Green Olympics: intentions and reality

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Abstract

The focus of this report is directed to the consideration of the problems related to the difference between commitment of International Olympic Committee to better environmental approach and actual environmental performance of Olympic Games which suppose to follow this commitment since the Games of the year 2002.

Mostly qualitative research methodology was utilized in this study. It was based on the interviews with representatives of Greenpeace and World Wildlife Fund, the organizations which are involved in environmental assessment of Olympic Games; exploration of the environmental requirements from International Olympic Committee for carrying out Olympic Games and changes in these requirements through years; evaluation of environmental performance of the past Olympic Games which needed to follow environmental commitment.

The research showed that despite continuously improvement in the requirements through years the Host Cities are still managing to fail the preparation of environmental side of the Games. The unsolved problem of still vague requirements was revealed; lack of communication between Non-Government Organizations, which actually give environmental assessment of Olympic Games, and International Olympic Committee was discovered and some political issues were discussed.

After the carried work it is recommended to enforce the cooperation between Non-Government Organizations and International Olympic Committee and create common system for evaluation of environmental performance, state more clear requirements for the ecological organization of Olympic Games and change focus from environment to sustainability.

Keywords: International Olympic Committee, Olympic Games, Non-Government Organizations, environmental performance, requirements.
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List of acronyms

IOC – International Olympic Committee
OG – Olympic Games
UNEP – United Nations Environmental Programme
NGO – Non Government Organizations
OCOG – Organizing Committee of Olympic Games
WWF – World Wildlife Fund
OGKT – Olympic Games Knowledge Transfer
OC – Organizing Committee
NOC – National Olympic Committees
IF – International Sports Federation
EMS – Environmental Management System
OGKT – Olympic Games Knowledge Transfer (OGKT)
SLOC – Salt Lake Organizing Committee
TOROC – Turin Organizing Committee
Introduction

During the preparation for Olympic Games 1994 in Lillehammer Olav Myrholt, the Olympic project leader for the Norwegian Society for Conservation of Nature, says, “The only environmentally sound Olympics would be no Olympics at all. Second best would be ‘recycled games,’ re-using old sites. Lillehammer comes in third.”

What are Olympic Games (OG) by pure fact? Big worldwide event, 18 days of the Games, and for these 18 days - 8 years of preparations, plenty of venues (usually build only for the Games), hundreds of hectares of land, decades of new hotels for visitors, kilometers of new roads and highways and facilities for millions of people. It appears a lot of effort for the performance of few days. The understanding of the fact that the actions which are done during the organization of OG can come contrary to the sustainable approach and especially environmental commitment of the International Olympic Committee (IOC) gave a basis for this research.

Environment became a third pillar of Olympism only in 1994 and completed two other pillars Sport and Culture. 15 years passed since that moment and it is not a long time, especially if to remember that each city is given 8 years to prepare the Games. There are many concerns involved in the Olympic Games: politics, business, economy, society. Environment sometimes is not the last but less important than others. In most of the cases the environmental approach of the City for the Games, unfortunately, doesn’t depend of the requirements and recommendations stated in the application form for the Games, but of wish and motivation of the whole country or hosting city, its background and its capability.

Nowadays, to evaluate the environmental achievement of OG the term “Green” started to be in use. It came from the year 2000 when Olympic Games were hosted by Sydney, Australia. Those Games had strong cooperation with Greenpeace and achieved good results from environmental point of view. Thus, in the report about the Games which was prepared by Greenpeace, the Games were called “Green”. Later on the term was aimed to estimate environmental effort and performance of the hosting city by simple phrase of “Green” or “Not Green”.

There are few stumbling blocks which make the evaluation of the Games from ecological point of view and its “Green” staging rather problematic.

Firstly, IOC is the body which lists official requirements for the Games running but it’s is not an organization which calls the Games “Green” or “Not Green”. Non-Government Organizations (NGOs) which are involved or concerned about the preparation for the Games give this evaluation. The problem is that different NGOs have different systems to measure the impact of the Games and it becomes very hard to satisfy everybody since the set of parameters are not clear and actually the official organization (IOC) doesn’t include these parameters into their own requirements and consideration.

Another issue is time. Preparation for the Games takes more that 8 years including the preparation for the bid. In the time period from 90-s till nowadays plenty of things regarding ecology and environmental standards changed and it is still changing rather fast. The Host City election for the year 2016 will be done in the fall of this year. This means that the requirements for this bid was prepared few years ago and it might happened that on post-Games evaluation period or even the year before, the requirements will be considered already low and the City will lose this relay of “Green” Games again.

These issues will be considered in this work and discussion about other important points will be done. The attention will be given to the review of the IOC requirements for the applicant cities
from environmental side, the changes during the years will be tracked and analysis of these changes will be used for drawing the result of the research and recommendations.

**Aims and objectives**

The study aims to:
- explore all the authorities, organizations and decision making bodies which affect the environmental requirements and its implementation during Olympic Games and track the changes which were done through years.
- find out why Olympic Games are still missing and failing opportunities of making the event ecological and sustainable despite done work and improvement.
- give recommendations of how the situation can be improved and what can be done in future.

**Methodology**

The background studies and forming of the problem were carried out by the aid of articles, research works and books aiming the problem of sustainability and environment efficiency during preparation for Olympic Games.

Reports from NGOs and interviews with representatives of the Greenpeace and WWF Russia were used for understanding and explanation of the role of NGOs in the bid and Games preparation process as well as the relation between NGOs and IOC.

The information used for the comparative analysis regarding environmental improvement of requirements from the IOC and the bid application of the cities was taken from documents archive of the IOC and other independent sources regarding past and future bids.

Review of the past Olympic Games since the year 2002 was conducted for understanding of actual cities’ environmental performance and its failures or achievements.

The conclusion were done based on personal understanding of the problem and opinions of the professionals expressed in the e-journals, books, newspaper articles and information from newsletters from Organizing Committee of Olympic Games (OCOG) of different cities. The same information was used to get a general overview and holistic approach regarding difficult structure of the Games, countries’ motivation and driving forces.

**Scope and limitations of the study**

Since environment officially became a third pillar of Olimpism in 1994 the first Games which required to follow environmental commitment (keeping in mind 8 years for preparation) was carried out in the year 2002, in Salt Lake City, USA. Thus, the analysis of environmental achievements of Host City was carried out starting from the Games in Salt Lake City (2002) and finishing with the last conducted Games in Beijing (2008).

Olympic Games are running every second year – Winter Olympics and Summer Olympics, thus the research about environmental performance of past Games will include 4 events carried out in the following cities: Salt Lake City (2002), Athens (2004), Turin (2006) and Beijing (2008).

The only reliable source of information regarding past and future bids requirements from IOC is available on the official webpage of IOC in Bid Archives. These archives include explanations and requirements for the application for Olympic Games of the years 2008-2016. Thus, the analysis of the changes in the environmental requirements for the future host cities was done for the 5 Games in the cities: Beijing (2008), Vancouver (2010), London (2012), Sochi (2014), Rio de Janeiro (2016).
CHAPTER 1
“Green” Olympics and assessing authorities

The aim of this chapter is to show where the roots of “Green” Olympics are and which cities actually managed to make it “green”. It will be explained how and when environment became an official component of the Olympics. The overview of the organizations which give “green” assessment to the Games will be done and the connection between these organizations and IOC will be described.

1.1 Environmental pillar of the Games
More than ten years ago, in 1994, Lillehammer, Norway organized "the first Green Games ever." Nowadays, every 2 years all the cities around the world have an opportunity to follow the effort of Norway and also Australia to compete for an honor to host “Green” OG. During the preparation for the Games the Host Cities can be committed to deep and lasting actions which can affect the country and the whole world. But the answer to the question if the tasks will be accomplished and outstanding results will be achieved is still uncertain. It goes profoundly to the organization of hosing country, its laws, climate, population and traditions and involves plenty of individuals and dozens of organizations (West, 2004).

Integration of environment to the Olympic Movement began in 1986, when the President of the IOC, Juan Antonio Samaranch, declared that Environment will to be the third pillar of Olympism, along with Sports and Culture. The idea of producing environmentally-friendly Olympic Games began in 1992 when, at the Earth Summit in Rio de Janeiro, Brazil, the idea of sustainable development began to gather momentum on the world scene (UNEP, 2007). During this Summit, the United Nations Conference on Environment and Development adopted Agenda 21, a document created by the United Nations Environmental Programme (UNEP) that indicates the blueprint of actions of how the world should address sustainable development. 182 governments accepted this Agenda in June 1992 and it became the platform for the international community and governing bodies to create an Agenda 21 specific to individual community situations (Appendix A).

Samaranch's declaration about third pillar of Olympism, made Agenda 21 a very important point in the future development of the IOC. In 1994, two years after the Summit, UNEP and IOC joined forces and decided to put the theory of environmentally-friendly Games into the practice. Since this year each OCOG needed to consider environmental and sustainable development issues during the preparation and carrying out the Games. All the Host Cities are supposed to have a comprehensive environmental programme and promote environmental awareness, policies and practices. In 1995, these actions leaded to the creation of the Sport and Environment Commission of the IOC.

Seven years after the original Agenda 21 was adopted, the IOC adopted its own version of Agenda 21 on June 14, 1999, in Seoul, Korea. The entire Olympic Movement adopted the Agenda in October 1999 at the III World Conference on Sport and Environment, held in Rio de Janeiro, where the fateful Earth Summit was held in 1992 (UNEP, 2007). The main targets contained in the Agenda 21 adopted by the Olympic Movement requested for (among others):
- Improving socio-economic conditions
- Conservation and management of resources for sustainable environment
- Strengthening the role of major groups

Together with the three general points, the Agenda lists the ways in which environmental approach should occur within the Olympic Games — everything, starting with the installation of
solar panels and finishing with using the celebrity status of athletes to launch an educational and informational program to closing down roads into and out of Olympic venues in order to reduce pollution (West, 2004).

However, there is a gap between the authorities that dream on plans and theories for Earth saving and sustainable development and those who are actually in charge of implementation theses plans in action. The difference between paperwork, especially with that one which related to world changing strategies, and practical work is that mostly it doesn’t consider many aspects and when the plan goes to reality the stumbling block are popping up here and there and finally it turned to be that implementation of the theory such as “green games” which looked so perfect on the paper takes more money and more work than it was expected.

1.2 Lillehammer – first environment-friendly Olympics of 1994
Olympics in Lillehammer demonstrated that with carefully planned actions and clear understanding of the negative effects to environment from such an event, the negative impact of the Olympics could be diminished, and eventually almost rubbed off. In Lillehammer's case, this meant launching more than 20 environmental concerned projects including change of location of the big skating hall to keep from disturbing the migration birds, exclusion of all motor traffic from Olympic Region and construction of big parking lots and regular bus and rail connection with the Olympic accommodations (Standven, J., De Knop, 1999), as well as widespread recycling programs like using potato-based starch instead of paper products for utensils and plates (Wier, 1993) which were fed to pigs later on. During the OG in Lillehammer organizers and constructors put their attention to other numerous things like: what will be the use of the buildings after the games, which raw materials are used for buildings and how the buildings will be merged with the surrounding nature. The games were "smoke-free". Private vehicles were not allowed within a 60 kilometer radius of Lillehammer between 6 am and 9 pm. Smoking was not allowed at all indoor areas and tobacco use was discouraged at outdoor venues, and even the bullets from the biathlon were recycled to prevent local soil from being contaminated with lead (West, 2004)

Surprising fact about the Games in Lillehammer is that the OCOG met keen public opposition regarding Norway hosting the games. Local residents and environmentalists were concerned that Olympics would produce an enduring negative effect to the environment and stated that it is impossible to make the Games environmentally-friendly and avoid damage which Games will bring to the beauty of Lillehammer valley. Despite the protests, Norway got the Games and many environmentalists had no choice but to work with organizers. Thus, the most environmentally-friendly Games were hatched and all possible environmental impacts were taken into the consideration from the earliest stages.

The important role in the development of Lillehammer as “Green” OG played independent watchdog group Project-Friendly Olympics. This group set up a four point plan to keep the environment at the forefront of the planning (TED, 1997):
- companies were instructed to use natural material whenever possible
- emphasis was placed on energy conservation in heating and cooling systems
- recycling program was developed for the entire winter games region
- stipulation was made that the arenas must harmonize with the surrounding landscape.

1.3 “Green” Olympics 2000 in Sydney
Outstanding results of Lillehammer regarding their environmental policy were famous all around the world, however it seems that the term “Green Olympics” became mostly in use after famous Olympiad in Sydney, Australia. The “formal” evaluation of the “greenness” of the following Games was mostly caused by the involvement of Greenpeace in the preparation for the Games.
In 1992 Greenpeace realized that there is an opportunity to promote viable environmental solutions when Sydney Bid Company held an design contest for it’s proposed Athletes’ Village. Greenpeace’ eco-design was among 5 selected winners (Greenpeace, 2000). This was the beginning of robust cooperation between Greenpeace and OCOG of Sydney. Additionally, OCOG like the concept of Greenpeace so much that the consultations regarding Olympic village and other venues were prolonging during all the stages of event preparation. The key to successful environmental performance of Sydney’s Games were city’s commitment to specific environmental guidelines which were done before winning the bid and before the construction started. The organizers of the Games in Australia implemented numerous projects, focusing on solar energy use and reduced energy consumption. Thus, the results of these actions were 665 houses with grid-connected photovoltaic solar panels and solar hot water systems in the Athlete’s Village. This environmentally-friendly contribution of the OCOG made it the largest solar-powered suburb in the world. The Village’s energy load was 50 percent less than conventional dwellings, saving 7000 tons of carbon dioxide per year (Greenpeace, 2000). After all the achievements Greenpeace called this Olympics the "Greenest Games ever," and awarded six out of ten stars in their rating system (Appendix B). The positive effort of Sydney led to the publication of the “Greenpeace Olympic Environmental Guidelines: A Guide to Sustainable Events” in September 2000, which now can be use as a bible for sustainable Games by each city. Just before the OG in Sydney started these guidelines were published and became one of the measures for all future Olympic Games. The Guidelines were developed with the help of Greenpeace and other environmental groups and were submitted as an official part of Sydney’s bid to the IOC to host the 2000 OG (Appendix C).

Within the past 15 years cities like Lillehammer, Sydney, Nagano, Atlanta, Salt Lake City, Athens, Turin and Beijing have all hosted the Olympic Games. The information, achievements and suggestions for “greener” Games from Lillehammer and Sydney were available for all these cities. Additionally, it is in the duties of IOC to make a knowledge transfer workshop for future Candidate and Host Cities together with previous Games organizers. Despite all these facts, many Host Cities didn’t reach the same level of environmental responsibility. Salt Lake City, for instance, had originally proposed to eliminate all private transportation to the venues, but when it came down to it, nearly 30 per cent of the travel to the venues was by private vehicle (West, 2004). What is the reason of such results? Lack of budget, knowledge or desire to make Olympics Green? These questions will be discussed later on in this work.

1.4 Olympic Games and involved Non-Government Organizations
Besides the Cities which are applying for hosting the OG, and IOC, which is responsible for election of hosting city and control of organizing process, there are always NGOs who are involved in the process of preparation for OG and trying to raise the attention of OC not only towards quality of the Games as an event itself but also towards environment which they affect. Thus, there are certain organizations which are involved in the estimation of Olympic “greenness” and provide their evaluation and feedbacks.

1.4.1 Greenpeace
It is an independent global campaigning organization that acts to change attitudes and behavior, to protect and conserve the environment (Greenpeace International).

Greenpeace or Greenpeace International is an organization which can monitor activities all around the world and in each country separately, like Greenpeace China or Greenpeace Russia. The last mentioned branches are mostly responsible for OG in the hosting cities belonging to the exact country.
Greenpeace is involved in the events or projects when it is visible that environmental damage can be causes. OG is a considerable event and requires plenty of land and new construction. In such a case it’s hardly ever that new installations won’t influence environment. So, Greenpeace is trying to mitigate this impact by recommendations, advices, protecting measures or strikes.

There are two ways of cooperation between Greenpeace and OG. Either OCOG searching for support of Greenpeace (in case the OC wants to improve its environmental performance) or Greenpeace is contacting OCOG for sake of cooperation and decreasing the negative environmental impact of the Games (in case the OC didn’t consider important environmental issues and continuing development in a wrong way). Unfortunately, recommendations of Greenpeace and its requirements are not mandatory for the OCOG and it’s up to the wish of the OC and the government of the city or country if environment will be a priority for OG or not.

As an outcome of Greenpeace participation and observation of the OG, besides improved environmental performance of the Games, the public can get a report about environmental achievements and failures of exact OG. The report is based on the available for public information and also the cooperation with OCOG. However, this report is not a mandatory part of the Games. Greenpeace consider the necessity of writing the report based on the preliminary evaluation of the Games itself and importance of the message it will bring to society. For instance, there was an environmental report by Greenpeace done just before the OG is Sydney started in 2000. The reason of this report was outstanding results which were done by Sydney’s Organizing Committee regarding environmental part. Evaluation of future Games till the Games in Beijing was not done in a way of Australian’s Games. Such a decision can be explained by several reasons. Firstly, Greenpeace doesn’t see a need in writing a report when the Games didn’t reach anything new from environmental point of view and thus creating of the report will be a repeating of the previous reached results. Secondly, if, for instance, on the early stage of construction period it’s visible that the constructions don’t meet any environmental requirements what so ever - there is nothing to say about outstanding results and this message has no impact to society. However, if the environmental achievements of the city which will host the Games are clear and there is something to be learned by other generations – the evaluation, comments and feedbacks are getting the form of the report which is published by Greenpeace, for instance - the report about OG in Beijing 2008.

Nevertheless, Greenpeace is a non-government organization and its mission to make society aware of environmental situation and impact from different activities. Greenpeace don’t have an aim to make the commentary they did as mandatory requirements for the next city, thus it takes the form of guidelines and can be accepted or not accepted by other hosting city (Blokov I., Greenpeace Russia, personal communication).

1.4.1 United Nations Environmental Programme (UNEP)
The tight collaboration between UNEP and the IOC started in 1994. In this year the Agreement of Cooperation to incorporate environmental issues in OG has been signed. UNEP also worked together with the IOC in developing their own Agenda 21 for Sport and Environment. This Agenda became a basement of implementation of the environment as a third pillar of Olympism and started to be carried out by the members of the Olympic Family and by several other sport organizations (UNEP, 2007).

Since the beginning of the collaboration between UNEP and IOC, OCsOG have intensified their focus on environmental and sustainable development issues in preparation for hosting Olympic Games. Involvement of UNEP in work of IOC brought the requirement for all bidding cities to have a comprehensive environmental programme, which should be described in application of
the city and carried out during the execution stage. As well, each Games are assumed to promote environmental awareness, policies and legacy through the event.

Important steps were done by Turin OC, when it signed an agreement with UNEP for the joint development in 2003 also known as Memorandum of Understanding (UNEP, 2006). It was a first OC which, by this action, ensured permanent involvement of environmental NGO in OG preparation process. Thus, this NGO will be able to help with implementation of environmental plans and projects on the official basis. As well, UNEP guaranteed an independent review of OC environmental activities towards sustainable Games. The same step was repeated by Beijing, China, for OG 2008 and Vancouver, Canada, for OG 2010.

In case of Beijing, UNEP also helped to improve communications between environmental NGOs and OCOG, and raised media awareness and comprehension of the environmental achievements. The visible outcome of this cooperation is a complete report by UNEP about Beijing OG “Beijing 2008 Olympic Games. An environmental review”.

Based on the agreement between UNEP and Vancouver OC, the new aim is also to develop and deliver environmental education and raise public awareness of environmental opportunities and issues of 2010 Winter Games. Six main performance objectives of this aim are: Accountability; Sport for Sustainable Living; Environmental Stewardship and Impact Reduction; Social Inclusion and Responsibility; Aboriginal Participation and Collaboration; Economic Benefits (UNEP, 2008).

Apparently, this cooperation is taking a form of practical and stable relationship. This might be a first step towards assurance that environment will permanently present in the Games staging process and will play significant and not the last role in Games preparation process.

### 1.4.2 Worldwide Fund for Nature (WWF)

WWF is a rather similar organization to Greenpeace and quite often they are working together and having the same aims, especially in the cases regarding Olympic Games. However, WWF have their own structure regarding evaluation of the Games and based on the effort of OCOG WWF fill in the table which is shown below, and based on this table, WWF award a medal to Olympic Games in particular city.

Table 1. WWF Olympic Environmental Scorecard (case of OG in Athens, 2004)

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>SCORE</th>
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<tbody>
<tr>
<td><strong>OVERALL PLANNING</strong></td>
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<tr>
<td>Environmental planning</td>
<td>Disqualified (0)</td>
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<tr>
<td>Environmental assessment</td>
<td>Disqualified (0)</td>
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<tr>
<td>Natural Environment</td>
<td></td>
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<tr>
<td>Protection of natural habitats</td>
<td>Disqualified (0)</td>
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<tr>
<td>Urban Environment</td>
<td></td>
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<tr>
<td>Protection of open spaces</td>
<td>Disqualified (0)</td>
</tr>
<tr>
<td>Increase of urban green</td>
<td>Disqualified (0)</td>
</tr>
<tr>
<td>Improvement of the built environment</td>
<td>Silver medal (3)</td>
</tr>
<tr>
<td><strong>TRANSPORT</strong></td>
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<tr>
<td>Public transport</td>
<td>Silver medal (3)</td>
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<tr>
<td>CONSTRUCTIONS</td>
<td></td>
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<td>-------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Siting of Olympic venues</td>
<td>Disqualified (0)</td>
</tr>
<tr>
<td>Use of existing infrastructure</td>
<td>False start (1)</td>
</tr>
<tr>
<td>Use of green technologies</td>
<td>Disqualified (0)</td>
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<tr>
<th>ENERGY</th>
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<td>Green energy</td>
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<th>WATER</th>
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<td>Water saving scheme</td>
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<table>
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<tr>
<th>WASTE</th>
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<tr>
<td>Integrated waste management and recycling</td>
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<table>
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<tr>
<th>PUBLIC PARTICIPATION</th>
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<tbody>
<tr>
<td>Social consultation</td>
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<tr>
<td>Transparency</td>
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<tr>
<td>Public information</td>
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</tbody>
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<table>
<thead>
<tr>
<th>GENERAL ISSUES</th>
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</thead>
<tbody>
<tr>
<td>Respect to environmental legislation</td>
</tr>
<tr>
<td>Public awareness</td>
</tr>
</tbody>
</table>

**TOTAL SCORE (average)** 0.77 (Disqualified)

Gold medal (4) - very positive  
Silver medal (3) - positive  
Bronze medal (2) - average  
False start (1) - disappointing  
Disqualified (0) - very disappointing

*Source: WWF, 2004*

There are also some other organizations who are involved in preparation of OG like State Environmental Protection Administration (SEPA), United Nations Educational, Scientific and Cultural Organization (UNESCO) and country’s government organizations but their influence mostly visible from local side and not always available for society.
CHAPTER 2
International Olympic Committee and bid procedure

This chapter is aimed to describe briefly IOC as organization, its structure and the way it is responsible for hosting of OG. The structure of bid procedure for the cities will be explained. The chapter will provide information about 2 stages of application: the application phase and candidature phase and it will review what they are consisting of.

2.1 International Olympic Committee
IOC was founded by Baron Pierre de Coubertin in 1894, who was inspired to revive the Olympic Games from ancient times of Greece. During the years it has experienced few transformations and restructuring (Appendix D), but nowadays it keeps permanent structure and consists of 115 members.

IOC is a main decision body for all OG. Exactly IOC accepts the bids for hosting Olympic Games in the City, IOC evaluates it, checks it by visiting, eliminates cities and takes the final decision.

The IOC is an international non-governmental non-profit organization and the creator of the Olympic Movement. All rights to the Olympic symbols, flag, motto, anthem and Olympic Games belong to this organization. The main duty of IOC is to administer the organization of the Summer and Winter Olympic Games.

IOC is the ultimate judge of the Olympic Movement. Olympic Movement is a connecting link for collaboration between all bodies of the Olympic Family: the Organizing Committees for the Olympic Games (OCOGs), the National Olympic Committees (NOCs), the athletes, the International Sports Federations (IFs), United Nations broadcast partners and agencies. IOC also ensures realization of a large spectrum of projects and programmes which bring the Olympic values to life (IOC).

The structure of IOC is made up of a maximum of 115 co-opted members. The members are obligated to meet in Session, which should be at least once a year. During the Session various decisions can be taken: President elections for the next eight years and Executive Board members for the next four years, election of future hosting city for OG etc.

IOC guarantees the continuity of OG as a unique event by retaining all rights relating to the organization, marketing, broadcasting and reproduction of the Games. Most of the financing IOC gets through OG rights bought by broadcast networks. Additionally, other part of the funding, IOC receives from the Olympic Partners world-wide sponsorship programme from multinational companies.

2.2 Bid procedure
The honor to host the Games is awarded to the cities which are successfully passing 2 application phases. To apply for hosting the Games the cities need to prepare an application documents. This procedure happens twice. First time, during the Application phase, the cities apply to be a hosting city and prepare their Application File. Second time when the applying city is passing the Application phase it need to prepare a Candidature File or a Bid Book, which is a type of application document for the cities which will be considered in Candidature phase. The main difference between two application documents for both phases is just more detailed information about the hosting city and its plans for the Games in the second phase. This
information is taking a form of answers to the questionnaire of the phases which is bigger in the second phase.

Figure 1: Two phases of selection process

![Selection process diagram](image)

### 2.2.1 Phase 1: Application phase

A city can’t be considered an “Applicant City” until the IOC Executive Board will consider it as accepted. During this phase, all the cities which fulfilled the requirements for applicant city will be considered as “Applicant Cities”.

In the requirement for Applicant Cities is stated to submit a written Application File to the IOC. This file is based on the special questionnaire. After the deadline for submission of Application Files, all of them will be examined by the IOC administration and experts. It is possible that there will be visits to the Applicant Cities by experts for the execution of their duties. However, formal presentations by Applicant Cities to the Executive Board are not allowed. As a conclusion for Application phase, cities which are accepted as “Candidate Cities” will be decided by the IOC Executive Board (IOC, 2007).

To make Application File of the cities understandable, IOC prepares a document which calls “Candidature Acceptance Procedure”, which aimed to explain how the Application File should be done. This document can be changed from year to year but have a standard structure and consist of three parts:

**Part 1: Candidature Acceptance Procedure**

This part explains basic rules regarding staging of OG which is required from the Applicant City.

**Part 2: IOC Questionnaire**

This part contain questions which are in interest of IOC and at the same time it provides the structure of the Application File and form the basis for a technical analysis of each city’s project. The questionnaire consists of 8 chapters. This questionnaire supposes to include such documents as: explanations, tables, maps and guarantees (in case if government of the country finances part of the budget for OG - a letter of guarantee signed by the president).

**Part 3: Instructions**
It consists of final instructions regarding general presentation and layout of the Application File, attached maps and CD ROMs and final check list.

Thus, during the Application phase each city which intends to host OG has to prepare an Application File. This file should explain why the city wants to host the Games, what is the vision of the city towards the Games and which facilities and finance this city have for execution of the Games. As well, on this stage the City is required to pay a candidature acceptance fee which is for the year 2016 estimated as 150 000 USD (IOC, 2007).

2.2.2 Phase 2: Candidature phase

The cities which were accepted as “Candidate City” will follow the second phase of selection process. As in the first phase the cities will be required to submit a Candidature File or a Bid Book to the IOC. The Bid Book should include more detailed information about how the cities want to implement a concept of the Games and answers to wider questionnaire from IOC.

The process of “Host City” election will be done during special IOC Session for this occasion. For this Session an Evaluation Commission preparing a report about Candidate Cities which is based on the examination of Candidature Files (Bid Books) and mandatory visits to the Candidate Cities. The Evaluation Commission is an official body of IOC and can consist of IOC members, members representing the NOCs, IFs, Athletes’ commission, International Paralympic Committee and other experts. During the IOC Session for the election the Candidate Cities are required to make an official presentation, clarify their plans and facilities to stage OG and answer the questions of the IOC Members (IOC, 2007).

As well as in the Application phase, IOC prepares a clarifying document for Bid Book which is “Candidature procedure and questionnaire”. It has similar structure as “Candidature Acceptance Procedure” and has 3 parts with the same names and similar content, however, Part 1 has a name “Candidature procedure” and Part 2 “IOC Questionnaire” consists of 17 themes instead of 8.

Table 2: The difference between questionnaire for Application phase and Candidature phase.

<table>
<thead>
<tr>
<th>Application phase</th>
<th>Candidature phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Motivation, concept and legacy</td>
<td>1. Vision, legacy and communication</td>
</tr>
<tr>
<td>2. Political support</td>
<td>2. Overall concept of the OG</td>
</tr>
<tr>
<td>3. Finance</td>
<td>3. Political and economical climate and structure</td>
</tr>
<tr>
<td>4. Venues</td>
<td>4. Legal aspects</td>
</tr>
<tr>
<td>5. Accommodation</td>
<td>5. Customs and immigration formalities</td>
</tr>
<tr>
<td>7. Security</td>
<td>7. Finance</td>
</tr>
<tr>
<td>8. General conditions, public opinion</td>
<td>8. Marketing</td>
</tr>
<tr>
<td>and experience</td>
<td></td>
</tr>
<tr>
<td>9. Sport and venues</td>
<td></td>
</tr>
<tr>
<td>10. Paralympic Games</td>
<td></td>
</tr>
<tr>
<td>11. Olympic Village(s)</td>
<td></td>
</tr>
<tr>
<td>12. Media services and doping control</td>
<td></td>
</tr>
<tr>
<td>13. Security</td>
<td></td>
</tr>
<tr>
<td>14. Accommodation</td>
<td></td>
</tr>
<tr>
<td>15. Transport</td>
<td></td>
</tr>
<tr>
<td>16. Technology</td>
<td></td>
</tr>
<tr>
<td>17. Media operations</td>
<td></td>
</tr>
</tbody>
</table>
Both stages of the selection process have several steps and deadlines for it. In the Appendix E the table represents the sequence of the bidding process for the year 2016.

To make the information flow of this thesis work easier, the documents which include all the information, requirements and guidelines stated by IOC regarding how to prepare Application File and Candidature File will be called the bids. Thus, instead of “Candidature Acceptance Procedure” and “Candidature procedure and questionnaire” there will be Application bid and Candidature bid.

The difference between Application and Candidature Files and Application and Candidature bids is laying in the fact of who is preparing the documents (Figure 2).

Figure 2: Application and Candidature Files and bids.
CHAPTER 3
Application requirements from IOC: “Green” improvements through years

This chapter will review IOC bids’ requirements for Application phase and Candidature phase considering environmental part and the actions IOC do for improvement of “Green” performance of the Games.

The information review in this chapter have limitations in years and starts form the IOC application requirements created for the Games in 2008 and finishing with the requirements for the Games in 2016. This situation was caused by the availability of reliable information. The only trustable source was the official webpage of the Olympic Movement where the bid requirements were presented only for the years 2008-2016, what means that the requirements for Olympics of 2008 we prepared in 1999-2000 (considering 8 years of preparation process).

3.1 Application phase
Most of the requirements for environment and ecology which need to be presented in the Application File of the cities locate in the part of Application bid called “Questionnaire”. During the years the structure of the questionnaire basically kept the same constituents but it slightly changed the order and distribution, was divided to more themes and became more demanding.

Table 3. Questionnaire themes for the Application bids 2008 and 2016

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Motivation and concept</td>
<td>1. Motivation, concept and legacy</td>
<td></td>
</tr>
<tr>
<td>2. Political and public support</td>
<td>2. Political support</td>
<td></td>
</tr>
<tr>
<td>3. General infrastructure</td>
<td>3. Finance</td>
<td></td>
</tr>
<tr>
<td>4. Sport infrastructure*</td>
<td>4. Venues</td>
<td></td>
</tr>
<tr>
<td>5. Logistics and experience</td>
<td>5. Accommodation</td>
<td></td>
</tr>
<tr>
<td>6. Financing</td>
<td>6. Transport</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Security</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. General conditions, public opinion and Experience*</td>
<td></td>
</tr>
</tbody>
</table>

*shows in which part the environmental issues are considered

3.1.1 Bids changes

Bid 2008: 
In the bid 2008 environment was a part of “Sport infrastructure” and had a question regarding the environmental impact which can be caused by staging OC in the city.

Bid 2010: 
In the bid 2010 it went to General infrastructure and besides assessment of the environmental impact the details of on-going environmental projects and current environmental conditions were asked.

Bid 2012: 
In the bid 2012 part “environment” was added with a question about carrying out environmental impact studies on proposed venues and if legislation of the country require it or not. More information about environmental issues of venues is represented in the additional documents for the Application Phase: Technical Manual on Venues – Design and Standards for Competition – Venues.
In the bid 2012, in the part of questionnaire “Introduction” the project Olympic Games Global Impact (OGGI) appeared at the first time. This project was established in the year 2005 and its main goal to examine the impact provided by OG to the host city and region as well as its residents. Its three main objectives are (IOC, 2003):
- to improve understanding of the overall Games’ impact
- to provide OC with a consistent methodology to capture the Games’ effect
- to help Applicant/Candidate City and future organizers identify the Games’ potential benefits and burdens.

The main OGGI report is a part of Official Report to be produced by the OCOG after the Games, and therefore is an official requirement to be fulfilled by hosting city. The period of measuring of OGGI has duration of 11 years, including 2 years before the election of the Host City and 2 years after the OG (IOC, 2003).

This report will be the first one which estimate environmental impact and will be written by OCOG and not by other NGOs. Unfortunately, there is no possibility to see how this report will look like since the first one will be written 2 years after OG in London, in 2014.

**Bid 2014:**
The questions regarding environment are stayed totally the same in this bid and the part about OGGI didn’t have any significant changes.

**Bid 2016:**
The changes in questionnaire were not done but in this bid OGGI changed its name to Olympic Games Impact (OGI). The OGI study proposes a set of indicators to measure the potential impacts of the Games.

The OGI tool covers the three areas of sustainable development (economic, socio-cultural and environmental). The territory scope is also increased in comparison with OGGI and considers not only region and the hosting city but also a country itself. This is done for deeper understanding by the government the effect of hosting such a big even as OG and also positive contribution of the fact of hosting the games to the local and regional development. The covered period of the study changes from 11 to 12 years and now have 3 years post-Games analysis instead of 2 (IOC, 2007).

These two projects OGGI and OGI might raise the interest of the reader, however, the explanations about the structure of the future reports about these projects were not found. It might exist in Olympic Games Knowledge Management (OGKM) programme which is stored in the extranet of IOC and the entrance to this extranet closed with a password which is owned only by members of the programs, but nothing is available for public.

The changes of the bids of application phase as well as candidature phase can be found in the Appendix F with changes by each year of hosting the Games.

**3.2 Candidature phase**
Since this part is mostly consists of questionnaire, the focus will be done at the “Environment and meteorology” part of it.

**3.2.1 Environmental Management System**
It is important to mention that in every bid since the bid 2008 IOC always requested a Candidate Cities’ environmental approach regarding following elements:
- Geographical features
- Public authorities
- Environmental management systems (EMS)
- Venue construction
- Developing projects

The most important part of this approach is a description of its Environmental Management System (EMS), which didn’t change much since 2008 and require the description of the following parameters:
- objectives, goals and priorities
- environmental key-point action plan for the Games
- collaboration with the environmental public authorities
- collaboration with non-governmental environmental organizations
- efforts to be undertaken regarding transportation and minimization of the impact arising from air pollution, noise and development programmes
- plans for solid waste management and sewage treatment
- efforts to protect and enhance significant features of the natural environment and cultural heritage before, during and after the Games
- environmental awareness programmes


### 3.2.2 Bids changes

**Bid 2008:**
In the bid 2008, there was a recommendation from IOC to Candidate city to put attention to the following points (IOC, 2000):
- architecture, design and landscaping
- reuse of facilities wherever applicable
- restoration of derelict areas
- avoidance of destructive land use
- protection of habitats and biodiversity
- minimize consumption of non-renewable resources
- minimize emissions of pollutants
- sewage treatment
- solid waste handling
- energy consumption
- water and air quality
- environmental awareness

As well, in this year, IOC put attention to relationship between OG and social sector and says that it is important to consider socio-economic parameters, and also establish appropriate relations with: the public authorities, the private sector, official organizations and non-governmental organizations what actually wasn’t done through years.

**Bid 2010:**
In the bid 2010 no changes are done in this part, but bid 2012 is already modified.

**Bid 2012:**
Here IOC puts more attention to drinking water and air quality and asks to provide detailed information according to international standards.
As well, IOC asking how will the OCOG integrate its environmental approach into contacts with suppliers and sponsors, meaning that not only the OCOG should follow its environmental principles but also the companies who are invited to sponsor the event must be environmentally-friendly.
There is also a concern about application of environmentally friendly technologies implemented during OG.
Candidate city requests to describe working methods, responsibilities and cooperation between OCOG and public authorities and natural resource management systems (IOC, 2004).

Besides, bid 2012 was the first one where IOC asks OCOG represent not only EMS, but a sustainability plan, which London as chosen Hosting City represented first time.

In the bid 2012, in the part before Questionnaire there is also a paragraph about OGGI. There IOC recommended to have a collaboration with a local university which took part in similar research projects as a partner for research and methodological support (IOC, 2004).

At the same time very important procedure was implemented in the bid 2012 which leads towards more detailed environmental awareness of the OCOG.
IOC elaborated a set of measurable indicators for the collection of the data from each OG. These indicators need to be considered and information about each of them represented after the staging of OG. The indicators are related to 3 dimensions: environmental, social and economic. I will give an example of table with environmental indicators which are differentiated between those which are directly related to the event and those which describe its context (IOC, 2004):

<table>
<thead>
<tr>
<th>Event indicators</th>
<th>Context indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade-offs for protected areas</td>
<td>Greenhouse gas emission</td>
</tr>
<tr>
<td>Area listed compared with area disturbed</td>
<td>Atmospheric pollutants</td>
</tr>
<tr>
<td>Developed area of Olympic sites</td>
<td>Land use</td>
</tr>
<tr>
<td>Primary ecological assessment of developed areas</td>
<td>Listed sites</td>
</tr>
<tr>
<td>User capacity of developed areas</td>
<td>Buffer zones</td>
</tr>
<tr>
<td>Operating flows of developed areas</td>
<td>Endangered species and biodiversity</td>
</tr>
<tr>
<td>Food production consumed during the OG</td>
<td>Fertilizers, pesticides and agricultural production</td>
</tr>
<tr>
<td>Reassignment of developed areas</td>
<td>Hazardous substances in foodstuffs</td>
</tr>
<tr>
<td>Built area of Olympic sites</td>
<td>Energy used by agriculture</td>
</tr>
<tr>
<td>Primary ecological assessment of facilities</td>
<td>Irrigation rate</td>
</tr>
<tr>
<td>Floor area of Olympic buildings</td>
<td>Deforestation</td>
</tr>
<tr>
<td>User capacity of facilities</td>
<td>Raw material consumption</td>
</tr>
<tr>
<td>Operating flows of facilities</td>
<td>Open-air leisure areas</td>
</tr>
<tr>
<td>Average journey times between Olympic sites</td>
<td>Housing</td>
</tr>
<tr>
<td>Reassignment of facilities</td>
<td>Ozone</td>
</tr>
<tr>
<td>Prospective impact studies</td>
<td>Indoor air quality</td>
</tr>
<tr>
<td></td>
<td>Transport networks</td>
</tr>
<tr>
<td></td>
<td>Daily travelling distance</td>
</tr>
<tr>
<td></td>
<td>Road congestion</td>
</tr>
<tr>
<td></td>
<td>Solid waste</td>
</tr>
<tr>
<td></td>
<td>Waste and water treatment capacity</td>
</tr>
<tr>
<td></td>
<td>Waste treatment</td>
</tr>
<tr>
<td></td>
<td>Water treatment</td>
</tr>
<tr>
<td></td>
<td>Water reserves and consumption</td>
</tr>
<tr>
<td></td>
<td>Water consumption per inhabitant</td>
</tr>
<tr>
<td></td>
<td>Water quality</td>
</tr>
<tr>
<td></td>
<td>Per capita energy consumption*</td>
</tr>
<tr>
<td></td>
<td>Energy consumption broken down by source*</td>
</tr>
<tr>
<td></td>
<td>Breakdown of energy consumption by use*</td>
</tr>
<tr>
<td></td>
<td>Energy self-sufficiency*</td>
</tr>
</tbody>
</table>

* marked indicators added in bid 2014
Source: IOC, 2004
Since these indicators are part of OGGI programme, the results of its implementing and the quality and quantity of information will be firstly presented by London OCOG in 2014, 2 years after the Games.

**Bid 2014:**
There is not huge difference between this bid and previous one besides small table regarding air quality where IOC requires to show the concentration in mg/m$^3$ of the following compounds: carbon monoxide, PM 10, sulphur dioxide, nitrogen dioxide. This information required to be provided for any proposed competition venues located more than 50 km from the Candidate City or for venues where conditions are different from the rest of the Candidate City (IOC, 2006). There are no significant changes in the paragraph of OGGI.

**Bid 2016:**
In this bid to the table regarding the air quality mentioned above was also added ozone. All the rest information stayed in the form of bid 2014.

As it was already mentioned during the explanation of the application phase in the bid 2016 OGGI was changed to OGI. Only general statements, such as scope, covered period and the idea of the OGI are represented in the candidature procedure of this year.

### 3.2 Improving measures & knowledge transfer
To improve performance of OG including its environmental part President Jacques Rogge initiated a process called Olympic Games Knowledge Transfer (OGKT). The project started in 1998 and was representing the part of the vision of the President which he wanted to drive forward during the election in 2001. The idea was implemented and in the year 2005, for the bid 2014, IOC first time mentioned new programme and new services which will be provided to the Applicant Cities. The main ideas of these services is to connect OCOG of past Games with OCOG of applying once for the sake to provide a knowledge transfer from one host to another and improve the quality of the Games (Olympic Movement, 2008).

Here it is the example of services which promised to be delivered by IOC for the Candidate Cities of the year 2016:

- All documents/information produced by the IOC for the Candidate Cities
- Protection of the word mark “[City] 2016” outside the Candidate City’s national territory
- Participation in the Olympic Games Observer Programme in Beijing
- Participation in the Beijing Olympic Games debrief in London
- Candidate City briefings – these briefings will target a number of subjects relevant to the preparation of the Candidature File. Further details will be sent to Candidate Cities in due course.
- Access to the IOC’s Olympic Games Knowledge Management Programme
- Evaluation of the candidature by the IOC (IOC, 2007)

Games debriefing is also important part of knowledge transfer for OG. A formal debriefing is conducted with the participation of the following (IOC, 2005):

- IOC
- OCOG having just organized the Games
- OCOG to organize the subsequent edition of the Games in four years time

The debriefing should be arranged during the few months after the Games, and to be hosted in the city of the next OCOG. During the time before debriefing, a high-level analysis is conducted
on the strategy, planning and operations of that specific edition of the Games, what aims to pass on key conclusions and recommendations for the next OCOG and improve the delivery of the Games.

Additionally, IOC conducts Post-Games Analysis of the OG. During this analysis, IOC gather all the information about each Games edition, process it and presents a final summary report. Based on this report IOC make a proposals regarding policy changes and implementation of new actions for future Games. If the proposals are approved, the key conclusions are implemented and included in the IOC guidelines for future Games organizers.

Olympic Games Knowledge Management Programme which can be found on a specific extranet by the link www.ogkm.olympic.org. However, the resource is closed and the access to this website can get only those people who are anyhow involved or were involved in the process of preparation for OG.

This Knowledge Management Programme contains of OG Knowledge Reports, which represent a description of practices and experiences from previous Games organizers, referring to a given local host city context and environment. The reports contain: technical and organizational information from the OCOG’s point of view referring to a given edition of the OG, meaning that it can include practice examples, scale and scope data, as well as information on resources, planning, strategy and operations. However, they don’t contain legal obligations and IOC recommendations (Theodoraki, 2007).
CHAPTER 4
Cities of the past OG and their bids from environmental point of view

This chapter will examine the environmental performance of those cities which went under the regulations of “environment as a third pillar of Olympism”. Briefly it will be mentioned the main achievements and failures of the past Games and the relative evaluation will be done.

4.1 Salt Lake City 2002

Based on the cooperation with UNEP and agreement which was done in 1994 about mandatory including of environmental programme for all the cities which apply for hosting OG, the first city which supposed to have it is Salt Lake City, 2002. It is given 8 years for the City to prepare for OG. In the bid of 1994 Salt Lake City won this honor to host the Games.

From official sources, Salt Lake City OG represents unusual success, economically and environmentally.

OCOG completed the Games with 100 million dollar profit, which is not typical situation for the Games and also established good venue recovery and reuse plans.

However, for an understanding of the environmental performance of the Games 2002, as a base for environmental review there were taken the information from the Utah Department of Environmental Quality website which contains Olympic Environmental Reports.

The reports are represented from:
- Environmental Advisory Committee (EAC) – a committee organized to ensure positive environmental performance during the planning and staging of the Games. This committee created 12 general environmental principals which needed to be followed by Salt Lake Organizing Committee (SLOC)
- Third party - CH2M HILL - a global consulting, engineering firm in water, environment and transportation. This firm was evaluation the 12 principals of EAC and its implementation in rather positive comments.
- EPHA – Environmental and Public Health Alliance
- SLOC, regarding the environmental compliance program.

All the reports represented there show rather positive environmental performance of the OG in Salt Lake City and don’t point out a huge failures or mistakes done by SLOC but rather gives some recommendations for future or general work organization.

The third party report mentions few results which was absolutely positive and should be adopted by other OGOCs:
- 18 million trees planted in the name of the SLOC
- Fulfillment of the program “Olympic Cleaner and Greener” by elimination 180,000 tons of CO2 and 1,040 tons of other gases and organic compounds. According to “Climate Neutral Network” the Games are certified as “climate cool”
- Recycle and composting of 3,000 tons of solid waste, what is 85% of total solid waste produced by OG in Salt Lake City
- Usage of 3 million of biodegradable products (CH2M HILL, 2002)

However, Tom Price, who headed the organizing committee's environmental advisory panel, commented the environmental solutions which have been accomplished by SLOC: “It's not like they are going out and dumping oil in Great Salt Lake. They are doing some good things, but they are missing a lot of opportunities, and they are doing some really stupid things.”

Among the shortcomings cited by Price and other critics are (Wilson Center, 2002):
issues with transportation plan which was depended on private autos and covered very low percentage of transited spectators heading to the mountain sports venues, while the money spent for temporary parking lots could be used for better mass transit
- shortage of communication regarding environmental initiatives between OGOC and media
- lack of environmental review on significant lands
- insufficient reduce of energy consumption

Thus, evaluating Salt Lake City Environmental performance, it can be concluded that the city did a good job and mostly fulfilled the requirements which at first time were demanded by IOC. Nevertheless, if to compare the results with OG in Sydney, where environmental initiative was represented by Hosting City itself without requirements from IOC the success of Salt Lake City environmental programme was lower and understanding of Green Games wasn’t achieved.

4.2 Athens 2004
In earlier mentioned charter about NGOs involved in the “Green” evaluation of the Games there was a table representing an evaluation of Athens Games by WWF (page 7). As it is visible from this table the Athens’ mark is very low. From 17 assessed items, 10 were evaluated by WWF as 0 what gave to Athens score close to 0.8 out of possible 4.

Based on the available information from the reports and articles there was a delay in all the preparation and construction works because of the archeological constraints on the place. However, it can’t be considered as an excuse for many environmental programs which were not done.

What was done well by Athens is (Toohey K., Veal A.J., 2007):
- a small improvement of the build environment
- public transportation, particularly new metro lines
- public awareness

As a major failures (West C., 2004, Greenpeace, 2004):
- absent of green energy from solar panels, which seems to be so evident in a place which market itself as country of endless sunshine
- absent of recycling and waste management programs
- presence of building materials which might be toxic

It was evident that Athens didn’t meet it’s commitments about making the Olympics 2004 the greenest ever and was disqualified from the race for “green” Olympics by both WWF and Greenpeace.

4.3 Turin 2006
Turin’s work towards “green” Games started in 2003 with initiating of Turin Organizing Committee (TOROC) Environmental Department. The interesting fact about Turin is that it was the first city which got, written by UNEP, sustainability report and based its approach to the Games on sustainability but not only environment. The report brings out the following environmental implementation (UNEP, 2006):
- To achieve the goal of “green” Olympics TOROC executed Environmental Action Plan, which were used to ensure the sustainability of the event. The plan included preliminary impact assessment of the Games to the city and nature, the set of guidelines for the event implementation, and specific criteria for selection of the site and construction works.
- To achieve the intents TOROC used good communication and awareness-raising actions as well as collaboration with institutes, companies and NGOs represented by sustainability partnerships plans.
- Used auditing and controlling tools to ensure transparency of the actions.
- Strategic Environmental Assessment was implemented and included: Water Plans, Natural Risk Prevention Plan, Construction Safety Plan, Landscaping Plan, Materials Plan and Sustainable Mobility Plan. Additionally, Sustainability Guidelines for design, construction and operation of Olympic and Media Villages were developed.
- Environmental monitoring of 46 communes of the Olympic District was done regarding the flows of energy, waste production and disposal, soil use etc.
- Environmental Management System was implemented.

When UNEP honored IOC as Champion of the Earth in 2007 the following achievements of OG in Turin were also highlighted (Around the rings, 2007):
- compensation of greenhouse gas emissions
- waste minimization
- achievements in areas from conservation of fresh water and mountain ecosystems to transport and eco-friendly building designs
- adoption of environmental management standard like ISO 14001 and eco-labeling

During the research no significant failures from environmental point of view were found so the Games from this side can be considered as successful.

4.4 Beijing 2008
City’s existing environmental problems made it difficult for Beijing to convince the world that their Summer Olympics will be truly green. Presenting the bid to the IOC, Beijing OCOG was completely aware of the challenges which they will face trying to organize these Games, nevertheless, the commitment to solve current problems was clearly stated.

The biggest challenge was connected with air quality and its influence to the health of the athletes. However, based on the words of the head of Environmental Department, Yu Xiaoxuan, since 1998 Beijing already converted more than 40 000 coal facilities to natural gas and other cleaner burning fuels (Wilson Center, 2002).

If to compare the environmental situation in Beijing before and after the Games – there is no doubts that China did a great effort to improve it. The environmental initiatives that Beijing was prioritizing during the preparation for the event are: energy conservation, water protection, construction materials, landscaping, solid waste management, and cultural relic protection.

Improvements in the area of energy represented by using clean energy sources such as natural gas for electricity, solar energy for illumination and hot water and geothermal heating in the Olympic Village. Water conservation and water use efficiency were improved by recycling and other measures. Water quality increased citywide, thanks to the reduction of phosphorus and nitrogen levels. The construction materials for building were carefully selected and many other achievements were done in which other cities failed.

The problem with China and hosted Games was based on the clear understanding that in 7 years of preparation it is hard to change the things which were accumulated in the country during the years’ decades. Despite all the achievements there were no possible significantly improve the air quality in the city, which gave quite a sad vision of the Games. Many athletes was concerned about it, especially world class runners who needed to wear charcoal masks and be surrounded by team trainers and doctors with ibuprofen and asthma medication.
As well, the issues with human rights caused worldwide displeasure that OG are hosted in such a place. It was clear that deciding on China as a venue for hosting OG, IOC goes against its own spirit written down in the Olympic Charter which states that sports must be “at the service of the harmonious development of man, with a view to promoting a peaceful society concerned with the preservation of human dignity.” (eWorldVu, 2008)

Nevertheless, both Greenpeace and UNEP in its reports gave positive evaluation of the effort for the Games organized in Beijing. The area where UNEP was advising to put more attention from OGOC was environmental awareness and promotion towards the actions, thus the country can accept the received experience and move forward in its development. Therefore, these Games definitely can’t be considered as environmental failure.
CHAPTER 5
Discussion and conclusion

Despite the effort done by IOC to improve the requirements and implementation of the OG, despite the fights of NGOs against OCOG for better environmental situation and despite promising commitments of each Hosting City regarding sustainability and environment, some of the cities are reaching great results and others failing miserably. How is it possible? Partly it goes to consideration of the hosting place itself. Australia and Norway mostly were dedicated to environment and had a great support from the local NGOs. Greece at the same time has great concentration of the people in its capital and has air pollution problems. Additionally, requirements, regulations and guidelines are coming from so many sources that it causes contention between each other. There are no common laws or rules to force the Games to be at the same level and there is no yet authority which could gather all the guidelines and implement a new standard. Besides, the Games is such a big event where the attention and money should be put in so many issues that sometimes it is very easy to shift the focus away from environment and struggle to make the Games more safe or more memorable or more comfortable than more “Green”. Thus, “Green” Olympics becoming greenish from country to country but yet don’t represent the masterpiece of sustainable event running.

The aim of this chapter is try to find and explain which factors can lead to unsuccessful Games or can define it since the beginning.

Originally, there are two decision bodies whose actions are influencing the staging of the Olympic Games: the Hosting City and IOC. The performance of these two authorities will be discussed in the following paragraphs.

5.1 Host City

5.1.1 Background
It will be a mistake not to mention the fact which is rising in the mind when the name of the future Host City is pronounced. All the history which the city contains in its name, its population, location, culture and traditions can partly predict the way the Games will be hosted. There are exceptions form the rules and it is not correct to expect from the most polluted city to have less effort in the environmental performance than from the most successful city in this area. However the mentioned fact about shortage in the certain area will leave its print.

Figure 1 represent the openness for environmental agreements of the countries, which shows clearly that, for instance northern Europe is much more environmental-friendly than south. It is more expectable that the Games hosted in Sweden or Norway or Denmark will be more “Green” than the Games hosted in Spain or France. Other countries can make a lot of effort to reach “Green” level of the Games but it is much easier and secure that the Games will be more “Green” in the place which is already “Green”.

Thus, watching at this figure and numbers it is possible to predict that environmental performance of Canada and UK will be better than in Russia and Brazil. However, organization of OG is not so easily depends on numbers and figures. From the last 4 cities which implemented environmental approach China has the lowest index. Nevertheless it became an exception from the rule and the country achieved outstanding results. For the next step it will be interesting to analyze the Games in Canada, UK, Russia and Brazil and to check if the background of the country can really affect the organization of the Games in certain points or not.

### 5.1.2 Driving forces: politics, promotion and improvement

All the Host Cities and countries are motivated by some reasons to host the Games and as clear are the reason for the country to take such a responsibility as better the results of the Games can be. There are only few driving forces represented here but these are the most evident ones.
For many countries, the OG, besides huge sports event, is also a big investment in the future development and promotion all around the world. Thanks to OG the world knows that many beautiful cities are exist on this planet, and exactly hosting cities were promoted from the touristic point of view. Years and years after the Games the flow of people to this city won’t be decreased.

There are examples of Athens and Salt Lake City when the driving force of the city to host the Games wasn’t really encouraging for good results. Athens doesn’t really need to be promoted. It is a large, well-known city all around the world. However, originally, Athens was applying to host the Games in 1996. The original motivation was to host it for the sake of history. The first modern OG were in Athens in 1986, 100 years ago. Athens weren’t elected to host the Games that year and it seems that the city, which already had some preparations in mind, decided to struggle for the Games in the nearest years and managed to win the bid. Salt Lake City with its bribery scandal can be considered as an example of huge wish for the city promotion and desire to invest in the development of the city by carrying out the OG.

The Games are an event where a lot of money is invested not only by the government of the hosting country but also from the IOC. Meaning that if there is a need to improve or change something on the country level, hosting the Games can be a solution for pushing the changes and getting extra funds for it. Table 6 represents the budget of Sochi (Russia) for OG in 2014 and the amount of money which will be invested to the organization of the Games from IOC.

<table>
<thead>
<tr>
<th>Revenue items</th>
<th>USD</th>
<th>% of total</th>
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<tr>
<td>IOC contribution</td>
<td>485 million</td>
<td>32%</td>
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<tr>
<td>Government subsidies</td>
<td>418 million</td>
<td>27.5%</td>
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<tr>
<td>Local sponsors, official suppliers and lotteries</td>
<td>365 million</td>
<td>24%</td>
</tr>
<tr>
<td>Ticket sales</td>
<td>129 million</td>
<td>8.5%</td>
</tr>
<tr>
<td>Other sources</td>
<td>120 million</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: IOC, 2007

For the Games in 2016 the budget is even higher and now Rio de Janeiro – the recently elected city, can expect USD 1.01 billion for the staging of the event, which is 31% of the total budget for the Games (IOC, 2009).

The case of Sochi perfectly fit the situation when the country wants to promote itself and get an external push and funds for it by staging the Games. Russia doesn’t have a platform for winter sports which can meet world standards, meaning that having a place for doing winter sport the country lack proper facilities and thus loosing huge amount of tourist during the winter season. The OG is a good stimulus to make this platform existing and at the same time have a worldwide advertisement for new winter holidays destination. Despite there was a decision to build the world-known ski resort in any case in the nearest future, the OG will definitely speed up the construction process and will bring the secure funds from government and additional investment from IOC.

Beijing’s case was presented in less political but more positive way. China is well-know by its unsustainable way of development towards energy. Coal-dependent source of energy and heavy air pollution are the problems which China is trying to decrease during the years. Hosting of OG is a huge motivation for a country to prove to the whole world that the situation can be changed.
and the country can implement new standards of renewable energy, can make a push towards faster development and achieve improvements in this area.

The real motivation and drivers of the Games can be hidden quite often because of political issues. If the country will wish to host the Games – it will do everything to do it and original motivation can not match with stated promises and commitments. It is hard to find the truth sometimes, but to get deeper understanding of what is real intentions to host the Games and where is the motivation to do it can be worthy and might produce better results.

5.2 International Olympic Committee

5.2.1 Politics
Unfortunately, all the businesses which are distinguished by big scale and investment of a lot of money are always unclear and bring a lot of politics in each issue.

In 2007, President of IOC - Jacques Rogge was giving an interview for the Beijing 2008 official website during which he made the following statement: IOC “definitely would love to see the continents that have not yet organized the Games like Africa or Latin America do that in the future. I cannot tell you exactly when, but I will see it in my life I hope and I think that there will be Games in these continents”. He added: “We believe in the near future we can determine the host country under this rotating system. As of now, we haven’t set a timetable for starting this system” (GamesBids, 2007). Such a proposition actually goes against all the rules of the IOC. The president says that since the beginning of the preparation of the selecting procedure the continents will have preference of the IOC in advance. Thus it shows that in the nearest future the host of the Games can be not the country which can make it the best but the country which just didn’t do it before. The nearest example of this situation is election of the host city for OG in 2016 which were done in October of this year. One of the applicant cities was located in Brazil. Nowadays we have Rio de Janeiro hosting the Games 2016.

As well, the fact that the hosting country can have its own culture and laws which might go against the regulation of the IOC can be ignored. This is already happened in China when the Olympic Games of 2008 were boycotted all around the world because of China’s repression of religious groups, child labor, ongoing human rights violation, censorship and imprisonment of journalists and genocide in Tibet. While the Olympic Charter states that the Games should be carried out in a peaceful, harmonious atmosphere.

Additionally, IOC is an authority which invest particular amount of money in each Games. For the year 2014, contribution of IOC for each of the candidate city was estimated as US$ 485 millions and for the Games 2016 around one billion (IOC, 2009). Thus, IOC, as a world organization, can take a decision which country need this investment more based on its own visions and understanding.

5.2.2 Absence of clear requirements and its ensure fulfillment
The issue here is that when IOC prepares the environmental part of the bid for the future host cities the requirements which are stated there finally are taking a form of recommendations. It will be hard to win the election without having Environmental Management System, but what is stated in this system is not always happens in practice. For instance, IOC have a request about 40 000 places in the hotels for Games 2016 quests and spectators (IOC, 2009) and if this number is not satisfied the hosting the Games can be problematic and the city which doesn’t meet this requirement can be deleted from candidate list but IOC doesn’t require that e.g. more than 50% of facilities should be reused or 70 % of energy should be taken from renewable sources or any
other exact statements. It can be considered as significant weakness. Since there is no clear rules from the governing organization the efficient results can be hardly achieved. There are some general rules and guidelines but they can be interpreted in a many different ways. Also, in case the Candidate City doesn’t follow the environmental guidelines this fact is not crucial in the decision about future Host City.

What IOC has now in the requirements is mostly EMS. However, those cities who really want to reach significant result in the environmental performance create the “green” standards themselves. Sydney came up with their environmental guidelines for sustainable events, Turin was taking initiative regarding cooperation with UNEP and London have its sustainability plan written, while nobody required it.

5.2.3 Absence/lack of cooperation with NGOs
Evaluation of the “green” Olympics happened not by IOC, as it seems logical to be, but by the local and international NGOs, like Greenpeace and WWF. These organizations working on it for years and created a structure to evaluate the Games and it is hard to understand why IOC, being so dedicated to their third pillar, don’t do an effort accepting the positive achievements reached by other organizations. As well it seems that the NGOs don’t push IOC to accept their requirements or guidelines, since it’s not their work to improve the work of IOC.

5.2.4 Change of the third pillar: switch from environment to sustainability
The word “environment” gives the shade of green color to the Games however the word sustainability started to pop up more and more often in the bids and application/candidature files. It might be explained by the fact that OG is a complex event and it involve many areas. As well it might be easier for the OCOG to consider a challenge of OG from the sustainable point of view and not to develop different actions as separate programs. Graphically, the difference between environmental and sustainable approaches and the elements which are included in the planning stages are more visible. That’s why form the planning stage and stage of preparation for the Games many cities are starting to use sustainability.

*Figure 1: Comparison of environmental approach and sustainable approach.*
Thus, using the word environment as a third pillar instead of sustainability, IOC might be decreasing performance of the Games towards better achievements and understanding of what exactly should be reached by “Green” Games. By changing one word IOC can reach promotion of balanced decision making and long-term view with respect to such a significant event. As an example, Vancouver with its sustainable approach is thinking about disable people and possibility for them to visit Olympic village, while this issue would never be covered by environmental approach but significantly will improve the Games and its image. Maybe later on it can be in use for disable people who have poor conditions for their existence in many countries. As it was already mentioned before, London, for its Games in 2012 also prepared a Sustainability plan which covers environmental issues and not only. Even when Stockholm was applying for summer OG is 2004, the city was using more sustainable approach than environmental and was mentioning in the application new working places which will be provided because of the Games, will increase taxes revenues and also high foreign income and also was covering a social structure stating that OG offer an opportunity to combat racism and xenophobia with which Stockholm dealing all the time. Moreover, Stockholm’s Olympic village was build in a way that it could be used later on. The construction of the housing area started before the decision about Stockholm not passing application phase was done. However, the area of Hamarbyślöstad still perfectly exists in the area of Stockholm and fully in use by the habitants, which is clear example of sustainable approach instead of environmental.

For now, IOC tries to implement sustainable approach for the years 2012, 2014 and 2016 where it is included in the part OGGI or OGI. But still the explanation of what exactly IOC want to reach through it either missing or exists in the intranet of OG and not available for public.

5.3 Conclusions

5.3.1 Clarifying the criteria and requirements
The reasons why one Candidate Cities is elected to be Hosting one should be listed in the rules of assessment of the cities, however these few lines are so vague and unclear. It can give an understanding that IOC are allowed to choose cities by its own consideration.
That is the information stated as criteria for assessment of application in the Candidature Acceptance Procedure and Questionnaire for the year 2016 (IOC, 2007):
- The potential of Applicant Cities – including their countries – to host, organize and stage successful Olympic Games in 2016.
- Compliance with the Olympic Charter, the IOC Code of Ethics, the Rules of conduct applicable to all cities wishing to organize the Olympic Games, the World Antidoping Code, this Candidature Acceptance Procedure and all other rules, instructions and conditions which may be established by the IOC.
- Any other criteria, which the IOC Executive Board, at its sole discretion, may deem reasonable to consider.

Firstly, there is no a single word about environmental performance of the Applicant city, meaning that it can be considered out of selecting criteria. Secondly, these rules can be understood in many different ways and just provide a disorder in the applications.

Together with Organizing Committees of Olympic Games, IOC is still trying to improve their commitment to environment and nowadays require using at least an environmental impact assessment and sustainable management system before and during the construction period. However, lack of this system or any environment awareness from the possible hosting city might reduce their chance to win the bid but not yet to eliminate it from the list of applicants. Thus, these guidelines only represent the wish to improve the situation but it is not a direct requirement that must be completed.

There is no regulation to control environmental performance. To win the bid, the Host City Bid Book can represent any statement and any environmental program, but no one control its implementation from the side of IOC and even if it is not completed the Games will be hosted by elected city. Why there is a clear regulation about amount of rooms for hosting the guests and the measurement of public support for the games in percentage and questions about already built venues, but there is nothing about environmental part? The only clear regulation is that it should be, but from IOC no one knows and no one checks, despite it will be to late, if it is implementing or not. Most of the results about this part are given only a year or two before the Games or after it.

Thus giving clear explanations of what the Host City should achieve during the Games, fixing exact requirement and implementing strict rules IOC can avoid the gaps in environmental performance from one city to another one.

5.3.2 Increase of cooperation with NGOs
IOC gives the requirements – NGOs evaluate it. There is something wrong in this chain. How the organization which doesn’t set official requirements can judge the city and tell that the work is done bad and how the official requirements can lack the rules for “green” Olympics knowing that they will be assessed later on?

Fortunately, OG have only few organizations involved in the evaluation of the “greenness” of the Games: Greenpeace, WWF, UNEP and few others. What if they could be more? Green Olympic Games are much more complex than reducing waste, recycling soda cans and solar panels, but with all of the implications planned by numerous governing bodies it seems nearly impossible to make everyone happy.

In the OGGI for the year 2012 it was written by IOC that during the preparation of the Games it is necessary to have collaboration with an external research partner such as local university or
other type of institution for gaining the experience and competence for such a project as OG and its environmental part. In the bid for the year 2016 and new program OGI this statement was lost and besides general explanation of OGI there is no information available.

Even so, IOC tries to put responsibility in the hand of the Host City and let it decide what will be used for greening the Games. It might be more valuable if IOC together with Greenpeace and WWF will create common criteria by which the Games will be assessed as green or not green. So already in the preparation stage the City and country won’t have chance to fail.

The problem here is that e.g. Greenpeace is an NGO and its mission to make society aware of environmental situation and impact on it from different activities. Greenpeace don’t have an aim to make the commentary they did a mandatory requirements for next city, thus it takes the form of guidelines and can be accepted or not accepted by other hosting city. The similar situation exists with WWF. They check the documentations for the projects, the constructions and its ecological impact, but consider that OG are complex event and can hardly follow exact requirements, so for now they don’t see a point of IOC using their evaluation system (Blokov I., Vinokurova M.). Thus, it might bring not a big impact to future Games and loose an intention for future improvement, development and knowledge transfer if IOC won’t take responsibility of matching it’s own and NGOs standards for the same aim – green Olympics.

5.3.3 Updates during the years of preparation
This is another significant issue with the Games. It take such a long time in our so fast developing world to prepare for the Games that many requirements done by IOC and achievements of OCOG of the City are becoming out of date during the preparation process. Thus, Host City and IOC need to see much in advance if they both want to reach better result. If there is a possibility to use the cleanest materials for last minute construction – they should be used. If there is a new system of waste management and there is a way to get it – it should be working during the event. The same should be done with new techniques of water and air treatment, recycling materials and energy conservation.

5.3.4 Use of the venues after the Games
In the last bids, IOC includes the table which require from hosting city to show how build for OG venues will be used in future. This criterion exists but far from mandatory task for Games preparation. Thousands and hundreds of millions are spent for hosting the event and mostly for construction part. To see all the facilities to which country were spending money for years situated in the city without proper use is a very sad spectacle. There are already cities which standing with unused Olympic facilities, which coasted a enormous amount of money and were used only for few days of the event without future use. This is neither environmental nor sustainable approach. Nowadays, IOC and countries itself should do maximum effort to avoid this situation and to plan the venues in such a way that they can be used later on.

5.3.5 Motivation for the Host Cities towards green Games, and promotion of green business
In majority of cases, the collocation “Green Olympics” can cause a fear from the organizers of the Games because of extra effort and extra money which need to be spent towards this direction. Fortunately, last bids represent more of environmental and sustainable initiative than previous once. However, more could be done in the promotion towards green Games. Everyone knows that if the Games won’t be evaluated as “green” it will be a stroke to the image of the city and it’s capability in modern development. But a few people discuss how good it is to have these green Games, how much profit it can bring in the nearest future not only for the development of the Host City but the whole country. We can only guess what is discussed on the workshops during knowledge transfer from previous Host of the Games to the future ones, but it could be
great to know the achievements and sustainable decisions of past Games and also benefits which they are bringing even nowadays.

5.4 Future recommendations
The research of this work intended to raise the problems which exist on the way to the “Green” Olympics and use it as a base to start working on a clearly stated problem. However, the expectations of the author were decreased by the lack of personal contacts with representatives of IOC and OCOG despite done effort in contacting these people. The representatives were either hardly or non-reachable, both through private contacts and through official websites. This situation left for the research a blank chapter which should be filled in because despite the common aim for IOC and NGOs to reach “Green” Olympics it seems that the fight is starting every time in new countries between these two sides.
## APPENDIX A: Olympic Games Timeline

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<tr>
<td>IOC</td>
<td>23 June IOC was founded</td>
<td>Idea - Environment will be the third pillar of Olympism, along with sports and culture.</td>
<td>Idea of environmentally-friendly OG</td>
<td>Idea into practice, cooperation with UNEP, creation of the Environ- ment Commission</td>
<td>Restructuring of IOC, + Olympic Agenda 21</td>
<td>ISO 9001</td>
<td>ISO 14001</td>
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| OG   | Athens - first modern Games | Lillehammer OG. First "green" Games. "Smoke-free" | Sydney's OG. | Salt Lake City - First Games which required to have environmental program | Dissolving OG in Athens | OGTurin | OG Beijing | OG Vancouver | First report of OGI from London 2012 |

| Environmental Management | | | Made "best environmental achievement" | | | | | | SEA, ISO 14001:1996 | ISO 14001 |

| NGOs |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

<table>
<thead>
<tr>
<th>“Green” rules</th>
<th>How well Sydney matched up?</th>
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<tbody>
<tr>
<td>1. Use ‘brownfield’, not ‘greenfield’ sites for development.</td>
<td>Homebush Bay was an industrial area, though many former industries had closed. Much of the land was derelict in 1993 when Sydney won the right to host the 2000 Olympics.</td>
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<td>2. Use or adapt existing materials, rather than build from scratch.</td>
<td>Building foundations were recycled concrete and masonry from the demolition of an old abattoir on the site. During the construction of Sydney Showgrounds, 95 per cent of waste was recycled.</td>
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<td>3. Design environmentally friendly buildings.</td>
<td>Where practicable, non-toxic materials were used, e.g. natural fibres, or non-toxic paints, glues, etc. CFCs, HFC and HCFC-free coolants were banned, as well as chlorine-based products such as PVC and bleached paper. Building materials were selected for thermal insulation, ventilation, and recyclability; air-conditioning was avoided.</td>
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<td>4. Minimise adverse impacts of Olympic events on residents.</td>
<td>Most sports were located on one site, as well as the Olympic Village. The Barcelona Olympics in 1992 brought the city to a standstill, the result of coaches and athletes travelling to venues. In Sydney, most amenities and accommodation were on-site.</td>
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<tr>
<td>5. Minimise waste, and recycle wherever possible.</td>
<td>Renewable energy sources were used. The Games aimed to compost or recycle 80 per cent of waste generated during the Games. Compostable paper plates, packaging, cutlery and bin liners, and recyclable PET plastic beakers, wine ‘glasses’ and food packaging were used.</td>
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<td>6. Protect native ecosystems, fauna or flora.</td>
<td>The flagship of the Sydney 2000 Games was to restore Homebush Bay, once labelled ‘the southern hemisphere’s most polluted site’. Mangrove and salt-marsh areas near Olympic Park were protected and extended, and habitats were restored for Green and Golden Bell Frogs—the symbol of the clean-up.</td>
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<tr>
<td>7. Make Olympic sites fully accessible by public transport.</td>
<td>A new rail link was built to Olympic Park, and a new ferry terminal at Homebush Bay. Admission tickets included the cost of public transport to the Games from up to 200km away from Homebush Bay. 6.7 million tickets were sold in this way. Cycle routes and pedestrian ways formed part of the system. Public transport usage in Sydney continues to be higher than corresponding pre-Games levels.</td>
</tr>
<tr>
<td>8. Manage water sustainably.</td>
<td>Olympic Park is serviced by Australia’s first large-scale water recycling plant. Using filtering technology, sewage and stormwater from Olympic Park and the athletes’ village was used in irrigation and toilets, so that half the water on parts of the site was storm or recycled water. Pool water was ozone-filtered to reduce chlorine.</td>
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<tr>
<td>9. Use energy efficiently.</td>
<td>All 665 permanent houses at the athletes’ village had photovoltaic solar energy cells, and all permanent houses had gas-boosted solar hot water heaters, making the village one of the world’s largest solar-powered suburbs.</td>
</tr>
<tr>
<td>10. Create a local amenity and access for people.</td>
<td>Next to Olympic Park, 450 hectares was set aside and restored to form the Millennium Parklands, a public recreational and ecological area, with salt marsh, mangroves, wetlands and other wildlife habitats.</td>
</tr>
</tbody>
</table>

Source: Sports Geography, 2004

The document includes 9 guiding environmental principles, which if followed carefully, will ensure that future Olympic Games and other major events have minimal environmental impact. Principles (Greenpeace, 2000):
1. Environmental sustainability
2. precautionary principle
3. A preventative approach
4. Integrated and holistic approach
5. Specific and measurable environmental goals
6. Community, NGO and public involvement
7. Senior environmental management
8. Environmental reporting and independent auditing
9. Public education and training

Environmentally-sound criteria says that materials, products and food necessary for OG or other event should be:
- non-toxic
- energy efficient
- made using renewable materials which are regularly replenished and extracted in a manner that maintains the viability of the ecosystem and community from which they are taken
- made from non-renewable materials previously extracted but able to be reused or reprocessed

These materials and products should be:
- durable and reusable
- easy to dismantle, repair and rebuild
- minimally and appropriately packaged for distribution using reusable or recycled and recyclable materials.

Above all, systems involved should be:
- non-polluting throughout their entire life cycle
- preserve diversity in nature and culture
- support the ability of future generations to meet their needs.

The life-cycle includes:
- the product technology design phase
- the raw material selection and production phase
- the product manufacture and assemblage phase
- the consumer use of the product phase
- the societal management of the materials at the end of the useful life of the product.

Categories, which by the opinion of Greenpeace, will cause biggest environmental impact:

- Energy consumption
- Transport
- Refrigeration and air conditioning
- Ozone depletion
- Timber use
- Habitat protection
- Air, water and soil pollution
- Water conservation
- Indoor air quality
- Consumption of natural resources
- Waste avoidance and minimization
- Genetically modified organisms
- Quality of life
- Cultural and historical context
- Transparency and monitoring of the guidelines
APPENDIX D: History of IOC

IOC founded by French educator Baron Pierre de Coubertin on 23rd of June 1894.

In 1921, the IOC got its Executive Board which nowadays consists of the IOC President, four Vice-Presidents and ten other members.

In 1986, president of IOC declared that environment will be the third pillar of Olympism, along with sports and culture. This action gave to Olympic Movement new direction and forced it start implementing sustainability principles which became visible only 10 years later.

In 1992, at the Earth Summit, began the idea of producing environmentally-friendly Olympic Games and gather momentum on the world scene.

In 1994, IOC started to cooperate with UNEP regarding issues of environment and in 1995 Sport and Environment Commission of the IOC was created. Thus, since 1994 all cities bidding to host the Games are required to have a comprehensive environmental program.

In 1999, the restructuring of IOC took place. There were few reasons which caused this. Few years before, the contest for the right to host the games has increased fiercely. In 1996, it was quite sure that members of Atlanta Committee for the Olympic Games bribed members of the IOC to obtain the Olympic Games. However, the Committee documents were destroyed prior to a formal inquest and the allegations remain unproven. In his protection, the Committee Chairman Billy Payne said "Atlanta's bidding effort included excessive actions, even thought processes that today seem inappropriate but, at the time, reflected the prevailing practices in the selection process and an extremely competitive environment (Simson & Jennings, 1992)

In December 1998 the incident was repeated against the Bid Committee for Winter Olympic Games in Salt Lake City in 2002. This time the evidence was gathered and involved members were punished.

These facts showed that the IOC needs to modernize their institution. The decisions were taken during 1999. The most important once are reflected in the rules of candidature acceptance procedure, like abolishment of IOC members visits to candidate city and prohibition of personal presents for IOC members. As well, there were created a Nominations Commission for IOC membership, the IOC Ethics Commission, the World Anti-Doping Agency. Financial transparency was achieved by the publication of the financial reports regarding Olympic Movement’s income, IOC Sessions became open to the media and some other changes were accomplished (IOC).
## APPENDIX E: Deadlines of the Candidature Acceptance Procedure and Candidature Procedure

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<thead>
<tr>
<th>Object</th>
<th>Deadline</th>
</tr>
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<tbody>
<tr>
<td>NOCs to inform the IOC of the name of an Applicant City</td>
<td>13 September 2007</td>
</tr>
<tr>
<td>Signature of the Candidature Acceptance Procedure</td>
<td>1 October 2007</td>
</tr>
<tr>
<td>Payment of the Candidature Acceptance Fee (USD 150,000)</td>
<td>1 October 2007</td>
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<tr>
<td>Creation of a logo to represent the application</td>
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<tr>
<td>IOC information seminar for 2016 Applicant Cities</td>
<td>Week commencing 15 October 2007, Lausanne</td>
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<tr>
<td>Submission of the Application File and guarantee letters to the IOC</td>
<td>14 January 2008</td>
</tr>
<tr>
<td>Examination of replies by the IOC and experts</td>
<td>January – June 2008</td>
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<td>Acceptance of Candidate Cities by IOC Executive Board</td>
<td>June 2008</td>
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### PHASE 1

<table>
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<tr>
<th>Object</th>
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<tr>
<td>Signature of Candidature Procedure</td>
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<tr>
<td>Payment of the Candidature Fee (USD 500,000)</td>
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<td>Olympic Games Observer Programme and Candidate City Briefing</td>
<td>August 2008</td>
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<td>Beijing 2008 debrief in London</td>
<td>End November 2008</td>
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<td>Submission of Candidature File, Guarantees and Undertaking to the IOC</td>
<td>12 February 2009</td>
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<td>Visits of the IOC Evaluation Commission to the Candidate Cities</td>
<td>March-May 2009</td>
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<tr>
<td>Report of the 2016 IOC Evaluation Commission</td>
<td>1 month before the election of the Host City</td>
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<td>Election of the Host City of the Games of the XXXI Olympiad in 2016</td>
<td>2 October 2009</td>
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<td>121st IOC Session, Copenhagen</td>
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<td>Questionnaire</td>
<td>New projects</td>
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<td>2008</td>
<td>Interest in</td>
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<td></td>
<td>environmental impact caused by CG</td>
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<tr>
<td></td>
<td>+ explanation of current air, conditions &amp; ongoing projects</td>
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<tr>
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<td>-/+</td>
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APPENDIX F: Changes of the environmental part of the bids
APPENDIX G: Questions for the personal interviews with representatives of Greenpeace and WWF.

1) How Greenpeace and WWF involved in the preparation for OG? Were the organizations involved in the preparation for the Candidature File or consultations and involvement started after the decision of hosting the Games and actual construction period?

2) What is the structure of the Greenpeace report regarding OG? And where the information is taken from: public sources or private communications?

3) Why reports are written before OG and not after?

4) Is there any contact between Greenpeace/WWF and other NGOs?

5) Does Russia made a commitment regarding “Green games”?

6) The report from Greenpeace is done for any Games or only those who state a commitment for Green Olympics or by any other conditions?

7) How important ISO standards for “Green Olympics”?

8) Did Greenpeace/WWF proposed their requirements and parameters for evaluation of “Green Olympics” to IOC?
References

Books:


Electronic resources:

Around the rings, 2007. U.N. Environmental Award for Olympics. [Online]
Available at: http://www.aroundtherings.com/articles/view.aspx?id=26895
[Accessed 23 June 2009]

Available at: http://www.citymayors.com/statistics/largest-cities-density-125.html
[Accessed 20 June 2009]

CH2M HILL, 2002. Salt Lake Organizing Committee Environmental Performance Review. [pdf]
Available at: http://www.deq.utah.gov/references/Olympics/docs/SLOC_EnvironPerformReview_Final.pdf
[Accessed 18 May 2009]

Available at: http://www.e_worldvu.com/international/2008/3/21/beijing-2008-was-a-bad-bet-by-the-ioc.html
[Accessed 5 June 2009]

GamesBids, 2007. Continents may be rotated to host Olympics – IOC President. [Online]
Available at: http://www.gamesbids.com/eng/index.php?news=1186417801
[Accessed 28 February 2009]

Available at: http://www.greenpeace.org/australia/resources/reports/general/greenpeace-olympic-environment
[Accessed 17 January 2009]

Available at: http://www.greenpeace.org/international/news/athens-disqualified-from-green
[Accessed 1 February 2009]

Greenpeace International.
Available at: http://www.greenpeace.org/international/about
[Accessed 17 January 2009]


Available at: http://www1.american.edu/TED/lille.htm
[Accessed 2 April 2009]

Available at: http://www.unep.org/pdf/TorinoReport.pdf
[Accessed 15 March 2009]

[Accessed 20 March 2009]

Available at: http://www.unep.org/sport_env/Olympic_games/index.asp
[Accessed 18 January 2009]

Available at: http://www.sustainablestyle.org/sass/02/greengames.html
[Accessed 13 March 2009]

Available at: http://www.la84foundation.org/SportsLibrary/JOH/JOHv1n4/JOHv1n4j.pdf
[Accessed 30 March 2009]

Available at: http://www.wilsoncenter.org/index.cfm?event_id=16607&fuseaction=events.event_summary
[Accessed 1 June 2009]

Available at: http://www.wwf.org.uk/article_search_results.cfm?uNewsID=1277
[Accessed 10 March 2009]

**Personal communication:**

Blokov I., 2009, *Discussion on cooperation between Greenpeace and OCOG/IOC.* (Personal call, 24th April 2009)

Vinokurova M., 2009, *Discussion on cooperation between WWF and OCOG/IOC.* (Personal e-mails, June 2009)