to the Montreal Protocol five years earlier, represented a first in international environmental politics and law. "National governments, international organizations, and the business sector," took part in a trilateral discussion concerning sustainable development and anthropogenic climate disruption.²⁴ The goal of the United Nations Conference on Environmental Development was to establish a comprehensive international framework to properly address the serious issues presented by climate change.²⁵ The actors and stakeholders present during the discussions attempted to represent the diverse interests concerned with the preservation of natural resources and maintaining robust national economies.²⁶

The consequences of the Earth Summit in Rio de Janeiro were numerous, but the discussions produced three tangible documents: the Rio Declaration on Environment and Development, the Statement of Principles for the Sustainable Management of Forests, and Agenda 21.²⁷ The Rio Declaration on Environment and Development is a non-binding

23. Vogler, *supra* note 11, at 350; *see also* ARTUR PAWLOWSKI, SUSTAINABLE DEVELOPMENT AS A CIVILIZATIONAL REVOLUTION: A MULTIDISCIPLINARY APPROACH TO THE CHALLENGES OF THE 21ST CENTURY 21 (2011).

24. Luis E. Sánchez & Peter Croal, *Environmental Impact Assessment, From Rio-92 to Rio+20 and Beyond*, 15 AMBIENTE & SOCIEDADE 41, 42 (2012).

25. Ida Kubiszewski & Cutler J. Cleveland, *United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, Brazil*, ENCYCLOPEDIA OF EARTH, available at <http://www.eoearth.org/view/article/156773/> (last visited Mar. 17, 2017) (stating "[t]he central focus was the question of how to relieve the global environmental system through the introduction to the paradigm of sustainable development. This concept emphasizes that economic social progress depend critically on the preservation of the natural resource base with effective measures to prevent environmental degradation").

26. *Id.*

27. U.N. Conference on Environment & Development, Agenda 21 (June 3-14, 1992), available at <https://sustainabledevelopment.un.org/outcomedocuments/agenda21> (last visited Mar. 20, 2017).

referendum.²⁸ The declaration institutes twenty-seven principles furthering the preservation of the natural environment.²⁹

Agenda 21, a name later adopted by the IOC for its environmental declaration, is a non-binding action plan for nations to combat climate change, while ensuring sustainable national economics and institutional infrastructure.³⁰ Incorporating four areas of sustainability – social, economic, environmental, and institutional – Agenda 21 charges each nation to develop national policies implementing these different facets of sustainability and for non-governmental organizations to be cognizant of these different dimensions of sustainable practices.³¹ While each national government and non-governmental organizations' response to Agenda 21 varied, it is viewed as a seminal piece of international law concerning climate change and sustainable economies.³²

3. *Kyoto Protocol*

Where Agenda 21 and the Rio Earth Summit sought to establish international guidelines and guiding principles to combat climate change, the Kyoto Protocol attempted to advance internationally binding standards and policies to combat greenhouse gas emissions.³³ Greenhouse gases such as methane, carbon dioxide, and hydrofluorocarbons (HFCs) were targeted by providing signatories with a variety of methods and incentives to achieve reductions in each gas's

28. Robert Palmer & Melissa Nursey-Bay, *Rio Declaration on Environment and Development*, in *ENCYCLOPEDIA OF ENV'T & SOC'Y* 1512, 1512-1514 (Paul Robbins ed., 2007); see also U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development* (June 3-14, 1992), available at <http://www.unep.org/documents.multilingual/default.asp?documentid=78&articleid=1163> (last visited Mar. 20, 2017).

29. Palmer & Nursey-Bay, *supra* note 29, at 1513.

30. Wendell Cox et al., *Focus on Agenda 21 Should Not Divert Attention from Homegrown Anti-Growth Policies*, HERITAGE FOUNDATION (Dec. 21, 2011), available at <http://www.heritage.org/research/reports/2011/12/focus-on-agenda-21-should-not-divert-attention-from-homegrown-anti-growth-policies> (last visited Mar. 20, 2017).

31. Joachim H. Spangenberg et al., *Towards Indicators for Institutional Sustainability: Lessons from Analysis of Agenda 21*, 2 *ECOLOGICAL INDICATORS* 61, 66-67 (2002).

32. See generally Katarina Eckerberg et al., *Sweden: Setting the Pace with Pioneer Municipalities and Schools*, in *FROM EARTH SUMMIT TO LOCAL AGENDA 21: WORKING TOWARDS SUSTAINABLE DEVELOPMENT* 45, 50 (William M. Lafferty & Katarina Eckerberg eds., 1998).

33. Robert Henson, *What is the Kyoto Protocol and has it Made a Difference?*, *GUARDIAN* (Mar. 11, 2011), available at <http://www.theguardian.com/environment/2011/mar/11/kyoto-protocol> (last visited Mar. 20, 2017).

emission levels.³⁴ The results of the Kyoto Protocol have been mixed.³⁵ While there have been issues with nations adopting, ratifying, and continuing to support the Kyoto Protocol,³⁶ the Kyoto Protocol remains an important piece of international law, especially within the field of international environmental and climate change law.³⁷

“The Kyoto Protocol was the world’s first international agreement on how to tackle climate change, and an important tool that governments around the world have used. . .”³⁸ Recognizing that the climate and its deterioration is a universal concern, the Kyoto Protocol acknowledged different nations have varying levels of culpability in terms of negative contributions towards climate change.³⁹ To combat this disparity, the Kyoto Protocol tactically exempted certain countries from measures and held other nations to higher standards of responsibility.⁴⁰ The Kyoto Protocol’s proportional approach to emissions contribution led some countries, including the United States, to refuse to ratify the treaty.⁴¹ Despite its shortcomings, the Kyoto Protocol represented progress in addressing climate disruption – illustrating future international climate treaties may become increasingly authoritative and unified.⁴²

34. *Kyoto Protocol: International Treaty, 1997*, ENCYCLOPEDIA BRITANNICA (Dec. 14, 2015), available at <http://www.britannica.com/event/Kyoto-Protocol> (last visited Mar. 20, 2017). Countries could use ‘sinks’ to reach its target emission reduction, this method utilizes offsetting greenhouse gases by capturing emissions, most typically through planting and/or preserving trees; another method to reduce emissions is through the ‘Clean Development Mechanism,’ which assists and encourages nations to utilize clean technologies. *Id.*

35. Romain Morel & Igor Shishlove, *Ex-Post Evaluation of the Kyoto Protocol: Four Key Lessons for the 2015 Paris Agreement*, CDC CLIMATE RESEARCH 1, 30, available at http://www.cdclimat.com/IMG/pdf/14-05_climate_report_no44_-_analysis_of_the_kp-2.pdf (last visited Mar. 20, 2017).

36. See *Problems with the Protocol*, HARV. MAG. (Nov./Dec. 2002), available at <http://harvardmagazine.com/2002/11/problems-with-the-protoc.html> (last visited Mar. 20, 2017); see also Robert Coppock, *Implementing the Kyoto Protocol*, ISSUES IN SCI. & TECH. (1998), available at <http://issues.org/14-3/coppock/> (last visited Mar. 20, 2017).

37. *The Kyoto Protocol*, GREEN PLANET ADVERTISER, available at www.greenplanetadvertiser.com/kyoto.doc (last visited Mar. 20, 2017).

38. *Id.*

39. *Id.*

40. *Id.*

41. *Id.*

42. *A Summary of the Kyoto Protocol*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, available at http://unfccc.int/kyoto_protocol/background/items/2879.php (last visited Mar. 27, 2017).

C. The IOC

The IOC, being a multinational organization,⁴³ was greatly influenced by the environmental movement of the late-twentieth-century and the growing body of international law concerning sustainability and climate change.⁴⁴

1. The Centennial Olympic Congress

In 1994 the IOC officially “recognised the importance of the environment and sustainable development,” during the Centennial Olympic Congress, Congress of Unity.⁴⁵ The Centennial Olympic Congress reviewed a century’s worth of accomplishments and contributions the Olympic Games had provided the global community since its modern foundations in 1894.⁴⁶ Beyond acknowledging the impact of the Olympic Games on modern civil society, the Centennial Olympic Congress established a platform to propel the Olympic Games into the twenty-first century.⁴⁷ The Olympic Games and the environment were among the key topics of discussion.⁴⁸

Five tenets were established by the Centennial Olympic Congress to guide the IOC in addressing the growing concerns about environmental degradation.⁴⁹ Similarly, the IOC designated environmental awareness as a fundamental principle of the Olympic Charter.⁵⁰ The Congress likewise created the Environment Commission and an emphasis was placed on establishing partnerships with existing environmental

43. *International Olympic Committee Members*, OLYMPICS, available at <http://www.olympic.org/ioc-members-list> (last visited Mar. 27, 2017).

44. See Ryan Leitner, *Greenpeace Pressures Coca-Cola to Phase Out HFC Refrigeration for Olympic Games in Australia 2000-2004*, SWARTHMORE COLLEGE (Dec. 4, 2014), available at <http://nvdatabase.swarthmore.edu/content/greenpeace-pressures-coca-cola-phase-out-hfc-refrigeration-olympic-games-australia-2000-2004> (last visited Mar. 27, 2017); see also INTERNATIONAL OLYMPIC COMMITTEE SUSTAINABILITY THROUGH SPORT 2 (2012) (stating “[The International Olympic Committee and the United Nations Environment Programme’s] successful partnership carries forward the ambitions of the Rio Earth Summit of 1992”); see also JOHN KARAMICHAS, *THE OLYMPIC GAMES AND THE ENVIRONMENT* 203 (2013).

45. INTERNATIONAL OLYMPIC COMMITTEE, *FACTSHEET: THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT 1* (2014) [hereinafter, *FACTSHEET*].

46. See *Centennial Olympic Congress: Congress of Unity*, 322 OLYMPIC R. 395, 395 (1994).

47. See *id.* at 395-99 (discussing the Olympics’ responsibility to aid the developing world, reducing economic inequality, abating political unrest, and promoting international understanding, among the importance of the environment).

48. *Id.* at 395.

49. *Id.*

50. *Id.*

organizations.⁵¹ Finally, the Centennial Olympic Congress stipulated that sustainable development and environmental criterion would be considered in the selection process for Olympic Games host cities.⁵²

2. *Establishing an Environmental Initiative*

Following the Centennial Olympic Congress, the IOC worked diligently to translate the promises from the Congress into tangible initiatives. The environment became a pillar of the Olympic Charter and the United Nations Environmental Programme (UNEP) began a partnership with the IOC.⁵³ The IOC added language to the Olympic Charter, creating a responsibility for the IOC to “encourage and support a responsible concern for environmental issues, to promote sustainable development in sport and to require that the Olympic Games are held accordingly.”⁵⁴ The language added by the IOC into the Olympic Charter was modeled after the language composing the United Nations Environment Programme [hereinafter UNEP], Sport and Environment Division’s platform; the United Nations Environment Programme, Sport and Environment’s mission and stated purpose is echoed and reflected in the added text.⁵⁵

Through the partnership between the UNEP and the IOC, the World Conference on Sport and Environment began.⁵⁶ During the first Conference on Sport and Environment in 1995, the IOC founded the

51. *Id.*

52. *Centennial Olympic Congress: Congress of Unity*, *supra* note 47, at 395.

53. Charles W. Schmidt, *Putting the Earth in Play: Environmental Awareness and Sports*, 114 ENVTL. HEALTH PERSP. A286, A288 (2006). The UNEP, in 1994, likewise began to focus on the relationship between sports and the environment – the organization began the Sports and Environment Program, which “promot[ed] environmental awareness through sports as well as the design of sustainable sports facilities and equipment.” *Id.*

54. Olympic Charter rule 2, para. 13.

55. *About UNEP, Sport and the Environment*, UNITED NATIONS ENVIRONMENT PROGRAMME, available at http://www.unep.org/sport_env/about.aspx (last visited Mar. 27, 2017) (stating “[t]he most significant way sport can benefit the environment and sustainable development is through its popularity. Sports stars are among the world’s most famous and revered people. They display qualities we all need: courage, application, refusal to submit to adversity, leadership. Their potential as ambassadors, as promoters of sustainable ways of living, is enormous. The power for good that sport represents can be harnessed and channeled to help make our world a better place. By virtue of its prominence and influence, sport can become a powerful agent for change, leading society at large. It can lead by example, showing other sectors and the general public the road to and the benefits of sustainability. Sports organizations can act as catalysts to protect and enhance the environment”).

56. Schmidt, *supra* note 54.

Sport and Environment Commission as a subdivision of the IOC.⁵⁷ The former Sport and Environment Commission, now the Sustainability and Legacy Commission, is charged with reducing the environmental impact of the Olympic Games and ensuring the events achieve “sustainable environmental legacies.”⁵⁸ The Commission is also responsible for “taking actions to promote awareness among and educate the members of the Olympic Family and sports practitioners in general of the importance of a healthy environment and sustainable development; [and] promoting Olympic Games which respect the environment and meet the standards of sustainable development.”⁵⁹ The Sustainability and Legacy Commission illustrates the concerted effort the IOC has placed on raising environmental awareness and creating lasting positive impacts of the Olympic Games.⁶⁰

The development of the Sustainability and Legacy Commission and its predecessor, in addition to the inclusion of specific language in the Olympic Charter, led to the implementation of Agenda 21. Agenda 21 is the IOC’s governing document concerning environmental guidelines, goals, and policies.⁶¹

3. *Agenda 21*

The IOC adopted Agenda 21 four years after official language concerning the environment was adopted and incorporated into the Olympic Charter.⁶² A comprehensive document surveying a wide-breadth of environmental goals and principles, Agenda 21 represents the action plan for many causes the Olympic Movement hopes to combat.⁶³

57. *Id.* The Sport and Environment commission now goes by Sustainability and Legacy Commission. *Sustainability and Legacy Commission: Mission*, IOC, available at <http://www.olympic.org/sustainability-and-legacy-commission> (last visited Apr. 10, 2017). It should be mentioned that sustainability and environmentalism is such an important mission of the IOC that currently there is no mission statement for the Sustainability and Legacy Commission.

58. *Sustainability and Legacy Commission: Games*, IOC, available at <http://www.olympic.org/sustainability-and-legacy-commission?tab=games> (last visited Mar. 27, 2017).

59. Joseph Tarradellas, *The Olympic Movement and the Environment: University Lecture on the Olympics*, CTR. OLYMPIC STUD., available at http://ceo.uab.cat/download/tarradellas_eng.pdf (last visited May 22, 2017).

60. See generally Becca Leopkey & Milena Parent, *Olympic Games Legacy: From General Benefits to Sustainable Long-Term Legacy*, 924 INT’L J. OF THE HIST. OF SPORT 927-28 (2012).

61. Tarradellas, *supra* note 60.

62. FACTSHEET, *supra* note 46.

63. Justine Paquette et al., *The Interpretation of Environmental Sustainability by the International Olympic Committee and Organizing Committees of the Olympic Games from*

Agenda 21, in a similar fashion to the language adopted in the Olympic Charter, is rooted in the partnership between the United Nations Environment Programme and the IOC – “UNEP...worked with the IOC to develop an ‘Agenda 21’ for the Olympic Movement based on environmental sustainability guidelines created by delegates at the 1992 UN Conference on Environment and Development.”⁶⁴

Agenda 21 is purported to be an integral part of the Olympic Movement.⁶⁵ It “aims to encourage members of the Movement to play an active part in the sustainable development of our planet. [Agenda 21] sets out the basic concepts and general actions needed to ensure that this objective is met.”⁶⁶ Adopted in 1999 during the 109th Session of the IOC Congress, Agenda 21 became the principle institutional mechanism guiding the Olympic Games’ environmental conscience.⁶⁷ Agenda 21 instituted requirements that host cities bidding to become Olympic Game sites, must follow to be eligible to host the games.⁶⁸ The Sustainability and Legacy Commission is the enforcement and overseer of the implementation of Agenda 21.⁶⁹

Among the tenets of Agenda 21 is placing sustainable development among “the values of Olympism,”⁷⁰ creating a “[s]tronger international

1994 to 2008, in *OLYMPIC REFORMS TEN YEARS LATER* 68-69 (Heather Dichter & Bruce Kidd eds., 2012).

64. Schmidt, *supra* note 54.

65. DIKAIA CHATZIEFSTATHIOU & IAN P. HENRY, *DISCOURSE OF OLYMPISM: FROM THE SORBONNE 1894 TO LONDON 2012* 241-42 (2012).

66. Sport & Env’t Comm’n, INT’L OLYMPIC COMM., *OLYMPIC MOVEMENT’S: AGENDA 21: SPORT FOR SUSTAINABLE DEVELOPMENT 21* (1999) [hereinafter *AGENDA 21*] (stating palpable irony hovers over the official document establishing the Olympic Movement’s Agenda 21, as the work was “published with the support of Shell International.” The same company that has done little to combat climate change, and much to exacerbate it); see Sarah Kent, *Shell CEO Defends Arctic Drilling*, *Environment Record*, WASH. POST (May 19, 2015), available at <http://www.wsj.com/articles/shell-ceo-defends-arctic-drilling-environment-record-1432062722> (last visited Mar. 27, 2017) (stating “Shell is also doing some of the most environmentally sensitive drilling work in the world, from Canadian tar sands to the Nigerian Delta. At the heart of that tension sits the company’s controversial plans to drill for oil in the Arctic this summer”).

67. Tarradellas, *supra* note 60, at 7.

68. *See id.*

69. Justine Paquette et al., *The Interpretation of Environmental Sustainability by the International Olympic Committee and Organizing Committees of the Olympic Games from 1994 to 2008*, in *OLYMPIC REFORMS TEN YEARS LATER* 68-69 (Heather Dichter & Bruce Kidd eds., 2012).

70. Dikaia Chatziefstathiou, *Paradoxes and contestations of Olympism in the history of the modern Olympic Movement in OLYMPIC REFORMS TEN YEARS LATER* 45 (Heather Dichter & Bruce Kidd eds., 2012). *See generally* LUCY AMIS, *Striving for Excellence: Mega-Sporting Events and Human Rights*, *INST. HUMAN RIGHTS & BUS.* 18 (Oct. 2013), available at

cooperation for sustainable development,”⁷¹ and designing management programs to ensure these goals are realized.⁷² Beyond these aspirational goals, Agenda 21 requires environmental awareness and sustainability to be integral parts of the Olympic Games.⁷³ Section 3.2 of Agenda 21, entitled *Conservation and Management of Resources and Sustainable Development*, outlines specific methods to achieve sustainable Olympic Games.⁷⁴ These methods include the encouragement of utilizing existing infrastructure, the preservation of resources and the natural environment when necessary to construct new sporting facilities, and the creation of comprehensive land-use plans.⁷⁵ Therefore, Agenda 21’s principle power is exhibited during the bidding process, rather than during the maintenance of the Olympic Games.⁷⁶ Despite these requirements, upon completion of the bidding process, Agenda 21 has few enforcement mechanisms to ensure compliance with the Olympic Movement’s environmental goals.⁷⁷

4. Synopsis of IOC’s Sustainability Initiatives

The current structure of the IOC’s commitment to sustainability and combating global climate disruption is based on encouragement rather than enforcement.⁷⁸ While witnessing an increased public, political, and global response to climate damage during the close of the twentieth century,⁷⁹ the IOC initiated policies and programs to address its role in climate disruption and environmental degradation.⁸⁰ During the 1994 Centennial Olympic Congress, the IOC began developing a coherent plan to incorporate environmental sustainability and development into its

https://www.ihrb.org/pdf/2013-10-21_IHRB_Mega-Sporting-Events-Paper_Web.pdf (last visited March 17, 2017).

71. See AGENDA 21, *supra* note 67, at 24.

72. See generally Keiko Homma & Naofumi Masumoto, *A Theoretical Approach for the Olympic Legacy Study Focusing on Sustainable Sport Legacy*, 30 INT’L J. HIST. SPORT 1455 (2013).

73. See AGENDA 21, *supra* note 67, at 33.

74. *Id.*

75. GREGOR WILTSCHKO, PRINCIPLES OF SUSTAINABLE URBAN DEVELOPMENT IN THE BIDDING PROCESS FOR OLYMPIC GAMES 67-68 (2010).

76. See EMMA SORRELL, OLYMPIC-SIZED OPPORTUNITIES: AN INVESTIGATION OF THE OLYMPIC GAMES AS A TOOL TO PROMOTE AND ADVANCE A SUSTAINABLE AGENDA 19 (2013).

77. See Christine M. O’Bonsawin, *‘No Olympics on Stolen Native Land’: Contesting Olympic Narratives and Asserting Indigenous Rights Within the Discourse of the 2010 Vancouver Games*, 13 SPORT SOC’Y 143, 152-54 (2010).

78. See generally AGENDA 21, *supra* note 67.

79. See generally *supra* Section I(A).

80. See generally *supra* Section I(B).

governing documents and established standing committees and commissions to oversee the program's success.⁸¹ With the adoption of Agenda 21 as the guiding policy to govern the Olympic Games, the IOC appeared poised to close the twentieth century as leaders in the environmental cause and to usher in the twenty-first century as champions for the global climate.⁸²

SECTION II

A SELECTED EXAMINATION OF OLYMPIC GAMES

A. XVI Olympic Winter Games – Albertville, France 1992

Widely considered an environmental disaster, the Albertville Games in 1992 were a turning point for Olympic Games management practices concerning sustainability and the environment.⁸³ The Albertville Games resulted in “irreversible damage”⁸⁴ to the Savoy Region and the reputation of the Olympic Games.⁸⁵

1. Positive Impacts

While few point to the Albertville Games as a high point in Olympic history, the Games are not devoid of positive impact. The Games

81. See *Nairobi Declaration on Sport, Peace and Environment*, UNEP (Nov. 11, 2005), available at <http://hqweb.unep.org/Documents/Multilingual/Default.asp?DocumentID=457&ArticleID=5024&l=en> (last visited Mar. 27, 2017) (“Recalling the commitment of the Olympic Movement to the principles of sustainability since the Centennial Olympic Congress, held in Paris in 1994, the inclusion of the environment as the third pillar of Olympism, alongside sport and culture, and the creation of an International Olympic Committee Commission on Sport and Environment”).

82. See generally SUSTAINABILITY THROUGH SPORT, *supra* note 45.

83. Hart Cantelon & Michael Letters, *The Making of the International Olympic Committee Environmental Policy as the Third Dimension of the Olympic Movement*, 35 INT'L REV. FOR SOC. SPORT 294, 294 (2000); see also Scot Horst, *Let the Sustainability Games Begin*, U.S. GREEN BUILDING COUNCIL (Sept. 24, 2012), available at <http://www.usgbc.org/articles/let-sustainability-games-begin> (last visited Mar. 27, 2017) (stating “[t]he 1992 Winter Olympics in Albertville, Canada were panned as an ‘environmental disaster,’ where new infrastructure was built on once-heavily forested areas filled with vulnerable wildlife”).

84. Michael Rosa, *Countdown to the Olympic Games: Albertville*, OTTAWA CITIZEN (Nov. 16, 1991), F2.

85. See generally James Christie, *The Down Side...Damage to the Environment Uncounted Cost of Olympics*, ST. LOUIS POST DISPATCH, (Feb. 16, 1992), at 8D (stating “[t]here was a protest march before the opening ceremonies. About 60 protesters carried funeral wreaths from the train station in downtown Albertville to the temporary Olympic Stadium to complain about the Olympic legacy of pollution and environmental injury”).

provided improvements to the transportation sector and sparked urban development projects in the hosting Savoy Region.⁸⁶ Additionally, the economically depressed region received an influx of capital from both private investors seeking to capture personal gain from the Olympic Games and from government tax dollars.⁸⁷ During the course of preparation, construction, and maintenance of the Albertville Games, the event received more than one billion dollars in tax support.⁸⁸

Individuals also suggest the Albertville Games were not the primary culprit of the environmental disturbance of the region.⁸⁹ In the decades preceding the bidding process to host the 1992 Olympic Games, the Savoy Region had already experienced significant development.⁹⁰ Residents point specifically to the prior twenty years as the primary contributor to the environmental degradation of the region.⁹¹ “There’s no question the mountains were disturbed, but the big mistakes were made [twenty] years ago when things were built quickly with little attention to the environment . . . The Olympic projects resolved some environmental problems while paying closer attention to ecological fragility than has been customary here in the past.”⁹²

Despite some suggesting the Albertville Games feigned environmentally consciousness, including some officials from the Olympic preparation committee in Albertville,⁹³ other officials affirmed that the Games were designed “to keep the [negative environmental] impact to a minimum.”⁹⁴ A prime example of the environmental considerations in the development of the Albertville Games is “the downhill ski course [that] was diverted to avoid a delicate patch of Alpine wildflowers similar to columbine.”⁹⁵ Similarly, some indicated “the

86. See FACTSHEET, *supra* note 46, at 6.

87. See Howard LaFranchi, *Albertville and Savoie Region Hope Games Will Bring in the Gold*, CHRISTIAN SCI. MONITOR (Feb. 5, 1992), available at <http://www.csmonitor.com/1992/0205/05101.html> (last visited Mar. 27, 2017).

88. *Id.* Much of the governmental financial support was directed towards improving the transportation infrastructure of the region. *Id.*

89. *See id.*

90. *See id.*

91. *Id.*

92. LaFranchi, *supra* note 88.

93. Michael Rose, *Alpine Angst: Winter Spectacle Sparks Concern for Environment and Future Impact*, VANCOUVER SUN, Nov. 16, 1991, at C13.

94. *Id.*

95. Rone Tempest, *The Olympics/Winter Games at Albertville: Going for the Gold: Games Will Either Be the Salvation of Struggling Savoy or the Last Push Down Ski Slope Toward Economic Ruin*, L.A. TIMES (Feb. 2, 1992), available at

chaos of Olympic construction in [Savoy Region] enraged environmentalists but that the actual effect of the finished products would be less cataclysmic than the act of installing them.”⁹⁶

Officials maintained that the construction of the Games was tempered and did not promote over extension or “over-development by local townships.”⁹⁷ Additionally, during the bidding process, other potential host cities had strong and concentrated opposition against having the Olympic Games in their communities.⁹⁸ Albertville did not experience such environmental opposition at the outset of the bidding process,⁹⁹ which suggests that the bidding process considered the environmental consequences of hosting the Olympic Games. Finally, the Albertville Games (in addition to the shifting focus of the international community) required the IOC to address environmental concerns more earnestly within its institutional framework.¹⁰⁰

2. Negative Impacts

The Albertville Games are plagued by accusations of environmental mishandling: “Damage to the ecology has been largely [an] uncounted cost of the XVI Olympic Winter Games;”¹⁰¹ “[t]he Albertville Olympics are an environmental nightmare;”¹⁰² and “[the Albertville Games were] a disaster.”¹⁰³ These criticisms targeted a variety of aspects, including planning, infrastructure, and long-term consequences.¹⁰⁴

http://articles.latimes.com/1992-02-02/sports/sp-2035_1_olympic-games (last visited Mar. 23, 2017).

96. Christie, *supra* note 86; see also *Infrastructure Improvements Provide Albertville Games Legacy*, OLYMPICS (Mar. 1, 2014), available at <http://www.olympic.org/news/infrastructure-improvements-provide-albertville-games-legacy/218916> (last visited Mar. 23, 2017) (exploring the ultimate legacy of the infrastructure in Albertville, indicating many of the Olympic venues are still in use and are not being wasted or crumbling).

97. Rose, *supra* note 94.

98. *See id.*

99. *Id.*

100. THOMAS J. AICHER ET AL., *SPORT FACILITY AND EVENT MANAGEMENT* 284 (2016) (“...the International Olympic Committee...created the IOC Sport and Environment Commission. This was established in 1995 in response to the 1992 Albertville, France, Winter Olympics. In those Games, the construction and running of the events associated with the Games had a devastating impact on the local community. The conditions outraged several environmental groups, prompting the IOC’s response”).

101. Christie, *supra* note 86.

102. Tempest, *supra* note 96.

103. Ken Wells, *Winter Olympics 1992: Use of Disposable Facilities for Games Drawing Fire from Environmentalists*, WALL STREET J., Feb. 19, 1992, at A11.

104. *See id.*

Among the prominent opponents and critics of the Albertville Games was the Rhone Alps Federation for the Preservation of Nature, which issued a list of environmental consequences of the games:

A new freeway was hastily pushed through fragile wetlands and forests without regard for environmental impact; new ski runs were bulldozed across unspoiled high-altitude alpine meadows, ignoring existing alternatives; gargantuan ski-jumping areas, bobsled and luge runs and parking lots have been carved into mountainsides where the geology is known to be unstable; and towering office and condominium complexes have been thrown up in villages and forests where they are out of character with their surroundings.¹⁰⁵

The local group was not alone in its critique, and concerns with “the most virulent criticism of the Games’ environmental impact [coming] from the foreign press.”¹⁰⁶ American, French, and Canadian journalists were among the many that questioned the Games’ ultimate environmental legacy.¹⁰⁷

Detractors of the Albertville Games focused much of their criticisms on the bobsled run in La Plagne.¹⁰⁸ The construction of the bobsled course cost \$40 million and maintenance of the course was estimated to cost more than \$1 million per year.¹⁰⁹ Among the more peripheral criticisms was that the bobsled run was “an expensive eyesore” and it would “be rarely used.”¹¹⁰ The harshest condemnation, and issue of most concern, was focused on the use of ammonia to treat and maintain the ice for the course.¹¹¹

Ammonia, when introduced into an ecosystem, can result in dire consequences to the natural environment.¹¹² Soil acidification,

105. *Id.*

106. LaFranchi, *supra* note 88.

107. See Allan Gold, *Albertville '92: Plan to Share Sites Seems a Long Stretch*, N.Y. TIMES (Feb. 5, 1992), available at <http://www.nytimes.com/1992/02/05/sports/albertville-92-plan-to-share-sites-seems-a-long-stretch.html> (last visited Mar. 23, 2017); see also Thierry Terret, *The Albertville Winter Olympics: Unexpected Legacies – Failed Expectations for Regional Economic Development*, in OLYMPIC LEGACIES: INTENDED AND UNINTENDED: POLITICAL, CULTURAL, ECONOMIC AND EDUCATIONAL 20, 25-27 (J.A. Mangan & Mark Dyreson eds., 2010); see also Rose, *supra* note 94.

108. See Paul Simon, *Bobsleighbing in France: The G-Force is with Us*, GUARDIAN (Dec. 21, 2012), available at <http://www.theguardian.com/travel/2012/dec/21/bobsleighbing-la-plagne-france-alps> (last visited Mar. 27, 2017).

109. LaFranchi, *supra* note 88.

110. Rose, *supra* note 94.

111. Tempest, *supra* note 96.

112. See *Best Management Practices for Reducing Ammonia Emissions*, COLORADO STATE UNIV. (Nov. 2010), available at <http://extension.colostate.edu/topic->

eutrophication, and irreversible damage to plant and animal life are all results of ammonia exposure.¹¹³ Beyond these dangers to the natural environment, ammonia poses a serious threat to human health, especially to those populations in close proximity to liquid ammonia.¹¹⁴ These concerns were magnified when “residents of the village were given gas masks to protect them from accidental poisoning [of ammonia].”¹¹⁵

Beyond the specific concerns of direct impacts from particular structures or sources, the environmentalists and journalists had generalized grievances against the influx of tourists, the construction of major highway infrastructure, and the development of the remote mountain region.¹¹⁶ The consensus was these events, together, led to consequences that “damaged the fragile mountain environment, with worse long-term damages and social change to come.”¹¹⁷ The ultimate conclusion from many was the Albertville Games “radically and irreparably blemished the landscape.”¹¹⁸

3. Takeaway

The Albertville Games represent a low point in the Olympic Games’ environmental history.¹¹⁹ But, perhaps the ultimate outcome of the Albertville Olympics, in regards to the environment, was the response by the IOC following the conclusion of the Games.¹²⁰ The environmental disaster that was the Albertville Games prompted the IOC to design a top-down approach to environmental involvement in the Olympic Games and Olympic Movement.¹²¹

areas/agriculture/best-management-practices-for-reducing-ammonia-emissions-1-631/ (last visited Mar. 27, 2017).

113. *Id.*

114. *Id.*

115. See Tempest, *supra* note 96.

116. Rose, *supra* note 94; see generally ELLEN GALFORD, THE OLYMPIC CENTURY BOOK: XXIV OLYMPIAD: SEOUL 1988, ALBERTVILLE 1992 (Vol. 22, 2015).

117. Rose, *supra* note 94.

118. Liyan Jin & James J. Zhang, *Incorporate Environmental Protection into the Olympic Games: The Case of the Beijing Green Olympics*, in EMERGING TRENDS AND INNOVATION IN SPORTS MARKETING AND MANAGEMENT IN ASIA, 289, 292 (Ho Keat Leng & Noah Yang Hsu eds., 2015).

119. See JAMES HIGHAM & TOM HINCH, SPORT AND TOURISM: GLOBALIZATION, MOBILITY, AND IDENTITY 201-02 (1st ed. 2009).

120. See Jean-Loup Chappelet, *Olympic Environmental Concerns as a Legacy of the Winter Games*, 25 INT’L J. HIS. SPORT 1184, 1891-92 (2008).

121. See John R. Gold & Margaret M. Gold, *Framing the Future: Sustainability, Legacy and the 2012 London Games*, in ROUTLEDGE HANDBOOK OF SPORT AND LEGACY: MEETING THE CHALLENGE OF MAJOR SPORTS EVENTS 142, 143-44 (Richard Holt & Dino Ruta eds., 2015). The term ‘Olympic Games’ is isolated to the mega-event that takes place every two

B. XVII Olympic Winter Games – Lillehammer, Norway 1994

Nearly unanimously considered the gold standard for environmental awareness in regards to the Olympic Games, the Lillehammer Games are often denoted the first “Green Olympic Games.”¹²² Despite being lauded for its environmental achievements, the Norwegian-based Games did not escape criticism from environmental advocates for some of the nation’s questionable national policies.¹²³

1. Positive Impacts

Widely applauded for its green initiatives, the Lillehammer Games marked a new era for the IOC.¹²⁴ The Lillehammer Games’ environmental success is likely attributable to its preparation and management plan; the Games were prepared and managed under a set of five criteria, all relating to sustainable development and environmental consciousness.¹²⁵ The principles required organizers to “increase international awareness of ecological questions; . . . safeguard and develop the region’s environmental qualities; . . . contribute to economic development and sustainable growth; . . . use . . . the topology of the landscape; and . . . protect the quality of the environment and of life during the Games.”¹²⁶ Lillehammer’s organizers purposefully included these sustainable requirements and guidelines as a response to the Albertville Games two years prior.¹²⁷

The “Organising Committee aimed to make the Games a showcase for sustainability and environmental policies.”¹²⁸ The Lillehammer

years where competition between nations is undertaken, while the term ‘Olympic Movement’ is broader and “encompasses organisations, athletes, and other persons who agree to be guided by the Olympic Charter.” See INTERNATIONAL OLYMPIC COMMITTEE, FACTSHEET: THE OLYMPIC MOVEMENT, available at https://stillmed.olympic.org/Documents/Reference_documents_Factsheets/The_Olympic_Movement.pdf (last visited May 22, 2017).

122. *TED Case Studies: Lillehammer Olympic Games*, AM. U. (Jan. 11, 1997), available at <http://www1.american.edu/ted/LILLE.HTM> (last visited Mar. 23, 2017); see generally Bill Glauber, *Blair Sets Gold Standard: Lillehammer ‘94*, BALT. SUN (FEB. 20, 1994), available at http://articles.baltimoresun.com/1994-02-20/sports/1994051032_1_bonnie-blair-fourth-gold-new-mecca (last visited Mar. 23, 2017).

123. See generally *infra* Section II(B)(2).

124. *Lillehammer 1994 Set the Stage for Sustainable Games Legacies*, OLYMPICS (Jan. 7, 2014), available at <http://www.olympic.org/news/lillehammer-1994-set-the-stage-for-sustainable-games-legacies/219117> (last visited Mar. 23, 2017) [hereinafter *Lillehammer*].

125. *Id.*

126. *Id.*

127. See Juliet O’Neill, *Norway’s Green Games*, OTTAWA CITIZEN, Feb. 20, 1994, at B4.

128. *Lillehammer*, *supra* note 125.

Games collectively fostered and included “more than 20 sustainability projects.”¹²⁹ “Among [the Games’] initiatives were strict environmental impact guidelines, energy - efficiency measures, waste reduction and recycling programs, guidelines for sponsors and suppliers, habitat protection and a heavy emphasis on public transportation.”¹³⁰ Lillehammer’s architecture and venues were designed and strategically placed with the natural environment in mind. “In Gjøvik, the Norwegians constructed what they called the world’s largest in-mountain arena, a hockey venue carved inside a mountain.”¹³¹ Similarly, the Lillehammer organizers established a “comprehensive re-use program aim[ed] to recycle or compost [seventy] per cent of rubbish generated.”¹³²

The Lillehammer Games attempted to address the environmental ramifications of both the large industrial/construction projects and the minor tangential consequences of hosting mega-events.¹³³ “One million plates and three million knives, forks and spoons [were] recycled into animal feed and compost. Paper plates [were] recycled.”¹³⁴ The organizers also ensured venues, which typically caused visual stains on the landscape were integrated into the natural contour of the region.¹³⁵ Similarly, organizers created a regulation system, fining those who did not follow the environmental codes and decrees, including “stiff fines for any taking of protected trees.”¹³⁶ The Lillehammer Games also relocated an entire venue when it became clear the construction would disrupt “a sanctuary for rare birds.”¹³⁷

The positive impacts of the Lillehammer Games can be attributed to the growth and development of the IOC’s environmental platform.¹³⁸ Additionally, domestic policies within Norway ensured oversight and

129. *Id.*

130. David Chernushenko, *Let the Games Be Green: Lillehammer May Lead Sport on a Promising New Course*, 4 EARTHKEEPER 11, 11 (1994).

131. *1994—Lillehammer*, SALT LAKE TRIB., Nov. 22, 2001, at E7.

132. O’Neill, *supra* note 128.

133. *See Olympic Sustainability*, CHANGE AGENTS UK (2017), available at <http://www.changeagents.org.uk/news/olympic-sustainability> (last visited Mar. 23, 2017).

134. O’Neill, *supra* note 128.

135. *1994: Lillehammer*, *supra* note 132. “They build the bobsled run and ski jumps in careful synchronicity with the mountainside.” *Id.*

136. *Id.*

137. *Lillehammer*, *supra* note 125.

138. *See generally* Olav Myrholt, *Greening the Olympics*, OUR PLANET (1999), available at <http://www.ourplanet.com/imgversn/82/myrholt.html> (last visited Mar. 21, 2017).

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adherence to national environmental regulations.¹³⁹ The Norwegian government ranked the Rio de Janeiro Earth Summit and the Montreal Protocol among its highest national priorities.¹⁴⁰ Likewise, the nation implemented tax policies with progressive environmentally friendly incentives: “In 1994, the Government appointed a Green Tax Commission with the mandate to . . . further improve[] pricing of the environment and natural resources.”¹⁴¹ Under this national zeitgeist, the Lillehammer Games were able to achieve success in their environmental motives.

2. Negative Impacts

While the Lillehammer Games themselves were lauded and recognized (and continually looked to) as a masterful achievement in sustainability, ecology, and sport, the Games were not free from all criticism. While the final result was a Green Olympic Games, at the onset of the bidding process there was a distinct lack of environmental consideration:

The genesis of all this environmental interest was an attempt to block the Games from ever being held in this quiet, pristine region of southern Norway. The resistance was organized in the early 1980s after it became clear that a group of local businessmen were serious in their desire to bring the Olympics to Lillehammer to revitalize the region.

‘Our conclusion very early was that we had to fight this at any cost, use any legal means to stop it,’ says Kare Olerud, information services manager for the Norwegian Society for the Conservation of Nature, which has an office in the center of Lillehammer.

Thus, a campaign of public information was generated under the slogan ‘The Olympics – A Mistaken Investment’ that opposed the Games because of the environmental strain and damage they would cause.¹⁴²

The motivation was not purely one of principle, but a response to public pressure and a desire for profit. Yet, the harshest criticism of

139. Norway, UNITED NATIONS (Nov. 11, 1997), available at <http://www.un.org/esa/earthsummit/norway-cp.htm> (last visited Mar. 22, 2017).

140. *Id.*

141. *Id.*

142. Ross Atkins, *Norway’s White Olympics Go Green*, CHRISTIAN SCIENCE MONITOR (Feb. 24, 1994), available at <http://www.csmonitor.com/1994/0224/24121.html> (last visited Mar. 21, 2017).

Norway's environmental record leading up to the Olympic Games was the nation's continued practice of whaling.¹⁴³

Norway's whaling practices were not in violation of international law,¹⁴⁴ but some in the international community considered Norway's abstentions from international whaling treaties an egregious enough offense to contemplate boycotting the Lillehammer Games.¹⁴⁵ Over a decade before the 1994 Winter Olympics, many countries united to place a moratorium on commercial whaling.¹⁴⁶ Despite the considerable global consensus against whaling, Norway remained active in whaling, both for commercial and scientific reasons during the late-1980s.¹⁴⁷

However, in the years immediately preceding the Lillehammer Games, the Norwegian government registered an objection to the International Whaling Commission.¹⁴⁸ Upon registering the complaint to the International Whaling Commission, Norway commenced full-scale commercial operations.¹⁴⁹ Between the years 1993 and 2005, Norway was the only member nation of the International Whaling Commission that engaged in commercial whaling activities.¹⁵⁰ During this period Norway slaughtered over 6,000 Minke whales.¹⁵¹

3. *The Takeaway*

While the Lillehammer Games appear to be a clear example of a successful green Olympic Games, they actually represent a blind spot within the Olympic Games' environmental framework. Lillehammer did contribute to the development of environmental consciousness within the context of the Olympic Games, but the focus of the IOC was exclusively

143. James Christie, *Costs rise as Norway seeks to protect Lillehammer*, GLOBE & MAIL (Feb. 11, 1994).

144. Sonja Marta Halverson, *Small State with a Big Tradition: Norway Continues Whaling at the Expense of Integration and Nordic Cooperation*, 21 SYRACUSE J. INT'L L. & COM. 121, 131 (2004).

145. Doug Mellgren, *Norway's Plan to Resume Commercial Whaling Stirs up Storm of Protest*, L.A. TIMES (Apr. 18, 1993), available at http://articles.latimes.com/1993-04-18/news/mn-24883_1_minke-whales (last visited Mar. 21, 2017).

146. *Whaling in Norway*, WHALE & DOLPHIN CONSERVATION, available at <http://us.whales.org/issues/whaling-in-norway> (last visited Apr. 10, 2017) (stating "In 1982, when the IWC adopted the moratorium on commercial whaling, Norway was one of the few governments to take an objection to the decision").

147. *Id.*

148. *Id.*

149. *Id.*

150. *Catches Taken: Under Objection or Under Reservation*, INTERNATIONAL WHALING COMMISSION, available at https://iwc.int/table_objection (last visited Mar. 20, 2017).

151. *Id.*

focused on the process, design, and maintenance of the Olympic events. During the bidding process and while hosting the Olympic Games, Norway was engaged in ecological practices clearly departing from international norms.¹⁵² While not enough can be said for the great achievements the Lillehammer Games contributed to the overall sustainable development movement, the IOC must expand its scope beyond the Olympic events to a sufficiently sized aperture, including host cities' and countries' environmental policies and records.

C. XXVII Olympic Summer Games – Sydney, Australia 2000

*“The exceptionally well-organized Sydney Games were a true celebration of Olympic values and sporting excellence.”*¹⁵³

*1. Official Olympic Policies Concerning Sustainability*¹⁵⁴

The Sydney Olympic bidding process and development of the Olympic Games was designed to reflect the growing international concern about climate change and environmental disruption.¹⁵⁵ The Sydney Organizers ensured that Games would “commit themselves to: energy conservation and the use of renewable energy sources; water conservation; waste avoidance and minimisation; protecting human health with appropriate standards of air, water, and soil quality; [and] protecting significant natural and cultural environments.”¹⁵⁶ The Sydney bid expressly acknowledged the international nature of global climate disruption, identifying five key “Global Environmental Issues.”¹⁵⁷ Among these were “the greenhouse effect...air, water and soil pollution...[and] over-consumption of resources.”¹⁵⁸ The organizer’s

152. *Whaling in Norway*, *supra* note 147.

153. Kathryn Wells, *Sydney Olympic Games, 2000*, AUSTRALIA (Nov. 12, 2013), available at <http://www.australia.gov.au/about-australia/australian-story/sydney-olympic-games-2000> (last visited Mar. 20, 2017).

154. Sections II(A) & (B) do not have subsections concerning ‘Official Olympic Policies Concerning Sustainability,’ because throughout the research of this paper there was little evidence either host city maintained specific guidelines governing the management of the games, beyond those regulations and laws the domestic state maintained.

155. SYDNEY OLYMPICS 2000 BID LIMITED, ENVIRONMENTAL GUIDELINES FOR THE SUMMER OLYMPIC GAMES 1 (1993) (stating “The Sydney Olympics 2000 Bid Ltd. has developed environmental guidelines based on the principles adopted at the United Nations Earth Summit, and expressed in National Ecological Sustainable Development policies”).

156. *Id.*

157. *Id.* at 4.

158. *Id.*

sought to design and manage the games in an effort to combat these issues.¹⁵⁹

The Sydney organizers' bid included "criteria for responsible event management,"¹⁶⁰ a survey of Australian national responses to environmental issues and its role within the greater global community,¹⁶¹ and guidelines for implementing sustainable practices into the Olympic events.¹⁶² The policies for responsible event management included guidelines on merchandise being made from recycled materials, without using products from endangered species, and avoiding waste.¹⁶³ The bid also focused on management practices that would appropriately handle waste by "maximizing recycling [and] educat[ing]...athletes, officials, media and spectators on correct waste disposal [techniques]."¹⁶⁴

Beyond establishing the guidelines and policies to manage the games, the Sydney organizers guaranteed the provisions would be implemented in practice.¹⁶⁵ Nowhere was the implementation of the environmental guidelines more important than in the construction and planning phases of the Olympic Games. The policies ensured the environmental impacts would be considered in the construction of new venues, the sites would be chosen with considerations of the environmental consequences, and measures would be incorporated to conserve water and minimize waste accumulation.¹⁶⁶ The guidelines and policies "set a high standard of environmental performance" for the Games.¹⁶⁷

2. *The Positive Impacts*

As the world entered a new millennium, Australia hosted the Olympic Games.¹⁶⁸ The Sydney Games continued the legacy and

159. *See generally, id.*

160. SYDNEY OLYMPICS 2000 BID LIMITED, *supra* note 156, at 9-10.

161. *Id.* at 12-14.

162. *Id.* at 15-22.

163. *Id.* at 9.

164. *Id.* at 10.

165. SYDNEY OLYMPICS 2000 BID LIMITED, *supra* note 156, at 15 (stating "If Sydney is awarded the right to host the Olympic games, the provisions outlined in the *Environmental Guidelines* will be honoured").

166. *Id.* at 15-18.

167. *Environment, SYDNEY OLYMPIC PARK, available at* http://www.sopa.nsw.gov.au/our_park/environment (last visited Mar. 27, 2017).

168. Helen Jefferson Lenskyj, *Sport and Corporate Environmentalism: The Case of the Sydney 2000 Olympics*, 33 INT'L REV. FOR SOC. OF SPORT 341, 345 (1998).

tradition of the Lillehammer Games.¹⁶⁹ The Sydney Games' organizers demanded sustainability be central to the games narrative, and also included remediation and conservation measures to the guiding principles.¹⁷⁰ The process began with the Sydney Olympic Committee incorporating and gauging the interests, concerns, and proposals of various environmental organizations, including the non-governmental organization, Greenpeace.¹⁷¹ The Sydney organizers, through their collaboration with environmental organizations,¹⁷² identified "three priorities: pollution control of soil, sediment and water; conservation of resources; and protection of biodiversity."¹⁷³ These priorities and goals were implemented and realized in a variety of ways.

The games gave "an increased priority to ecological sustainability and issues such as energy conservation, bio-diversity and the need to conserve natural resources."¹⁷⁴ Rather than constructing new facilities in open landscapes or undeveloped spaces, the Sydney Olympic bid chose "a messy scrap of land nine miles west of central Sydney...home to a saltworks, a brick factory, an arms depot, an abattoir and three decades of the city's dirtiest waste."¹⁷⁵ Experts identify numerous positive

169. Sharon Beder, *Sydneys Toxic Green Olympics*, 70 CURRENT AFF. BULL. 12, 12 (1993) (stating, "[t]he solution was to concentrate on and market other 'green' aspects of Sydney's bid and ensure that discussion of the contamination was kept out of the public arena. The SOBL enlisted some environmentalists and environmental consultants to produce environmental guidelines for the construction and operation of Olympic facilities. The guidelines advocated the use of recyclable and recycled building materials, the use of plantation timber as opposed to forest timber, and tickets printed on 'recycled post consumer waste paper.' The Olympic village was designed by a consortium of architects, including a firm commissioned by Greenpeace, Australia. The design provided for use of solar technology and solar designs, state of the art energy generation systems, cycle ways and waste water recycling systems . . . These measures were heralded as a major environmental breakthrough in urban design. A media release from SOBL stated that 'No other event at the beginning of the 21st Century will have a greater impact on protecting the environment than the 2000 Olympic Games in Sydney'").

170. Lenskyj, *supra* note 169, at 345.

171. GREENPEACE, GREENPEACE ENVIRONMENTAL GUIDELINES: A GUIDE TO SUSTAINABLE EVENTS 1 (2000).

172. Bob Symington & Helen Latham, *How Green are our Games?*, DAZED, available at <http://dazed.org/npa/npj/200010/Octfeatures-ESD2.htm> (last visited Mar. 27, 2017).

173. Lenskyj, *supra* note 169, at 345.

174. Brian Chalkley & Stephen Essex, *Sydney 2000: The 'Green Games'?* 84 GEOGRAPHY 299, 301 (1999).

175. Patrick Barkham, *Faster, Higher, Greener*, GUARDIAN (Sept. 6, 2000), available at <http://www.theguardian.com/society/2000/sep/06/sydney.sport> (last visited Mar. 26, 2017).

environmental impacts from redeveloping brownfields,¹⁷⁶ which Homebush Bay was prior to the Sydney Games.¹⁷⁷ The Games' organizers also kept the use of plastics to a minimum, and instituted a recycling program "hop[ing] to reduce landfill waste by 80%."¹⁷⁸ Public transit, including development of a rail system, was key to minimizing the potential environmental impacts of having over one hundred thousand spectators visit during the Olympic events.¹⁷⁹

The largest staple of the Green Games moniker for the Sydney Games was the previously mentioned reclamation of the Homebush Bay Site.¹⁸⁰ The site contained deposits of toxins in the ground and surrounding water,¹⁸¹ including dioxins.¹⁸² Dioxins pose serious threats to the natural environment and human health, causing liver disease and hormone disorders.¹⁸³

The...site has for many decades been scarred by noxious land uses and areas of contaminated wasteland used for dumping household and industrial refuse...The Olympics will, therefore, be used as a springboard for the largest single urban site remediation ever undertaken in Australia involving consolidation of wastefill, construction of leachate drains, capping and contouring, and landscaping.¹⁸⁴

The Homebush Bay site proved to be a major success for the Sydney Olympics' and its legacy.¹⁸⁵ Similarly, the IOC often uses the site as an

176. EVANS PAULL, *THE ENVIRONMENTAL AND ECONOMIC IMPACTS OF BROWNFIELDS REDEVELOPMENT* 34 (2008).

177. GARY SMITH, *CONTRIBUTIONS OF BROWNFIELD DEVELOPMENT TO URBAN INTERNAL EXPANSION AND URBAN RENEWAL IN PRACTICE* 9 (2008).

178. Barkham, *supra* note 176.

179. Frank McDonald, *Greenpeace Shows Sydney a Yellow Card*, IRISH TIMES (Sept. 30, 2000), available at <http://www.irishtimes.com/culture/greenpeace-shows-sydney-a-yellow-card-1.1125213> (last visited Mar. 26, 2017).

180. Chalkley & Essex, *supra* note 4, at 117.

181. Chris McGrath, *Sydney Harbour's Toxic Legacy Shows Value of Green Safety Net*, CONVERSATION (Dec. 16, 2012), available at <http://theconversation.com/sydney-harbours-toxic-legacy-shows-value-of-green-safety-net-11197> (last visited Mar. 27, 2017).

182. Chalkley & Essex, *supra* note 4, at 117.

183. *Facts about Dioxins*, MINN. DEPT. OF HEALTH (Oct. 2006), available at <http://www.health.state.mn.us/divs/eh/risk/chemhazards/dioxins.html#concerned> (last visited Mar. 27, 2017); *Learn About Dioxin*, EPA (Dec. 10, 2015), available at <http://www.epa.gov/dioxin/learn-about-dioxin> (last visited Mar. 27, 2017).

184. Chalkley & Essex, *supra* note 175, at 302-03.

185. Matt Wade, *Sydney Olympic Park: How the West Was Won*, SYDNEY MORNING HERALD (May 31, 2014), available at <http://www.smh.com.au/nsw/sydney-olympic-park-how-the-west-was-won-20140530-399kc.html> (last visited Mar. 27, 2017).

example of Olympic redevelopment programs and urban sustainability projects.¹⁸⁶

The Sydney Games also marked a transition for Olympic sponsors and marketing, with more emphasis on the Green Games.¹⁸⁷ The organizers' efforts addressing climate change and sustainability included contributions from the entire Olympic Community. The Sydney organizers, along with the IOC, provided sponsors with guidelines and manuals to ensure adherence to these sustainable practices.¹⁸⁸ Both Coca-Cola and Samsung, official Olympic sponsors, engaged in environmentally friendly practices and expositions during the games.¹⁸⁹ During the Sydney Games, Coca-Cola used "environmentally friendly HFC-free refrigeration."¹⁹⁰ Samsung likewise provided green refrigerant technologies during the Games.¹⁹¹ Sponsorship involvement in the sustainability campaign of the Sydney Games furthered the Games green moniker.¹⁹²

3. Negative Impacts

Sydney is widely viewed as continuing the legacy of the 1994 Lillehammer Games.¹⁹³ However, the ultimate legacy of the Sydney Games is more complicated. The games, despite having sponsors attempting to introduce green technologies, "use[d] ozone-depleting

186. *Sydney Olympic Park Authority History*, SYDNEY OLYMPIC PARK AUTHORITY, available at http://www.sopa.nsw.gov.au/our_park/history_and_heritage/sydney_olympic_park_authority_history (last visit Mar. 27, 2017); see also SYDNEY ORGANISING COMMITTEE FOR THE OLYMPIC GAMES, OFFICIAL REPORT OF THE XXVII OLYMPIAD: VOLUME ONE, PREPARING FOR THE GAMES 52-62 (2000).

187. *Final Sydney 2000 Market Overview*, 18 *MARKETING MATTERS*, THE OLYMPIC MARKETING NEWSL 1, 3 (2001), available at https://stillmed.olympic.org/Documents/Reports/EN/en_report_274.pdf (last visited Mar 27, 2017).

188. INTERNATIONAL OLYMPIC COMMITTEE, SYDNEY 2000: SPONSORSHIP 83 (2001), available at <https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/Games/Summer-Games/Games-Sydney-2000-Olympic-Games/IOC-Marketing-and-Broadcasting-Various-files/IOC-Marketing-Report-Chap-4-Sydney-2000.pdf> (last visited Mar. 27, 2017); see also BEATRIZ GARCIA, *THE OLYMPIC GAMES AND CULTURAL POLICY* 127 (2012).

189. Barkham, *supra* note 176; see also McDonald, *supra* note 180.

190. Barkham, *supra* note 176. HFC's would eventually become a concern of the Montreal Protocol. Ran Rajacki, *Montreal Protocol Sets Gobar HFC Phasedown*, NEWS (Nov. 23, 2015), available at <http://www.achrnews.com/articles/131056-montreal-protocol-sets-global-hfc-phasedown> (last visited Mar. 21, 2017).

191. McDonald, *supra* note 180.

192. GLENN BOWDIN ET AL., *EVENTS MANAGEMENT* 453-54 (2nd ed. 2006).

193. Lenskyj, *supra* note 169, at 344.

refrigerants for air conditioning systems in virtually all venues.”¹⁹⁴ While the Sydney Games did increase sponsors’ and consumers’ environmental awareness, some say “the biggest single failing has been the failure to change the Olympic sponsoring companies’...despite seven years in which to implement Sydney’s environmental guidelines, none of the world sponsors...has incorporated sustainability, as a core business function.”¹⁹⁵

Similarly, the Homebush Bay reclamation project is not free of scrutiny, some question whether or not the toxic residue removed from the site was properly handled.¹⁹⁶ Other criticisms were targeted at the sustainability and reusability of the Homebush Bay Site, with one critic stating “Homebush Bay can be a lonely and desolate place.”¹⁹⁷ Beyond Homebush Bay, there were concerns about the development in the Sydney area and the true consequences of the influx of tourists. During the bidding process and while hosting the Olympic Games, the nation of Australia experienced significant challenges in handling its waste management practices.¹⁹⁸ There were questions regarding whether the city was in a position to host the Olympic Games because of the waste management crisis.¹⁹⁹

4. The Takeaway

The Sydney Olympics were able to successfully continue the legacy created by the 1994 Lillehammer Games. The organizers deliberately incorporated environmental organizations’ suggestions into its bidding

194. McDonald, *supra* note 180.

195. Barkham, *supra* note 176. Greenpeace, an early partner in the Sydney Olympic bidding process eventually sought to bring suit against the sponsors of the Sydney Olympic Games with the Olympic Coordination Authority, but abandoned its claims when it became apparent the sustainability sponsorship guidelines were discretionary rather than binding. Edwin R. Stafford & Cathy L. Hartman, *NGO-Initiated Sustainable Entrepreneurship and Social Partnerships: Greenpeace’s “Solutions” Campaign for Natural Refrigerants in North America*, in *SOCIAL PARTNERSHIPS AND RESPONSIBLE BUSINESS: A RESEARCH HANDBOOK* 164, 177 (M. May Seitanidi & Andrew Crane eds., 2014).

196. RICHARD CASHMAN, *IMPACT OF THE GAMES ON OLYMPIC HOST CITIES* 10 (2002).

197. Richard Cashman, *Sydney Olympic Park 2000 – 2010: A Case Study of Legacy Implementation Over the Longer Term*, in *ROUTLEDGE HANDBOOK OF SPORT AND LEGACY: MEETING THE CHALLENGE OF MAJOR SPORTS EVENTS* 99, 105 (Richard Holt & Dino Ruta eds., 2015) (questioning the ultimate legacy of the re-developed Homebush Bay area, whether the site will be used or abandoned).

198. Sharon Beder, *Greenwashing an Olympic Sized Toxic Dump*, 6 *PR WATCH* 1, 4 (1999); see also Carmel Egan, *Clampdown on Toxic Waste*, *THE AGE* (Jul. 27, 2008), available at <http://www.theage.com.au/national/clampdown-on-toxic-waste-20080726-3lf3.html> (last visited Mar. 22, 2017).

199. See Beder, *supra* note 199.

process (an improvement compared to the Lillehammer organizers' bid, which was silent on the Games sustainable goals).²⁰⁰ The Sydney Games were able to successfully embark in urban re-development projects and reclaim abandoned brownfields.²⁰¹ Similarly, the Games were able to incorporate - to varying degrees - green practices by the official Olympic partners.²⁰²

Despite these accomplishments, the Sydney Games did not escape environmental criticisms. Waste management continued to be a concern during the bidding process and post-Olympic era,²⁰³ and the Homebush Bay Site has continually been plagued with skepticism concerning the practice employed in the removal toxic waste.²⁰⁴ Additionally, initial environmental partners of the Sydney Olympic bid grew to become harsh critics of the ultimate environmental and sustainable performance of the Games.²⁰⁵ Finally, a glaring oversight concerning the entire Olympic Sustainable framework emerged from the Sydney Olympics: the lack of enforceable and binding guidelines for Olympic Partners and organizers.²⁰⁶

D. XXXI Olympic Summer Games – Rio de Janeiro, Brazil 2016

“In Rio de Janeiro, the Olympics will be a fantastic driving force to transform old problems into opportunities, getting infrastructure, transport, environment and quality of life projects off the drawing board.”²⁰⁷

200. *Sydney Olympics and the Environment*, AM. U. (Dec. 21, 1995), available at <http://www1.american.edu/ted/SYDNEY.HTM> (last visited Mar. 22, 2017); see also Jon Helge Lesjø, *Lillehammer 1994: Planning, Figurations and the ‘Green’ Winter Games*, 35 INT’L R. SOCIOLOGY SPORT 282, 282 (2000).

201. See *supra* Section II(C)(1).

202. *Id.*

203. See generally Beder, *supra* note 170.

204. John Huxley, *Toxic Secrets of the Underground*, SYDNEY MORNING HERALD (May 6, 2005), available at <http://www.smh.com.au/news/National/Toxic-secrets-of-the-underground/2005/05/05/1115092629132.html> (last visited Mar. 24, 2017).

205. See generally Beder, *supra* note 199; see also KRISTINE TOOHEY & A.J. VEAL, *THE OLYMPIC GAMES: A SOCIAL SCIENCE PERSPECTIVE* 242-44 (2nd ed., 2007).

206. Stafford & Hartman, *supra* note 196.

207. RIO PREFEITURA, *RIO 2016: OLYMPICS AND LEGACY: QUICK GUIDE TO PUBLIC POLICIES* 10 (2012), quoting Eduardo Paes, Mayor of Rio de Janeiro.

1. Official Olympic Policies

The Rio de Janeiro organizers used the Olympic Games as “a driving force for sustainable social and urban transformations.”²⁰⁸ “To achieve these sustainable transformations, the organisers of the Games [were] committed to making sustainability criteria an integral part of the management cycle of the Games, from design and planning through to implementation, review, and post-event activities.”²⁰⁹ The Rio Olympics’ dedication to sustainability was reflected in the event’s core principles.²¹⁰ The guidelines and policies implemented in the preparation of the Olympic Games reflected the Rio organizers’ emphasis and earnestness in sustainability and environmental considerations.

As part of the preparation to host the 2016 Summer Olympics, the Rio organizers established a Special Committee on the Environment.²¹¹ The Special Committee on the Environment identified nine areas of environmental concern, which the Rio Olympics addressed in its management of the Games.²¹² Among the most integral and important issues identified were “environmental awareness...Games neutral in carbon, air quality, and transport...[and] sustainable design and construction.”²¹³ These concerns were prepared for and managed in a variety of ways.

Certification processes, energy sourcing, and sustainable supply chain management were all policy measurements introduced by the Rio organizers.²¹⁴ Sustainable design and construction, sustainable supply chain management, and management are among the sectors requiring environmental certification.²¹⁵ The certification process required materials to be examined, ensuring they had minimal environmental impacts.²¹⁶ Municipal and state governments were provided the authority to oversee much of the certifying bodies and their implementation.²¹⁷ The

208. RIO OLYMPIC COMMITTEE, SUSTAINABILITY MANAGEMENT PLAN: RIO 2016 OLYMPIC AND PARALYMPIC GAMES 4 (2013).

209. *Id.*

210. *Id.* at 7 (“Principles . . . Responsibility . . . [Rio] will take care to conduct all of our social, environmental and economic activities responsibly. We will seek a balance between economic considerations, a reduced negative environmental impact and the promotion of social benefit in everything we do”).

211. *Id.* at 10.

212. *Id.*

213. RIO OLYMPIC COMMITTEE, *supra* note 209, at 4.

214. *See generally id.* at 24-30.

215. *See id.* at 88.

216. *Id.* at 27-28.

217. *See id.* at 27.

objects of the certification process included building materials, consumer products, and venue designs.²¹⁸

Similarly, the Rio organizers planned to reduce the carbon footprint of the Rio Games by using clean fuel mixtures.²¹⁹ Brazil maintains a robust use of renewable energy sources, “with 45.3 per cent of its energy coming from . . . hydro power, biomass and ethanol.”²²⁰ By equipping the Olympic Games with “light vehicles and buses with cleaner fuels from renewable sources,”²²¹ and regulating the operational phase of the Games, the organizers hoped to control the environmental consequences of hosting the Olympics.²²² Reforestation programs throughout the nation of Brazil were also implemented as measures to further mitigate the negative environmental impacts.²²³ Ultimately, the Rio Olympics were able to mitigate their carbon footprint to an estimated 3.6 million metric tonnes of carbon dioxide equivalent, similar to that of the 2012 London Games.²²⁴

The Rio Olympic Games were designed with tremendous oversight by municipal, state, and organizational entities.²²⁵ An integral part of the planning process was environmental awareness and taking responsibility for the resulting consequences of hosting the Olympic Games.²²⁶ The policies, especially the certification process for building materials and consumer products, reflected the integration of international norms in combating climate change.²²⁷

218. See RIO OLYMPIC COMMITTEE, *supra* note 209, at 27, 80, 94.

219. *Id.* at 26.

220. *Id.*

221. *Id.*

222. See *id.* at 27.

223. See generally RIO OLYMPIC COMMITTEE, *supra* note 209, at 40.

224. *Rio 2016 Olympics: How Sustainable Is the Greatest Show on Earth?*, EDIE (Aug. 5, 2016), available at <http://www.edie.net/library/Rio-2016-Olympics-sustainability-carbon-emissions-air-and-water-quality/6719> (last visited Mar. 22, 2017). See also Matthew Brander, *Greenhouse Gases, CO₂, CO₂e, and Carbon: What do All These Terms Mean?*, ECOMETRICA (Aug. 2012), available at <https://ecometrica.com/assets/GHGs-CO2-CO2e-and-Carbon-What-Do-These-Mean-v2.1.pdf> (last visited May 22, 2017).

225. See generally RIO OLYMPIC COMMITTEE, *supra* note 209, at 40.

226. *Id.* at 7.

227. See George Luber & Michael McGeehin, *Climate Change and Extreme Heat Events*, 35 AM. J. PREVENTATIVE MED. 429, 433 (2008) (discussing LEED certification schemes with construction design); see also David Weaver, *Can Sustainable Tourism Survive Climate Change?*, 19 J. SUSTAINABLE TOURISM 5, 12 (2011) (discussing certification schemes developing in tourism).

2. *The Positive Impacts*

The nation of Brazil used the Rio Olympics to effectuate positive change.²²⁸ The policies and regulations overseeing the Games incorporated environmental awareness, and were meant to combat climate disruption.²²⁹ Many hoped the Rio de Janeiro Games would realize the goals of environmental remediation and sustainability.²³⁰ Similarly, the IOC was confident in the Rio Olympics' Sustainability Management Plan, and was dedicated to the goal of minimizing the Games' environmental consequences.²³¹

Among the positive impacts of the Rio Games were water revitalization, improvements in public transportation, and reforestation efforts.²³² Guanabara Bay, an odorous pool of "debris, sewage, and even fish corpses," was an example of a water revitalization site.²³³ The "Brazilian officials . . . assured that the water will be safe for the Olympic athletes."²³⁴ While there were critics who claimed the Rio Games would not accomplish its clean-up of Guanabara Bay, the bay was ultimately deemed suitable to host the Olympic events.²³⁵

228. RIO PREFEITURA, *supra* note 208, at 10.

229. *See supra* Section II(D)(1).

230. *See* Edward Flattau, *The Olympics: Environmental Savior or Curse?*, HUFFINGTON POST (Dec. 18, 2013), available at http://www.huffingtonpost.com/edward-flattau/the-olympics-enviornmta_b_4469784.html (last visited Mar. 26, 2017); *see also* Simon Worrall, *Will the Olympics Make Things Better or Worse for Rio?*, NAT'L GEO. (Aug. 19, 2015), available at <http://news.nationalgeographic.com/2015/08/150819-olympics-rio-de-janeiro-brazil-sports-favels-world-cup-ngbooktalk/> (last visited Mar. 26, 2017).

231. FACTSHEET, *supra* note 46, at 6.

232. EVAN ROSE ET AL., REIMAGINING RIO: PLANNING FOR DEVELOPMENT AFTER THE 2016 OLYMPIC GAMES 20-21 (2013).

233. Jason Plautz, *Brazil Made Big Environmental Promises for Its Rio Olympics. Here's Why It Won't Keep Them.*, ATLANTIC (July 2, 2014), available at <http://www.theatlantic.com/politics/archive/2014/07/brazil-made-big-environmental-promises-for-its-rio-olympics-here-why-it-wont-keep-them-45784/> (last visited Mar. 26, 2017).

234. Bard Brooks & Jenny Barchfield, *Rio's Waters Are so Filthy that 2016 Olympians Risk Becoming Violently Ill and Unable to Compete*, BUS. INSIDER (July 30, 2015), available at <http://www.businessinsider.com/rios-filth-is-already-spoiling-the-2016-summer-olympics-2015-7> (last visited Mar. 26, 2017).

235. Doug Harrison, *Rio Water Concerns Overblown, Says Canadian Olympic Team's Chief Medic*, CBC (Dec. 9, 2015), available at <http://www.cbc.ca/sports/olympics/summer/generic/mccormack-water-quality-rio-olympics-1.3357722> (last visited Mar. 26, 2017); *see also* *Venue for Rio 2016*, WORLD SAILING, available at http://www.sailing.org/olympics/rio2016/about/venue_about_rio.php#.WNAoKjt6r0s (last visited Mar. 26, 2017).

A city plagued by “traffic-choked roads,” Rio organizers hoped to use the event as a springboard to reform public transportation in the city.²³⁶ Bike lanes, flex-fuel vehicles, and increased reliance on rail transportation were all measures incorporated into Rio’s Olympic program to reduce the carbon and congestion caused by mega-events.²³⁷ To further the Games’ commitments to reducing the greenhouse gas emissions of the Olympics, the organizers of Rio undertook massive reforestation efforts.²³⁸ “1,200 hectares of forest will be restored . . . to offset the carbon footprint of the Rio Olympics.”²³⁹ These efforts, in addition to the Guanabara Bay project, poised the Rio Olympics to be a major success story for sustainability, environmental reclamation, and sport.²⁴⁰

3. *The Negative Impacts*

There were serious concerns that Rio 2016 would not be able to realize its lofty goals of sustainability and environmental reclamation. While some were assured by the organizers’ promise that the waters would be safe, many still believed the water quality in Rio would pose a significant risk to athletes.²⁴¹ Similarly, the forest reclamation projects were a necessary result of devastating deforestation.²⁴² “The hills were stripped bare, the rivers dry and the soil degraded.”²⁴³ Thus, advocates were concerned that the Olympic Games would add unnecessary pressure to an already fragile ecosystem.²⁴⁴

With many venues under construction until the final days before the opening ceremony, the organizers’ pledges to keep environmentalism and

236. Plautz, *supra* note 234.

237. RIO OLYMPIC COMMITTEE, *supra* note 209, at 22-26.

238. Jonathan Watts, *Brazil’s Blueprint for Reforestation*, *GUARDIAN* (June 12, 2012), available at <http://www.theguardian.com/environment/2012/jun/12/brazil-treeplanting-reforestation-logging> (last visited Mar. 26, 2017).

239. *Id.*

240. See generally *Olympic Games Rio 2016 – Environmental Legacy*, IOC (Mar. 16, 2017), available at <https://www.olympic.org/news/olympic-games-rio-2016-environmental-legacy> (last visited Mar. 26, 2017).

241. See *Athletes at Rio Olympics to Compete in ‘Basically Raw Sewage’*, *Study Reveals*, *GUARDIAN* (July 30, 2015), available at <http://www.theguardian.com/sport/2015/jul/30/athletes-at-rio-olympics-to-compete-in-basically-raw-sewage-study-reveals> (last visited Mar. 26, 2017).

242. See Watts, *supra* note 239.

243. *Id.*

244. *Rio Ruckus: IOC, Olympics Targeted by Environmental Protest*, *DAILY MAIL* (Feb. 28, 2015), available at <http://www.dailymail.co.uk/wires/ap/article-2973696/Environmental-activists-disrupt-meeting-Olympic-officials.html> (last visited Mar. 31, 2017).

sustainability at the forefront was superseded by the need to complete the projects on time with minimum costs, which led to simply abandoning some sites half-built.²⁴⁵ Litigation was threatened against city officials in response to allegations that environmental regulations and policies were violated in the construction of the Rio Olympic Golf Course.²⁴⁶ Beyond the organization of the Olympic Games, in November of 2015, Brazil suffered a tremendous environmental blow when a dam failed, causing “[i]llegal levels of arsenic and mercury” to pollute a river.²⁴⁷ Additionally, the Games were deemed to be more focused on appearing to be sustainable, rather than implementing proper management practices.²⁴⁸

4. The Takeaway

The final chapter of the Rio Olympics has yet to be written, even with the games now nearly a year old. The process commenced with a detailed and integrated environmental policy paramount to the Games’ success.²⁴⁹ The implementation of many environmental provisions has been successful and the organizers were determined to deliver environmentally conscious Olympic events.²⁵⁰ Yet, despite the strong

245. See also Simon Jenkins, *The World Cup and Olympics Threaten to Overwhelm Rio – Yet There is Time to Create a Sensation Out of Disaster*, GUARDIAN (Apr. 23, 2014), available at <http://www.theguardian.com/cities/2014/apr/23/world-cup-olympics-rio-de-janeiro-brazil-sensation-disaster> (last visited Mar. 31, 2017); see also Ruby Russell, *Going for Green: No Medals for the Rio Olympics’ Environmental Legacy*, DEUTSCHE WELLE (Aug. 23, 2016), available at <http://www.dw.com/en/going-for-green-no-medals-for-the-rio-olympics-environmental-legacy/a-19495318> (last visited Apr. 10, 2017); see generally Marissa Payne, *Brazil Can’t Catch a Break: Environmental Concerns Could Halt Construction of Rio’s Olympic Golf Course*, WASH. POST (Jun. 2, 2014), available at <https://www.washingtonpost.com/news/early-lead/wp/2014/06/02/brazil-cant-catch-a-break-environmental-concerns-could-halt-construction-of-rios-olympic-golf-course/> (last visited Apr. 10, 2017).

246. See *Rio Olympics Will Be Ready, Though Many Challenges Remain Before 2016 Games*, FOX NEWS (Feb. 20, 2015), available at <http://www.foxnews.com/sports/2015/02/20/rio-olympics-will-be-ready-though-many-challenges-remain-before-2016-games.html> (last visited Mar. 31, 2017) (stating “[a] public prosecutor is looking into a possible lawsuit against Rio Mayor Eduardo Paes alleging improper conduct centering on concessions the city made to a billionaire developer of the new Olympic golf course. The course, which cost about \$20 million to build, has been embroiled in lawsuits over ownership and charges that environmental rules were trampled”).

247. *Brazil: River Polluted After Dam Burst*, N.Y. TIMES (Nov. 26, 2015), available at http://www.nytimes.com/2015/11/27/world/americas/brazil-river-polluted-after-dam-burst.html?_r=0 (last visited Mar. 31, 2017).

248. See Russell, *supra* note 246.

249. See *supra* Section II(D)(1).

250. See *supra* Section II(D)(2).

environmental lead-up to the Rio Games, many were critical of the Games' ability to realize its goals.²⁵¹ Regardless of the Rio Games' ultimate legacy, the organizers significantly advanced the IOC's commitment to designing a sustainable Olympic event. The organizers drafted and created guidelines and policies to ensure the Olympic Games were sustainable. Despite the difficulties in realizing these commitments, this effort represents an advancement in the Olympics' framework addressing climate change and environmental degradation.

SECTION III

A. Developing a Functional Environmental Framework for the Olympic Games

The IOC and its subdivisions tirelessly protect its reputation and image.²⁵² Yet, many organizations and commentators constantly point to the Olympics' glaring lack of environmental oversight, and long-lasting consequences as deficiencies in the Olympics' framework.²⁵³ This section seeks to develop policies that the IOC could implement to centralize and address the environmental issues the Olympic Games cause.²⁵⁴

Three practical and implementable mechanisms will be explored and suggested for adoption by the IOC in this section. These devices are environmental impact statements, best management practices, and independent environmental audits. These three mechanisms are focused on the three phases of the Olympic Games: planning, operations, and legacy. By utilizing these policy tools, the IOC will be able to better minimize the environmental consequences of the Olympic Games.

251. *See supra* Section II(D)(3).

252. *See* *Stop the Olympic Prison v. U.S. Olympic Comm.*, 489 F. Supp. 1112, 1115-16 (S.D.N.Y. 1980) (showing the United States Olympic Committee brought suit against a non-profit organization for using the Olympic Symbol without permission); *see also* *S.F. Arts & Athletic, Inc. v. U.S. Olympic Comm.*, 483 U.S. 522, 525-27 (1987) (showing the United States Olympic Committee brought suit against a non-profit California corporation for using the name "Gay Olympic Games," for an event, pursuant to trademark protection against reputational damages).

253. *See Environmental Assessment of Olympic Sponsors*, GREENPEACE, available at <http://www.greenpeace.org/eastasia/PageFiles/301174/sponsors.pdf> (last visit Mar. 31, 2017); *see also* Hanwen Liao & Adrian Pitts, *A Brief Historical Review of Olympic Urbanization*, 23 INT'L J. HIST. SPORT 1232, 1233 (2006).

254. *See infra* Section III(A)-(D).

B. Environmental Impact Statements

Under the IOC's current regime, there is no requirement for a centralized independent environmental impact statement (EIS).²⁵⁵ To be clear, the IOC does require that EISs be provided by the bidding host city.²⁵⁶ However, this scheme can cause issues within the domestic state. For example, elected bodies bring legislation to allow abbreviated EISs or allow "all projects linked with the Games to be suspended from the usual [EIS] requirements," of that nation or municipality.²⁵⁷ This existing structure provides the bidding city and nation with unfettered discretion to liberally adjust existing regulations²⁵⁸ or to inaccurately assess the potential consequences of the Games.²⁵⁹

With the implementation of a centralized environmental impact assessment, in addition to the required submission by the bidding city, the IOC could better gauge the environmental impact of the Games, and incentivize bidding countries to more accurately report potential issues.²⁶⁰ The IOC's EIS policies could be modeled after existing domestic policies, U.S. or otherwise.²⁶¹

An example of an existing domestic policy that could be incorporated into the Charter of the IOC is the United States' National Environmental Policy Act (NEPA), with some amendments. The general purpose of NEPA is to "encourage productive and enjoyable harmony between man and his environment; [and] to promote efforts which will prevent or eliminate damage to the environment and biosphere and

255. See *Sustainability*, OLYMPIC.ORG, available at <https://www.olympic.org/sustainability> (last visited Mar. 26, 2017) (lacking any reference to an auditing requirement).

256. S. Con. Res. 47, 107th Cong. (2001).

257. C. Michael Hall, *Imaging, Tourism and Sports Event Fever: The Sydney Olympics and the Need for a Social Charter for Mega-Events*, in *SPORT IN THE CITY: THE ROLE OF SPORT IN ECONOMIC AND SOCIAL REGENERATION* 166, 173 (Chris Gratton & Ian P. Henry eds. 2001) (discussing, the New South Wales Government's legislation exempting Sydney Olympic Projects from undergoing the typical environmental impact statement requirements).

258. See *id.*

259. See Daniel Melbourne & Patterson Kellar, *The Application of Environmental Impact Assessment Legislation to the 2010 Winter Olympic Games Venue and Infrastructure Developments* (Aug. 8, 2008) (unpublished M.S. thesis, Wilfrid Laurier University) (on file with author); see also TRANSPORT COMMITTEE, *GOING FOR GOLD: TRANSPORT FOR LONDON'S 2012 OLYMPIC GAMES, 2005-6*, H.C. 588-II, at 11 (U.K.).

260. See generally JEAN-JACQUES LAFFONT & DAVID MARTIMORT, *THE THEORY OF INCENTIVES I: THE PRINCIPAL-AGENT MODEL* 203-64 (2001).

261. See Christopher Greenwood, *Sources for International Law: An Introduction*, UNITED NATIONS, available at http://legal.un.org/avl/pdf/ls/Greenwood_outline.pdf (last visited Mar. 27, 2017) (discussing, international adoption of domestic legal principles).

stimulate the health and welfare of man...” among other aspirations.²⁶² This language and purpose are echoed by the environmental measures existing within the current framework of the IOC.²⁶³ By altering the language of NEPA to require the Sustainability and Legacy Commission to preform centralized EISs for potential host cities, the IOC could greatly advance its environmental goals.²⁶⁴

C. Best Management Practices

Once a location is selected for the Olympic Games, it is necessary to ensure that proper environmental management of the Games occurs. Within the current system, as illustrated by Greenpeace’s failed lawsuit, there is limited oversight and actionable offenses when the Olympic Games fail to meet its sustainable obligations.²⁶⁵ The lack of clear and enforceable provisions on the maintenance of Games leads hosts to abandon environmental promises and sustainable practices.²⁶⁶ By implementing actionable and punishable best management practices (BMPs) the IOC can better control the operational phase of the Olympic Games.

The current IOC regime for the management of the Games is governed by a contract between the host city and the IOC.²⁶⁷ Yet, despite being the third pillar of Olympism,²⁶⁸ the language governing the host city’s responsibility towards the environment is vague and provides minimal actionable language.²⁶⁹ Even the operational requirements

262. 42 U.S.C. § 4321 (1982).

263. *See supra* Section I(B)(1)-(4).

264. *See* 42 U.S.C. § 4332 (1982) (requiring “all agencies of the Federal Government” to develop protocols to evaluate the environmental impacts of proposed actions).

265. *See* Beder, *supra* note 170. *See also* Leitner, *supra* note 45.

266. *See* INTERNATIONAL OLYMPIC COMMITTEE, HOST CITY CONTRACT: OPERATIONAL REQUIREMENTS 168-69 (2015) [hereinafter, OPERATIONAL REQUIREMENTS].

267. INTERNATIONAL OLYMPIC COMMITTEE, HOST CITY CONTRACT: PRINCIPLES 9, 15 (2015) [hereinafter, OLYMPIC CONTRACT].

268. *Nairobi Declaration on Sport, Peace and Environment*, *supra* note 82.

269. OLYMPIC CONTRACT, *supra* note 268 (regarding sustainability and Olympic legacy, “[t]he Host City, the Host NOC and the OCOG undertake to carry out all activities foreseen under this HCC in a manner which embraces the concept of sustainable development and which serves to promote the protection of the environment. In this regard, the concept of sustainable development shall specifically address the legacy of the Games, including the concerns for post-Olympic use of venues and other facilities and infrastructures. The Host City, the Host NOC and the OCOG shall take all necessary measures to ensure that development projects and other projects necessary for the organisation of the Games comply with local, regional and national legislation and international agreements and protocols, applicable in the Host Country with regard to planning, construction, protection of the environment, health and safety, labour and anti-corruption laws. Further details regarding

provide minimum guidelines on how the Games should be properly managed and how sustainable practices should be implemented.²⁷⁰ By clarifying and amending the current Olympic Contract and operational guide with BMPs, and noting clear penalties for deviating from BMPs, the IOC will have greater authority and oversight of the Olympic Games.

BMPs are devices typically used within the realm of natural resource and environmental policy to ensure implementation of mitigation measures.²⁷¹ While some individual host cities have employed BMPs,²⁷² BMPs are domestically enforceable in nature, and as previously seen, domestic policy may be adjusted to ensure the Games will be hosted within a nation or region.²⁷³ The BMPs employed within the context of the Olympic Games should involve the various components that make up the entire Olympic experience: construction of venues, sources of promotional items and consumer products, energy sources, etc. By clearly outlining a set of criteria that are defined as BMPs and establishing consequences, which can be brought by the IOC, the IOC can ensure the third pillar of Olympism is realized.²⁷⁴

D. Independent Environmental Audits

The IOC's contract with the host city requires an Olympic Games Impact Study.²⁷⁵ However, the entity in charge of developing the report is the hosting Olympic Organizer.²⁷⁶ By placing the responsibility of assessing the Games' impacts on the host city, it creates incentives to misreport or inaccurately measure findings.²⁷⁷ However, the incentives

sustainability are contained in the 'HCC Operational Requirements – Sustainability and Olympic Legacy').

270. OPERATIONAL REQUIREMENTS, *supra* note 267, at 168-69.

271. *What Are Best Management Practices (BMPs)?*, U.S. DEP'T INTERIOR BUREAU LAND MGMT. (Jan. 8, 2016), *available at* http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices.html (last visited Mar. 21, 2017).

272. *See* VANCOUVER ORGANIZING COMMITTEE, VANCOUVER 2010: SUSTAINABILITY REPORT 23 (2010).

273. *See* Hall, *supra* note 258, at 173.

274. Within the language of the contract and BMPs, the IOC can create language that makes it explicitly clear that penalties for, and enforcement of, the BMPs are the exclusive privilege of the IOC as the governing body for the Olympic Games.

275. *See What Is the Olympic Games Global Impact Study?*, OLYMPIC REVIEW (2006), *available at* http://www.olympic.org/Documents/Reports/EN/en_report_1077.pdf (last visited Mar. 21, 2017).

276. *See id.*

277. Stewart I. Donaldson & Elisa J. Grant-Vallone, *Understanding Self-Report Bias in Organizational Behavior Research*, 17 J. BUS. & PSYCHOL. 245, 249 (2002) (exploring the factors motivating self-report bias, such as "socially undesirable behaviors . . . sensitivity . . .

to misreport do not evaporate by having the IOC examine the legacy of the Games. This self-reporting bias is seen most glaringly in the IOC's evaluation of the Sochi Olympics.²⁷⁸

Creating a new structure for reviewing the Olympics Games' impacts on the environment is paramount to the Games' ultimate success in realizing its aspirations embedded in the third pillar. The importance of reviewing the impacts of the Games can be seen in how the IOC has shifted its focus from immediate environmental consequences of the Olympics to the long-term legacy of Games.²⁷⁹ Thus, the establishment of an independent environmental audit will strengthen the goals of creating a sustainable environmental legacy for the Olympic Games.

Adopting and implementing an independent audit structure would allow the IOC to better focus its effort on centralizing EISs and managing BMPs. Additionally, by contracting with existing environmental agencies, such as the World Wildlife Fund, which already conducts independent assessments of Olympic Games, the IOC could improve its reputation and legitimacy within the environmental realm.²⁸⁰ Similarly, the IOC has in past years, used the UNEP as a supplemental reviewing

propensity to give socially desirable answers . . . [and] pressure to give socially desirable answers." In the instance of self-reporting on environmental impacts, the factors contributing to self-report bias are inherently evident).

278. See INTERNATIONAL OLYMPIC COMMITTEE, FACTSHEET: SOCHI 2014 FACTS & FIGURES 4-5 (2015) [hereinafter, SOCHI FACTSHEET]. Sochi is widely criticized for its handling of environmental issues. See Alec Luhn, *The Hidden Environmental and Human Costs of the Sochi Olympics*, NATION (Jan. 22, 2014), available at <http://www.thenation.com/article/hidden-environmental-and-human-costs-sochi-olympics/> (last visited Mar. 21, 2017); see also Thomas Grove, *Russia's Olympic Push Is Destroying Sochi's Environment*, BUSINESS INSIDER (Jan. 17, 2014), available at <http://www.businessinsider.com/russias-olympic-push-is-destroying-sochis-environment-2014-1> (last visited Mar. 21, 2017); see generally Kharunya Paramaguru, *The Not So Sustainable Sochi Winter Olympics*, TIMES (Jan. 30, 2014), available at <http://time.com/2828/sochi-winter-olympics-environmental-damage/> (last visited Mar. 21, 2017). Yet, despite these reports and observations by many environmental groups and members of the media, the IOC's official review sheet of the Sochi Olympics touts its many environmental and sustainable accomplishments. SOCHI FACTSHEET, *supra* note 279.

279. See *Sustainability and Legacy Commission*, *supra* note 58. The IOC changed the name of the entity overseeing the implementation of its environmental policies from "Sport and Environment Committee" to the "Sustainability and Legacy Commission." See *id.* The shift in language is not unimportant, it broadens the context of the IOC's responsibility to the global climate and incorporates a sense of understand and reflection of the ultimate repercussion of the Olympic Games. *Id.*

280. *No Gold Medal for the Environment in the Athens Olympics*, WWF (July 16, 2004), available at http://wwf.panda.org/wwf_news/?14216%2FNo-gold-medal-for-the-environment-in-the-Athens-Olympics (last visited Mar. 17, 2017).

entity for the environmental impacts of the Games.²⁸¹ By broadening this use and including it in the Olympic Charter, the IOC would better be able to understand the full legacy and impact the Olympic Games have on the environment.

CONCLUSION

The history of the Olympic Games' impacts on the natural environment is mixed. In response to growing international concerns and treaties, the IOC drafted and incorporated policies to better understand and prevent environmental degradation as a result of Olympic events. While the IOC has continued to progressively implement policies to properly address the environmental consequences of the Olympic Games, by including a centralized EISs process, contracting BMPs, and adopting an independent auditing program, the IOC can realize its goals of creating a sustainable Olympics.

281. See INTERNATIONAL OLYMPIC COMMITTEE, FINAL REPORT OF THE IOC COORDINATION COMMISSION 12 (2010).