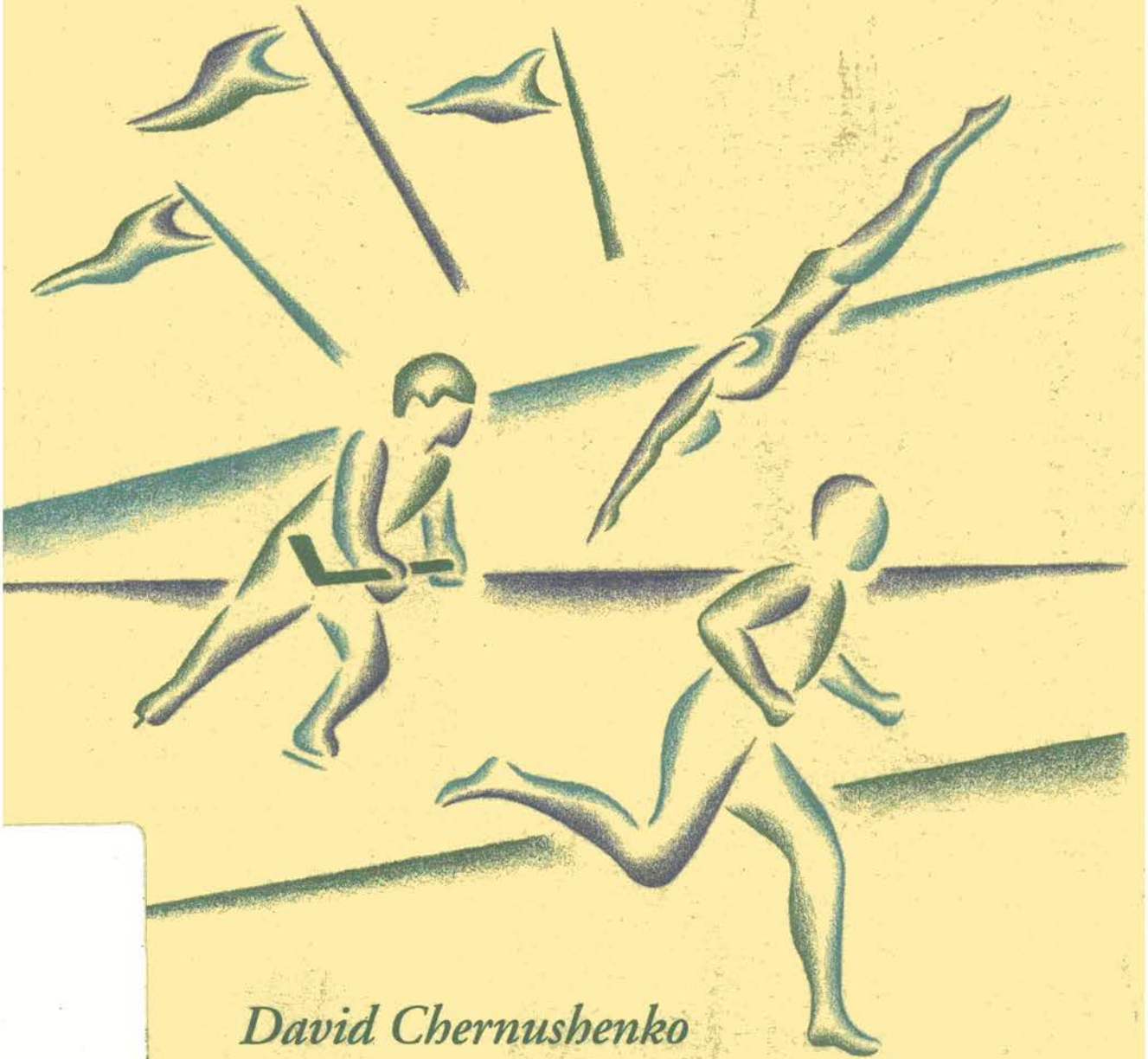
Greening our Games

Running Sports Events and Facilities that Won't Cost the Earth



David Chernushenko

Greening our Games

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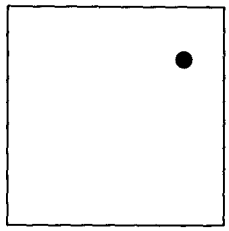

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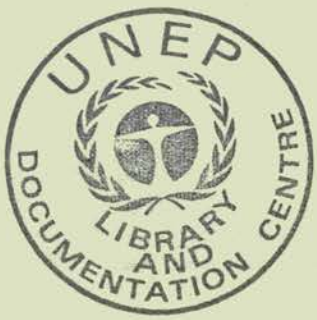

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Every effort has been made to reduce the environmental impact of this book in its research, production and distribution. This book is printed entirely on acid-free recycled paper (cover: 75% post-consumer; text: 20% post-consumer) using vegetable-based inks. Glues used in binding are fully biodegradable.

Cover illustration by Nicole Waddick.

To Marc Tribouillard, who lived for outdoor adventure and practised it with utmost respect. Your spirit is alive in all who shared your friendship.

For my son Eric, who had no say in the health of the environment he was born into, but must take his share of responsibility for how his generation treats the planet.

Contents

Foreword by Elizabeth Dowdeswell

In the United Nations Environment Programme's ongoing global pursuit of more sustainable forms of economic development, several things have become abundantly clear: that all sectors of activity must become involved as "environmental stewards," and that new ways must be found to spread the meassage to every region, socio-economic grouping and individual. For these reasons, we are constantly on the lookout for innovative approaches to addressing the sweeping environmental challenges of the day.

By taking the message of sustainability to the sports industry/community, *Greening Our Games* is at the forefront of a comprehensive and novel attempt to raise awareness and inspire action in an area that touches the lives of billions of people.

Sport is an activity which involves a large part of the population of the planet: as participants, organizers and spectators. It has the capacity to motivate and inspire. At the same time, when pursued without the limitations of a guiding ethic, it can cause severe and even irreparable harm—to people's health and well-being and to the health and well-being of the planet. As we have come to recognize, sport with its many faces is anything but neutral. Like all human activities, it takes place within the economic, social and environmental context of a given time or location. It is both influenced by and exerts an influence on the society and the natural environment in which it takes place. Sport has therefore a remarkable opportunity to play a positive role in moulding the attitudes and goals of the world in which we live. To do so, however, it must first recognize the extent of its power and influence and take steps to channel that power appropriately—to do good rather than harm.

Channeling the phenomenal energy embodied by the sports community—energy that manifests itself through the time, money and enthusiasm that is dedicated to its pursuit—demands some form of shared value system. This book makes a persuasive argument for the adoption of a new ethic—the "Green Games" ethic. It is an ethic that embodies a combination of environmental stewardship, economic efficiency and social responsibility. Sport, by embracing such an ethic and pursuing the various principles espoused by *Greening Our Games*, can take several large strides towards sustainability. In doing so, it is not just athletes and spectators who stand to benefit, but the planet and its current and future inhabitants.

What is so promising about the pursuit of more sustainable sport is the breadth and depth of influence this way of thinking and acting can have: on other sectors, on communities and on the actions of each and every individual who is "infected" with the idea. For UNEP, as long-standing promoters of this type of shift to sustainability, this book and the innovative way of thinking and acting it encourages deserves not only our support, but the serious consideration of sporting people and sports institutions worldwide. Everybody can be a winner!

Elizabeth Dowdeswell
Executive Director, United Nations Environment Programme

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Request to Readers

This book is part of an ongoing effort to promote a more sustainable model of sport. The author would appreciate hearing from readers about any ideas, projects, and initiatives that would contribute to this goal. Please send correspondence to:

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A Introduction

"The world we have created today as a result of our thinking thus far has problems which cannot be solved by thinking the way we thought when we created them."
Albert Einstein

If you have ever wanted to experience social alienation, mention at a gathering of friends or colleagues that you're writing a book on sports and the environment. Then prepare yourself for a range of blank stares and puzzled expressions as those around you quickly but unsuccessfully scan their brains for a connection between the two topics. Some will flee to more familiar territory.

This seemed to have been my chosen lot in life as I pursued the research and writing of this book from late 1992 through the winter of 1994. Then something magical happened. The 1994 Winter Olympics in Lillehammer hit the news as the first-ever "Green Games." Though few people seemed to grasp *why* the Olympics needed greening in the first place, the fact that the issue was being discussed openly suddenly gave my project an air of respectability. Some people began to return my phone calls.

It was the fall of 1992 when this venture began. Media coverage of that year's Olympic Games in Albertville and Barcelona included reports on the negative environmental impact that these huge events were having on their host communities: landslides and road building in Albertville, waste and pollution in Barcelona; while this was nothing new to these particular Games, it was the timing that mattered. The year 1992 was a seminal one for global environmental concern. With the world preparing for the June 1992 Earth Summit in Rio de Janeiro, public sensitivity could not have been higher than at the time of the Albertville Games. The same was true for Barcelona, coming as it did just six weeks after this gathering of world leaders in Brazil.

As a practising environmental consultant, I was certain I had stumbled onto something big. The sports industry needed to be "greened," and I would be the one to write the book on the subject. An exhaustive search of existing sports literature turned up a startling fact. Not a single paragraph existed on environmental concerns in any of the mainstream sports history, sociology or management texts. The sole exception was in outdoor recreation and wilderness adventure guides.

There was only one niggling doubt: was I prescient or simply crazy? A random survey of Canadian Olympians and sports administrators delivered the reassurance I needed. This was a subject long overdue for further research and bereft of useful resources. I was away to the races.

That's the story of *my* discovery, but what about the people who I was so convinced needed my help?

Lillehammer may have been the moment of revelation for many, but it was neither the start nor the finish of the environmental revolution within sport. Though ecologically-concerned people have watched the growth of sport with some misgivings throughout the second half of the century—offering determined resistance in a few cases—the watershed date must certainly have been 1974, when concerned local citizens in Colorado won out over Olympics boosters in a referendum. To the surprise of many, the people of Colorado rejected the right granted to Denver to host the 1976 Winter Games, fearing excessive growth, habitat destruction and real estate speculation.

Denver was just the beginning. Calgary's subsequent bids for the Winter Games were similarly marked by concern over the siting of sports venues and new developments within national parks. Toronto's bid for the 2000 Summer Games received criticism from local groups on environmental grounds, and a protest was staged at the opening of the Albertville Games. Though public concern had manifested itself on these and many other occasions, it did not appear as though the sports community and its governing bodies had either recognized the validity of these concerns or were prepared to take any responsibility or action.

But change was happening. As with most revolutions, however, most of the action was taking place underground, at the grassroots level and within organizations, rather than in the public eye. Whether out of desire, public demand, regulatory persuasion or good economic sense, many in the sports industry had begun to realize that the best future for sport was a green one. Forward-thinking event organizers, facilities managers, parks departments and tour operators were among those who in the late 1980s and early 1990s were calling for better, more responsible practices within sport and recreation.

Unknown to the general public or the bulk of the sports establishment, a movement was growing. In a number of countries and at various levels people were waking up to the fact that

sport, like every human activity, has its own two-way relationship with the natural environment. Given that it takes place within what we sweepingly refer to as "the environment," sport cannot help but have an impact on, as well as be affected by, the state of that environment. Until Lillehammer, and even today in many places, however, this was far from being commonly acknowledged.

Perhaps the biggest sign of the future of sport was one that went almost entirely unnoticed. In September 1993, Sydney, Australia tabled its revolutionary bid to host the 2000 Summer Games. While the headlines were dominated by the human rights debate surrounding Beijing's bid, Sydney chose to distinguish itself from other contenders with an extraordinary plan to limit environmental harm from the Games. What Sydney proposed was nothing less than a revolutionary way of designing, preparing for and running the Olympic Games. Sydney organizers proposed to use the Games as "a catalyst for the transition to ecologically sustainable cities." It would not only be a great event with great facilities, it would also leave Sydney a better place and show the world how to achieve these complementary objectives, they claimed.

Sydney was chosen. Though some speculated on the role that the environmental pitch had played in the win—International Olympic Committee (IOC) President Juan Antonio Samaranch would later state that Sydney won "partly because of the consideration given to environmental matters"—it was impossible to tell at the time if this had been a deciding factor.

What *was* common knowledge, however, was that several influential IOC members, including Samaranch, had begun to promote the idea of sport and the Olympic movement shouldering their environmental responsibilities and showing the world they were committed to playing the role of environmental steward. They had even begun to speak publicly about the need for the IOC to be more forthright in its pursuit of this goal. There was growing talk of adopting the environment as the "third pillar" of Olympism, along with sport and culture.

Then came Lillehammer—the first-ever "Games with a green profile," as the organizers billed them. If there is one thing the public will remember from Lillehammer, it is the efforts the Norwegians took to reduce the impact of this major event on the local and regional environment. That these were the "Green Games" was a constant refrain throughout the 16 days of the festival. Over a thousand stories were filed by the world's media on this aspect of the Lillehammer Games alone.

While hardly perfect, the Lillehammer Games did achieve several remarkable things: they brought to the attention of a broader public the message that sports events can and must be stewards of the environment; they attempted to ensure that the legacy of the event for the host region would be as positive as possible; they showed the sports community that addressing environmental issues need not cost more, and can in many cases actually save money; and they

ensured that future sports events from the Olympics on down will be required to include environmental measures as part of their basic mandate.

Many who learned about the efforts of Sydney or Lillehammer may have wondered what all the fuss was about. What is there about sports that needs to be improved? Is the sports industry a major polluter? While sport is not one of the great scourges of the planet, the situation is complex.

Sport as we know it today is made up of a vast range of institutions, events, facilities and participants at every imaginable level, from the recreational to the elite, from the sand-lot to the dome stadium. At all levels, sport is inextricably connected with the natural environment in which it is practised. A two-way relationship exists between that environment and the people and institutions of sport. The environment is both affected by the way in which sport is conducted, and has an effect on those who are participating. In any given situation, this relationship can be either positive or negative: sport can help or harm the environment, and sport can benefit from or be hurt by environmental conditions.

The unfortunate reality is that trends in both aspects of this relationship have been predominantly negative. Those who practise sport are being forced to do so in progressively deteriorating conditions. At the same time, sports institutions are contributing to this deterioration. The proof is overwhelming: athletes are concerned about the effects of all manners of pollution on their health; communities are worried about the impact of sports events and facilities; and those same events and facilities are facing tighter environmental regulations and mounting costs for the appropriate treatment and disposal of waste.

With few exceptions, *sport as it is practised is not sustainable.* More and more athletes are being forced to change what, when, where or how they play. Appropriate sites and lanscapes for certain sports have become harder to find. Opposition to certain sports, or at least to the way they are currently pursued, is growing. Events and facilities will be forced by regulations and costs to devote an inordinate amount of energy and money to addressing environnmental concerns rather than promoting sport. These are just a few of the signs that all is not well in the world of sport.

Yet despite these signs, and the existence of leaders like Lillehammer and Sydney, the majority of those who influence the direction sporting institutions take have yet to catch on. They do not seem to understand what an important player sport is and can be in both environmental problems and their solutions. But there is good news. By taking responsibility for its environmental impact, the sporting community could play an important part in implementing solutions to these same threats. They could help to launch sport on the route to sustainability.

What Is Sustainability?

The concept of sustainability has its origins in the 1986 report *Our Common Future,* by the World Commission on Enviroment and Development. It identified sustainability as the prerequisite for the survival of any organism or society. It called on human society to find ways to "meet the needs of the present without compromising the ability of future generations to meet their own needs." To achieve this state, we must reevaluate all of our current institutions and practices, in the hope of creating and implementing alternatives which do not detract from the long-term ability of our species, all other species and indeed the ecosystem to survive.

Our Common Future coined the now-popular term "sustainable development" to describe the form that economic activity would have to take if we were to be able to meet the material needs of human society without further harming the planet. This term has come under frequent criticism from all sides. It has been called vague, an oxymoron and even an excuse for business as usual. Many attempts have been made to better define the term. Some have used the term to legitimize just about every imaginable vision of the future, from unrestricted economic growth to the absolute abandonment of all modern trappings. Since the term "development" seems to carry so much unacceptable baggage with it, more and more people are settling on the term "ecologically sustainable development" or the single word "sustainability" to describe the necessary preconditions for simultaneous human and planetary survival.

Mike Nickerson, in his book *Planning for Seven Generations: Guideposts for a Sustainable Future*[1], offers a practical definition of sustainability. He proposes the following "guideposts" for helping to make appropriate decisions.

Continued on next page

[1] Mike Nickerson, *Planning for Seven Generations: Guideposts for a Sustainable Future,* Bakavi, School of Permaculture, 1990, pp. 9-10. The guideposts are reprinted with the author's permission.

Since the release of *Our Common Future* in 1986 (see sidebar), the concept of "sustainability" has been embraced by a growing number of industries and economic sectors, some voluntarily, recognizing that it is in the best interest not only of the environment but of their own industry or corporation to ensure that it has a future to look forward to. Others are only just coming to realize that a combination of pressures—legal, taxation, consumer demand and other market forces—will make it essential for them to implement more sustainable business practices.

One of those sectors slowest to acknowledge the relevance of sustainability to its own practices is the sporting industry. This tardiness can probably be attributed less to willful disregard for environmental concerns than to the failure of key decision-makers to recognize the opportunities that are embodied by a more sustainable way of operating: opportunities which include cost reduction, new revenue opportunities, competitive advantages, improved partnerships with all interested parties, safer conditions and a favourable public profile.

The sports "industry," despite its enormous global economic impact and its inordinate influence on so many economic and societal decisions, is rarely recognized for what it is: a multi-billion-dollar provider of goods and services to much of the world's popu-

Activities are sustainable when they:

1. use materials in continuous cycles.
2. use continuously reliable sources of energy.
3. come mainly from the qualities of being human (i.e. communication, creativity, coordination, appreciation, and spiritual and intellectual development).

Activities are not sustainable when they:

4. require continual input of non-renewable resources.
5. use renewable resources faster than their rate of renewal.
6. cause cumulative degradation of the environment.
7. require resources in quantities that could never be available for people everywhere.
8. lead to the extinction of other life forms.

As a constructive way to achieve sustainability we can take four basic steps:

1. Acknowledge that the problems are critical and must be solved.
2. Learn about their basic nature so that we can recognize the symptoms and think about causes and solutions.
3. Make choices in our actions that will help eliminate the problems.
4. Coordinate our efforts with others who share the goal of sustainability, in order to gain strength through unity and to achieve a maximum effect.

lation. While the nature of those goods and services can be relatively benign, their collective impact is both significant and wide-ranging. From ski resort development to stadium construction to running shoe manufacturing, the sports industry leaves a sizeable footprint on the planet. Just how big that footprint is, and how permanent, depends on the way in which the industry conducts its activities.

In any industry some organizations operate more sustainably than others. This is certainly true of sport. What the majority of decision-makers in just about every sector, both private and public, are only now discovering is that the more sustainable your practices, the more economically efficient you will be. As the cost of waste and inefficiency rises, those organizations which might expect to still be around in the next century are the ones that are committed to making their operations more sustainable. The message for sports organizations is that by running events, making products and providing services in a manner that is less environmentally harmful, sports managers and administrators stand to save money and stay alive.

The problem until now has been that far too few decision-makers have recognized this opportunity for what it is. Of those who have, relatively few have demonstrated either the willingness or the ability to capitalize fully on this opportunity. What is preventing these people from making this philosophical and practical shift? First, not all have come to grips with the applicability to sport of concepts which are generally thought to be the domain of environmentalists. Second, the institutions which made sport what it is today are not necessarily interested in or capable of making the transformation to sustainability. Third, even those people and

institutions who sense both the urgency and the opportunity generally lack the practical knowledge and tools that will allow them to act on their conviction. This book is intended to help remove all three impediments.

The objective of *Greening Our Games* is to make sport more sustainable, first, by demonstrating to decision-makers the tangible benefits of reducing environmental impact; second, by motivating them to champion the cause of greening sport; and third, by providing them with practical guidelines and strategies for taking positive action in their own areas of influence.

This book is intended to help the sports community find a new way to look at what it does: to create a new vision for sport that is based on the ethic that if we as sports lovers want to keep playing the games we treasure most, then we had better take some responsibility for solving both environmental threats to sport and sports-generated threats to the environment. Sport may not be the biggest environmental criminal, but if it's not a part of the solution then it's part of the problem. *Greening Our Games* is about solutions.

Although the intention is to portray this challenge in an upbeat manner, it is necessary to delve into some of the darker aspects of sport. After all, if nothing were wrong we wouldn't need a book to help fix it. A number of things are unhealthy in sport today, and the source of that malaise tends to be entrenched within the institutions of sport. While *Greening Our Games* does not try to finger all that may be wrong with these institutions or pretend to know exactly how to fix them, it must nevertheless attempt to describe what it is about them that makes sport unsustainable. The course towards a better, more sustainable way must begin with an examination of the root causes as well as the symptoms.

> Greening Our Games is a labour of love, intended to ensure that the athlete of the future has a forest to ski in, a river to swim in, clean air to breathe and plenty of healthy company to share these with.

Structure of this Book

The book consists of two distinct sections, each one answering a general question. Section A asks and attempts to answer the fundamental question: *why* green our games? Section B is the practical half of the book, asking: *how* do we go about greening our games?

Section A begins with an exploration of the connections between human health, environmental health and sport. It puts forward the book's two fundamental assumptions: that sport is ultimately dependent on, and thus cannot be sustainable in the absence of, those conditions that allow for both human and environmental health; and that the modern version of sport is a contributor to the degradation of those same healthy conditions. In an attempt to explain sport's current unsustainability, Chapter Two seeks to identify the driving forces behind the evolution of the institutions of modern sport. It asks: what makes sport how it is? What is preventing it from becoming more sustainable? And what have been the negative consequences for sport and the environment? Chapter Three argues that what is needed to make sport more sustainable is a new, commonly accepted and invigorating ethic. Such a "Green Games" ethic will not only benefit sport itself—benefits which this chapter lists in detail—it will also allow sport to become a positive agent for change in the movement toward sustainability in our society at large. Chapter Four identifies the guiding principles upon which any Green Games ethic would be based. Twelve such "Principles for Sustainable Sport" are proposed and discussed. Concluding the section, Chapter Five issues a challenge to those at every level of sport: embrace the Green Games ethic, implement the Principles for Sustainable Sport and begin now to act on the practical steps and recommendations outlined in Section B.

Section B takes a direct and practical approach to the question of *how* to green our games. It is the "user's guide" of this book. Each of Chapters Seven through Fifteen examines a relatively narrow aspect of running a sports event, facility or organization, concluding with a summary of operational recommendations.

Chapter Sixteen looks at the legacy of a sports event, proposing ways to ensure that it is a positive one. Chapter Seventeen is addressed to those contemplating hosting an event and those responsible for evaluating bidders or selecting host communities. It proposes a Green Games Scorecard that both groups can use: a list of criteria for preparing or evaluating a host's sustainability profile. Chapter Eighteen looks at the relationship that sports can have with the travel and tourism sector, proposing ways to develop partnerships for greener sports tourism. Chapter Nineteen is a working guide for readers who work at different levels of the sports industry. It attempts to identify the critical issues to which those who are involved in events, recreational programmes or wilderness activity should devote their energy. Finally, Chapter Twenty proposes some of the specific steps that operators of the principal types of sports facilities might take as a starting point to making their facilities more sustainable.

Key Terminology

This book deals with two vast and diverse subject areas—sports and environmental sustainability—and tries to bring them together inside the same cover. Since both fields tend to have their own assumptions and terminologies, it is a challenge to find a language that will be shared by everyone from hockey coach to golf course manager, let alone the administrator, general reader or student. To assist the reader, several terms need to be more clearly defined at the outset.

What's a "Sport" and Who's an "Athlete"?

It is not always easy to make the distinction between "sport," "games" and "recreation." Similarly, it can be difficult to distinguish between an athlete, recreationist and sport lover. Though the terms used in this book may be in some languages and cultures precise and exclusive, this is not the case for the English language or the North American sporting culture. Nor is it the case for *Greening Our Games*, which is written to be as inclusive as possible. Where necessary to make a distinction between professional, amateur, competitive, non-competitive and recreational sport, or between elite athletes and more casual recreationists, we have used whatever qualifying adjective helped to clarify the passage in question. In general, however, we have employed "sport" to refer to all manner of games and athletic pursuits and "athlete" to describe practitioners of all types. Suspecting that most readers, like the author, consider themselves to be athletes of some sort, we didn't want to leave anyone out.

Given the extraordinary breadth of subjects that can be included under the term "sport" it is helpful to clarify where this book draws the line. While the primary emphasis is on widely-practised individual and team sports, some attention is devoted to non-competitive recreational and fitness activities. At the two ends of the spectrum are (i) activities that are active but may not be considered "sport"—camping, hiking, etc.—and (ii) motor sports or other technology-dependent activities such as auto racing and snowmobiling. This book will not focus on either of the far ends of the sports spectrum. Though some attention is given to wilderness recreation such as canoeing and mountaineering, a healthy literature already addresses the sustainability of these activities. The decision to leave out motor sports was simple. These "sports", can never be "green." They are heavy consumers of non-renewable resources and tend to be harmful in their use of habitat. While some steps might be taken to limit their impact (some of which can be found within this book), it was felt that this would have to be the subject of another volume.

What Do We Mean by "Green"?

The term "green" and its derivatives (greener, greening) are used loosely. Something is green when its level of environmental impact is at or close to the best current level available. This can apply to processes, practices and products, as well as events, facilities and organizations. Green is simply a state to which we aspire which, once achieved, becomes the launching point for the next higher level.

1 Healthy Bodies, Healthy Planet: Making the Connection

"Health and sport are synonymous."
Sheryl Boyle, whitewater kayaker

Personal health is one of the single greatest concerns of individuals in any society. We devote an extraordinary amount of time, energy and money to safeguarding or improving our health, physical and mental. In Canada, 8.4 percent of the gross national product goes to the healthcare system; in the United States, close to 15 percent. That figure rises even higher when the money spent indirectly on health, through preventative measures such as fitness, diet and recreation, is included.

The maintenance of human health depends heavily on three factors: environmental health, physical fitness and the social environment. While studies have found that people have little ability to "control" their social environment so as to make "healthy choices," they do have some influence over the health of the environment in which they live and even more say over their level of physical fitness.

Environmental health can be defined as the unimpaired functioning of local and regional ecosystems, so as to assure an adequate supply of those elements which human beings and other animal and plant species require to survive. At the top of this list are clean air and water, sunlight, food, habitat and biodiversity. In an unhealthy environment, a number of species may be able to survive over the short and medium term, but few will last more than several centuries. *Homo sapiens*, through our unique ability to significantly modify our environment to suit our purposes, may survive far longer than species which cannot, but the quality of our lives—our health—is certain to suffer in such a degraded environment. Since our health is so heavily dependent on the integrity of the ecosystem, we have a vested interest in working to maintain that integrity.

Physical fitness, unlike environmental health, is a state almost entirely within our control. The principal ingredients in most recipes for physical fitness include exercise, nutrition and rest. Individuals in most societies have considerable freedom to regulate these factors so as to keep their bodies functioning optimally, through adequate sleep and relaxation, a balanced nutritional intake and regular physical activity.

In the case of both environmental health and physical fitness, the actions we take as individuals and as a society will influence strongly, for better or for worse, the state of our personal health. Athletes, be they amateur or professional, recreational or competitive, being so closely connected with and heavily dependent on their state of health, should be acutely aware of this relationship between human and environmental health. Or so we would reasonably expect.

But should we? Why would the physically active person be any more aware of the health of the natural environment than the average "non-athletic" citizen? There may be plenty of reasons why they *should*, but are they? Is the young gymnast who spends a great deal of her time training and competing especially conscious of the impact of environmental factors on her sport? Has the adult recreational softball player thought about the quality of air he is breathing, the pesticides being used on his field or the amount of water it takes to keep the grass green?

The odds are that neither of them have devoted much thought to the environment-health connection. While both may have encountered disagreeable conditions—smoking in the stadium or noise from the neighbouring freeway—they are unlikely to have thought of these as anything other than nuisances. In a 1993 survey of elite Canadian athletes, almost all respondents claimed to have encountered conditions detrimental to their health or their ability to train and compete. Only a small minority, however, admitted to having thought of these as "environmental" threats or to have previously made a close connection between deteriorating environmental health and the deterioration of the conditions in which they practise their sport.

If the state of the natural environment is in fact such a key element in the pursuit of health and fitness, why do so few athletes seem aware of this important connection? Indeed, why do so few of the industry's decision-makers seem to understand the link? The best explanation can be found in the history of sport. Since sport and recreation tend to reflect the interests and fashions of a society at a given time, it is helpful to look at some of the broader trends which have influenced the development of sport in many of the world's "modern" societies.

A Brief History of Sport and Its Connection with the Natural Environment

Just as many societies are moving increasingly away from the countryside where both livelihood and recreation are pursued in a natural setting, so too is sport. The majority of sport and recreation now takes place at venues constructed solely for that purpose—a far cry from the historical origins of sport.

One characteristic common to virtually all early forms of sport (i.e., from ancient civilizations until the Industrial Revolution) is their connection with the natural environment. Since they tended to be practised out of doors, many in areas away from villages and towns, this "connection" just came with the territory. Hence the logical evolution of "seasons" for certain sports, to match the conditions of the natural seasons.

One category of sport grew out of various means of transportation. Activities which were originally ways of getting from point A to point B—and often with a significant cargo—such as walking, running, cycling, cross-country skiing, horseback riding, sailing, canoeing and rowing have evolved either stylistically or technologically, some to such an extent that they bear little resemblance to their utilitarian ancestors.

Early practitioners of these sports were inevitably familiar with their natural surroundings, and developed knowledge and appreciation for such natural processes and features as weather, tides, water, soil and snow conditions. In the case of those sports which have their origins in hunting, an intimate knowledge of animal behaviour, local geography, flora and climate was a prerequisite. For the skier, the ability to accurately read weather changes and snow conditions often made the difference between a good showing and a poor one or, in the case of back-country and off-trail skiing, between life and death. In sailing, what tends to separate the champion from the mediocre is a knowledge of wind and tides.

In this case, familiarity, rather than breeding contempt, can foster a profound understanding and respect for the elements, occasionally bordering on worship. Rare is the skier, sailor or cross-country runner who would rather be inside and out of the cold, the sun or the rain. Finnish sports sociologist Pauli Vuolle notes that in many countries the national physical culture grew out of a close connection with nature. In these cultures, "nature is not met as an enemy, but as an opponent that is to be appreciated and honoured," states Vuolle.[1]

It is this intimacy with nature which motivates and inspires many athletes. The activity is a way of getting out into the fresh air or the wilderness where they can feel the exhilaration: the heart

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[1] Pauli Vuolle, "Nature and environments for physical activity," in *Sport for All*, Elsevier: 1991, p. 598.

racing and the body surging unrestricted. To quote Canadian freestyle skier Bronwen Thomas: "As a skier I am in close contact with the environment and a part of my pleasure of this sport is that connection with nature."

Risto Telama delves deeper into the symbolic value of nature in his 1991 study of nature as the motivation for physical activity among Finnish people. The study finds that nature is cited by 25 percent of men and 41 percent of women as their primary motivation for participating in sports and recreation. Telama concludes that activity within nature provides people with "a sensation of personal freedom and autonomy," and that it "helps individuals move beyond their self-perceived limits and find a new world in which to master their abilities and skills."[2]

Many of the sports still practised today can be traced to early hunting and warfare. Archery, the oldest of these, is particularly illustrative of the way in which hunting skills were adapted for warfare and, subsequently, became a form of recreation. While the use of the bow and arrow for hunting has been traced back as far as 50,000 years, the earliest references to its use for recreation date from ancient Egypt.[3]

References to archery, on its own and in combination with horsemanship, are found in the works of Homer, Plato and records of the ancient Japanese. Once it had been adopted as a primary weapon of warfare, archery quickly became a staple of the soldier's training regimen. It was a natural extension then for soldiers and civilian militia to practice their skills for recreation or in peaceful competition. In early China and India, archery is often mentioned in its three contexts: hunting, warfare and as a purely recreational pastime.

The obsolescence of the bow as a weapon of war did not, however, signal its demise in the sporting culture of many countries. Societies and clubs were formed in Europe to continue the pursuit of archery as a recreational activity, and the bow and arrow continues to have a dedicated following among "sport" hunters in North America.

Typical of the evolution of many sports, archery has moved from a very primitive pastime, to one of increasing sophistication. Bows and arrows are now made of composite artificial materials, the former being available with an array of sighting and balancing features. Open fields with makeshift targets have been replaced by elaborate venues, both indoor and outdoor. The modern competitive archer is now several steps removed from the very basic origins of his sport. The same can be said for most other ancient forms of sport: running, swimming, wrestling, boxing, fencing, the pentathlon, canoeing, rowing and equestrian events, in addition to many newer sports, such as tennis, soccer and skating. While a few of these are still practised in something close to their original form, the majority have moved away from natural venues and in some cases are almost

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[2] Risto Telama, "Nature as motivation for physical activity," in *Sport for All*, op.cit., p. 611.

[3] Arlott, John. *The Oxford Companion to Sports and Games*, Oxford University Press: 1976, p. 18.

exclusively practised in purpose-built facilities, increasingly indoors and with equipment that is more technologically sophisticated and expensive.

For instance, although swimming continues to be a popular outdoor recreational sport, virtually all competition now takes place indoors. Until the popularity of the triathlon brought outdoor swimming back into vogue in the 1980s, outdoor sport swimming had been relegated to an exotic pastime with a minimal following.

The Modern Evolution of Sport

The history of most modern sports is characterized by a movement away from the natural and towards the artificial—in venues, in equipment, in philosophy and in respect for the athlete's health. Though there is nothing inherently wrong with moving towards human-made facilities and higher-quality, safer equipment, such a trend is both a symptom and a source of an increasing disconnection between the sporting community and the natural world. It is a trend which has contributed to the evolution (perversion, according to some) of the philosophy of sport brought about by political, economic and commercial pressures.

The physical movement away from nature as a site for sport has been a principal contributor to the sport community's diminishing understanding of and concern for the environmental health upon which it is in fact highly dependent.

The "invasion of modern competitive sport resulted in a radical change in the relationship between the sports culture and nature," according to Vuolle. The opponent in competitive sport is no longer a natural one—terrain, climate or wild animals—but instead it is "an artificial impediment or situation, whose creation requires preparation and development of the natural environment to meet." Vuolle concludes, therefore, that "the relationship of today's sport to nature is primarily technocratic."

Physical activity can either separate or bring together humans and nature. Vuolle identifies three categories of environments for sport: genuine, developed and built. The genuine environment is true wilderness (parks, conservation areas, etc.); the developed allows for outdoor activity at locations built within the environment (trails, slopes, sports fields, outdoor pools); and the built environment is indoors or fully enclosed/surrounded (gymnasium, stadium, ice arena).

To help us understand where, how and why some sports have progressively abandoned their "natural" roots it may be useful to think of today's principal sports as fitting into three categories:

1. Outdoor sports practised in a *genuine* natural environment;
2. Outdoor sports practised in a *developed* natural environment;
3. Sports practised predominantly in a *built* environment.

Table 1: Categorizing Sports by Their Playing Environment

Outdoor sports practised in a genuine natural environment	Outdoor sports practised in a developed natural environment	Sports practised predominantly in a built environment
• Canoeing	• Archery	• Archery
• Equestrian *(cross-country)*	• Baseball	• Badminton
• Kayaking	• Bobsleigh	• Basketball
• Mountaineering	• Cricket	• Bowling
• Orienteering	• Cycling	• Boxing
• Rock climbing	• Football	• Curling
• Sailing	• Golf	• Diving
• Skiing *(cross-country, off-trail)*	• Hockey *(field)*	• Fencing
• Surfing	• Hockey *(ice)*	• Figure skating
• Windsurfing	• Horse racing	• Gymnastics
	• Hurling	• Handball
	• Kayaking	• Hockey *(ice)*
	• Lacrosse *(field)*	• Lacrosse *(box)*
	• Lawn Bowling	• Martial arts
	• Luge	• Racquetball
	• Polo	• Ringette
	• Race walking	• Speed skating *(short track, indoor oval)*
	• Rock climbing	• Squash
	• Rowing	• Swimming
	• Rugby	• Synchronized swimming
	• Running *(road)*	• Table tennis
	• Skiing *(alpine, freestyle, ski jumping, biathlon)*	• Volleyball
	• Soccer	• Water polo
	• Softball	• Weightlifting
	• Speed skating *(outdoor)*	• Wrestling
	• Tennis	
	• Triathlon	
	• Track & Field	
	• Shooting	

Categorizing sports in this way (see Table 1) illustrates how many are practised exclusively or predominantly in purpose-built facilities; how many sports have come to be played either solely indoors or at increasingly artificial facilities; and how relatively few continue to be practised in a genuine natural environment.

The majority of sports which date from the 18th century or earlier were practised outdoors. This is not the case for such recent inventions as volleyball, basketball, rhythmic gymnastics and synchronized swimming. Although a game like basketball is often played out of doors at a recreational level, the public tends to be most familiar with the televised indoor competitive version.

Reasons for the movement toward indoor and built facilities are many: climate, comfort of athletes and spectators, urbanization, higher standards, pressures for uniformity, prestige, cost and marketability. Since Chapter II focuses on political and economic pressures and questions of prestige, cost and marketability, we will focus here on the other motivations.

Comfort

Probably the greatest impetus for moving away from natural settings towards artificial ones is the desire to take shelter from the elements. Where sport once capitalized on natural features such as geography and climate, it now frequently attempts to modify undesirable aspects and to recreate desirable ones. This can take many forms: from the minor (artificial snowmaking for skiing, ice refrigeration for skating and turf management for soccer) to the major (golf course and ski run "designing," bobsleigh and luge track construction and the building of arenas and stadia), to the extreme (Tokyo's new indoor ski hill).

Whereas enduring and even capitalizing on inclement weather and unpredictable terrain was once "part of the game" in many sports, that is less and less the case. Though not necessarily a bad thing (is there anything wrong with a windbreak to keep the badminton bird in your court?) most examples of human intervention have changed the nature of the sport. By moving indoors, sports such as basketball, volleyball, swimming and baseball can guarantee uniform temperature, lighting and prevent interference from gusts of wind, dust and waves.

To some this represents a truer form of competition: athlete against athlete, team against team, with reduced unpredictability. Others may view the "comfortization" of sport as taking away some of its vitality and character. That same unpredictability that some sports or facility designers go to such great lengths to eliminate has provided many of the greatest moments in sports history. Fog, snow, wind and mud are what North American football legend is built on. As a *Sports Illustrated* commentator recently wrote, one of the sources of the National Football League's descent into dullness is the replacement of so many natural fields with artificial turf, and outdoor

stadia with climate-controlled domes. Many Canadians would argue that the possibility of sub-zero temperatures and snow on the field is what gives the Grey Cup Final its charm.

Again, there is no reason to make a value judgement about this trend. Some athletes and spectators simply prefer to practise their sport inside out of the rain or on a level playing field. Others choose to play the same sport all year round, whether ice hockey in summer or tennis in mid-winter. As a result, fewer athletes are actually in touch with the natural environment and may be, therefore, less aware of its importance to either their health or their sport.

A further motivation for the use of built environments is the "globalization" of certain sports. Sports not indigenous to some regions of the world are now being taken up so as to allow for truly global competition. Soccer is a prime example. Now played in almost every country, soccer requires minimal facilities; just a field, really. Even the field, however, if it is expected to be turfgrass, can place heavy demands on the resources of an arid or extremely temperate locale: water, fertilizers, pesticides, etc. When a hot country wants to take up ice hockey or a cool one basketball or swimming, only an indoor, built environment will suffice.

Death of the Season

The concept of sport "seasons" is vanishing. With facilities for practising winter sports in summer and vice-versa, the local climate becomes irrelevant. Hence the rise of Australian speed skaters and Swedish tennis players. The National Hockey League season begins in September and ends in June. Teams that fail to make the playoffs can put in seven weeks of golfing by the time the Stanley Cup is hoisted aloft by the victors. Many young minor hockey players and figure skaters can practise on ice twelve months of the year. Increasingly, athletes *must* practise year round in order to remain competitive.

Urbanization and Vanishing Green Space

Another major contributor to the "de-naturalization" of sport and sporting facilities is urbanization. With more people living in cities and their suburbs, the availability of open green space is limited. Under these constraints, sport and recreation tend to take place in community centres, the local YMCA or other youth clubs, school gymnasia and athletic fields, a limited number of public parks or at private health and sport clubs. Almost without exception, these recreational facilities are purposely-built.

Modern parks and playing fields are designed to meet the perceived needs of recreational users and to maximize the number of those users. In most cases the "optimum" design includes facilities for a variety of sports and activities in close proximity to each other. The surfaces are either grass, soil, sand or gravel for field sports like soccer, football and baseball; for "court" sports

like basketball and tennis, they are asphalt, concrete or clay. In the case of grass fields, they tend to be cut short, watered frequently and sprayed with chemicals.

The recreational park is not a wilderness park and does not pretend to be. The mandate of the typical Parks & Recreation Department is to provide as many quality recreational facilities as possible at as low a cost as feasible. Trees and shrubs tend to be planted or preserved in small number only, and primarily for aesthetic reasons or to provide shade or wind-break. With little tree cover, animal life is limited to the occasional bird or squirrel. Plant diversity is minimal.

The typical rural sports setting tends to be less developed and artificially-constructed. Hockey in "the good old days" was played on ponds and outdoor rinks, field sports on fallow farmland, and horse-riding just about anywhere. Contemporary sports facilities in non-urban regions still tend to be relatively rudimentary. A rural community has less money to devote to purpose-built facilities and to achieving the higher standards and uniformity of their urban counterparts. The same might be said for sports facilities in developing countries as compared with industrialized nations.

Uniformity

The desire for uniformity of facilities and conditions is a key motivator of any movement away from the natural toward the artificial. Television, travel and competition have combined to raise the expectations and "needs" of athletes, coaches, officials and even spectators regarding the calibre of facilities. The impact of this quest for better, more uniform facilities and conditions can be several: more watering, chemical spraying or machine grooming; more indoor facilities that once seemed adequate outdoors; protection from vagaries of weather; the removal of unpredictable features of the landscape; and increased costs of construction and maintenance.

It is easy to condemn the transition that many sports are undergoing toward the artificial on any number of environmental, aesthetic, social or even moral grounds. To do so, however, would be neither fruitful nor respectful of the course of human development. Rather than trying to portray modern sports trends as a perversion or degradation of an heroic activity, it is far more useful to see them as an "episode in the continuing history of the 'modernisation' of sport,"[4] according to Lois Bryson of the University of New South Wales. Bryson contends that "Sport is really no different from other social institutions in that it must be located historically and within the power relations of the society and hence is subject to continual change."[5]

A study of Finnish recreationists by Pauli Vuolle found that those who felt the strongest connection with the genuine natural environment and the greatest desire to pursue physical

[4] Lois Bryson, "Sport, Drugs and the Development of Modern Capitalism" in *Sporting Traditions*, 1990, 6(2), p. 135.

[5] ibid.

activity in nature were, not surprisingly, primarily people who spent their childhood playing in genuine natural settings (see sidebar).

Though Vuolle is careful not to pass judgement on the trend away from genuine environments in favour of the developed or built, he cautions that built environments for sport may "become factors alienating people from nature if the exercise of sport is restricted to them alone."[7]

E.L. Jackson seems to agree with Vuolle while echoing the earlier remarks of Bryson when he states, "the values and attitudes of a society exert a profound influence on recreational choice." Therefore, "in a consumer society geared towards mass consumption, it is not surprising that many forms of recreation place heavy demands on the natural environment."[8]

Though the trend towards sport in a built environment seems to foreshadow a steadily widening gap between the sports community and an understanding of and concern for its place within the natural environment, there are still plenty of hopeful signs. The growing popularity of certain forms of outdoor recreation in many North American and European countries is one of them.

Vuolle's conclusions are based upon an extensive survey of the Finnish population carried out in 1987 by the University of Jyvaskyla as part of a project called "Physical Activity in Nature." Vuolle cites the following observations regarding the young, middle and older generations.

- The *oldest generation* is characterized by an attachment to rural society and its closer-to-nature way of life.
- The *middle generation* holds positions of power today and is therefore responsible for decisions made to develop the environment for physical activity as genuine or built.
- The *youngest generation* grew up in an urban environment and "has become thoroughly socialized to developed and built environments and... distanced from the natural environment."[6]

The Canadian Parks and Recreation Association's 1992 report *The Benefits of Parks and Recreation* speaks of "increased public awareness and sensitivity about the environment"[9] and growing participation in appreciative outdoor recreation activities. Demographic changes will result in a gradual focus away from facility-based recreational activities towards natural environment-based activities, according to Dr. David Foot, who is cited in the publication.

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[6] Pauli Vuolle, "Nature and environments for physical activity," in *Sport for All*, Elsevier: 1991, p. 602.

[7] ibid., p. 605.

[8] E.L. Jackson, "Outdoor recreation participation and attitudes to the environment," *Leisure Studies*. January 1986, pp. 2-3.

[9] Canadian Parks and Recreation Association, *The Benefits of Parks and Recreation*, Ottawa, 1992, p. 76.

There is room for optimism in these trends, even if they are restricted primarily to non-competitive recreation. Dunlop and Heffernan find that:

> "involvement in outdoor recreation activities creates an awareness of environmental problems by exposing people to instances of environmental deterioration; creates a commitment to the protection of valued recreation sites; and, also, cultivates an esthetic taste for a 'natural' environment which fosters a generalized opposition to environmental degradation."[10]

Instead of portraying as inherently bad the apparent weakening of whatever connections may have existed between the natural environment and the sporting community, the above historical review and analysis of the sport-environment relationship is useful in several ways: it allows for a better understanding of what relationship may have existed and may still exist; it helps to explain any rupture that may have or may be taking place; and it points to the importance of reestablishing and even emphasizing that link for the mutual benefit of both the natural environment and the institution of sport.

The Environmental Impact of Sport and Recreation

Sport has evolved in a certain way, just as the relationship with the natural environment has followed its own course. Regrettable though some of the twists and turns this relationship has taken may be, they are now part of sports history and cannot be changed. Any attempts to influence the future course of sport, however, can only benefit from a solid grounding in this history.

Like society at large, the sport community finds itself at a turning point. With the benefit of hindsight, it is increasingly clear just how destructive certain practices, events and decisions have been for the natural environment and for sport itself. Sport is not conducted in a bubble, immune to the goings on of the real world. Like any individual, organization or corporation, the actions of the athlete, sports association, professional team or equipment manufacturer have repercussions. From the perspective of the natural environment, those repercussions have been more often negative and destructive than positive or restorative, even though sporting organizations are not major corporate polluters.

The sports "industry," as it has been loosely termed in this book, is made up of individuals, clubs, associations, government agencies and corporations, ranging from tiny to very large. In the case of the clubs, associations and corporations (and even some individuals) the amount of money they generate ranges from nothing into the billions of dollars.

There is only one way to describe equipment and clothing manufacturers like Adidas and Fischer; event organizers and promoters like Ogden; professional sports franchises like the Dallas

[10] R.E. Dunlop and R.B. Heffernan, in Jackson, op. cit. p. 5.

Cowboys and Juventus; and events like the Olympic Games, the World Cup of soccer and the Tour de France: huge. These organizations, in addition to dealing with large sums of money, employ thousands, purchase and consume resources (some hazardous), produce millions of consumer products, use energy and water, generate solid and liquid waste, develop land and operate fleets of vehicles. The ecological footprint of any one of these organizations can be significant.

What a company like Nike or an event like the Olympics has in common with a community half-marathon or a high school ski team may not be immediately clear. Can we lump together Michael Jordan with a parking-lot basketball player? Do they share anything in common apart from the fact that they both participate in sports activities? Is it useful to include recreational athletes and clubs in the same "industry" as professional franchises and equipment manufacturers?

Though we might have answered no to such questions forty years ago, the evolution of sport, its commercialization and globalization means that these people and institutions have more in common than we might have thought—not least environmentally. In all but the poorest and most remote communities, sports participants, activities and facilities tend to have remarkable similarities. The young Taiwanese baseball player may use the same type of bat and ball as his major league hero. He wears a similar type of uniform, catches with the same make of glove, drinks the same drink (when he can afford it) and plays on the same type of field. Spectators at both levels drive to the game, drink their soft drinks in disposable cups and use the washrooms.

From the moment an athlete begins to use equipment, apparel or facilities, she has begun to leave some form of ecological footprint. The impact of a recreational runner may seem insignificant. As she is joined by others on the same footpaths, or as she begins to train on a running track, compete in neighborhood races, drive to participate in or watch more remote events, purchase a greater variety of footwear and clothing, however, her footprint grows. Her choice to participate in sport is accompanied by a series of repercussions: from soil erosion to facilities construction and air pollution to waste generation.

The point is not to spread ecological guilt but to draw the attention of those in the sporting community to the fact that their activities do have an environmental impact and that they have choices regarding the severity of that impact. They can choose to carry on as usual, or they can choose to understand the nature and degree of their impact on the environment as a prelude to taking responsibility for it.

Since the objective of this book is to provide upbeat solutions to the problems at hand, it is essential to first clearly identify those problems, however grisly the details may sometimes be. These typically fall into two categories: first, recurring situations and common practices; and second, isolated events or occurrences. Several examples of each are needed to illustrate the scope of sport's environmental impact.

The Principal Environmental Issues

Any sport facility or event will contribute in some way to the principal global and local environmental concerns. Standard facility and event management practices contribute regularly to energy consumption, air pollution, greenhouse gas emissions and waste disposal (both toxic and non-toxic), as well as ozone layer depletion, habitat and biodiversity loss, soil erosion and water pollution. For example:

- The British Sports Council's National Centres consume close to $1 million of energy per year, adding around five hundred thousand tons of carbon dioxide to the atmosphere.
- The typical American professional football/baseball game adds between 30,000 and 50,000 disposable cups to the local landfill.
- Canada's 2300 ice arenas and 1300 curling rinks consume more than one million MWh of electricity annually and leak ammonia and CFC coolants to the atmosphere.
- Community playing fields spread pesticides and herbicides and consume millions of litres of water each year.
- Most swimming pools use dangerous chlorine gas to treat bacteria and algae.

Our recreational practices consume natural resources and generate waste. In this way costs are incurred to the participant, facility or organization as well as to the planet. Sometimes these costs are direct and quantifiable. Other times they are indirect and non-quantifiable. While the former are most easily identified and consequently reduced, it is the indirect financial costs, not to mention the less tangible social, cultural and ecological costs, which are most challenging to address; all the more so since the rewards for doing so, though significant, are less concrete and immediate.

Five examples have been chosen to illustrate these points. It should be emphasized that although the following stories are critical of aspects of some sports, it is not the particular sport that is being singled out but rather the way it is sometimes practised.

1) Modifying water courses

Rowing and paddling competitions have traditionally been held on lakes, rivers and bays which offer appropriate conditions. The strongest nations or regions in rowing, canoeing, and kayaking were historically those where such bodies of water were naturally found. Unequal as this may have been, it allowed athletes to train and compete locally and at a limited cost. Those without access to a calm rowing basin or a white-water river simply chose a different sport. The recent trend towards modifying existing geography or creating entirely artificial bodies of water have altered this equation. In the name of "improving" conditions for training and competition, lakes have had their shorelines modified and embankments reinforced and rivers have been diverted, straightened and

"calmed." In some cases, lakes, rowing basins and even white-water rivers have been created where none existed. While the financial costs of playing God in this way are often substantial, it is the ecological costs which can be most striking: loss of wetlands, breeding grounds for fish, birds and insects; dramatic changes to water flow; and pollution by sediments and other compounds.

2) Skiing blamed for habitat destruction, and more

Alpine skiing has been one of the most vilified of sports. Nowhere is this more the case than in the European Alps, where development pressures, traffic and aesthetic and environmental consequences have generated significant concerns. Local residents, legislators and environmental groups in France, Germany, Switzerland, Austria and Italy have become more and more vocal in opposing such ecological problems as:

- destruction of natural vegetation
- shortening of the growth period of vegetation
- disintegration and thinning of protective forests
- soil compression
- chemical pollution of soils
- growing landslide, soil erosion and avalanche hazards
- land clearing for infrastructure development (parking lots, roads, hotels)
- solid waste generation
- noise disturbance
- draining of local energy sources and water supplies
- disruption of wildlife.[11]

A similar movement is gaining ground in Japan and North America, propelled by concern for the protection of national parks, diminishing pristine wilderness and the growth pressures generated by ski resort development.

3) Turning the planet into a golf course

Those same development pressures are strikingly evident in the sport of golf. Golf course construction is the world's fastest growing type of land development[12], notably undeveloped and aesthetically attractive land, which tends to be either wilderness or prime agricultural terrain. The growing popularity of golf in countries and regions

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[11] Dr. H. Lobmeyer and Prof. Dr. H. Lutter, "The Incorporation of Environmental Education in School Sports" in *International Journal of Physical Education*. 27(3) 1990, pp. 20-27; Prof. Dr. Helmut Digel, "Sports in a Risk Society," in *International Review for the Sociology of Sport*, Munich, 27(3), 1992, p. 261.

[12] Worldwatch Institute, "Toxic Green—The trouble with golf," *Worldwatch Magazine*, Vol. 7, No. 3, Washington, DC, May-June 1994, p. 29.

where suitable land is at a premium has inevitably led to conflict. It is at its hottest in Japan and Germany. Both are densely-populated countries with little remaining wilderness whose affluent citizens embraced golf in the 1980s with unbridled enthusiasm.

In 1990, Japan had 1,706 golf courses in operation, with 325 more under construction, covering 200,000 hectares. That total was expected to grow to over 3,000 golf courses, covering 320,000 hectares by the mid-1990s.[13] More than 5,000 hectares of forest were being destroyed annually in Japan for golf course development, according to 1987 figures of the Japanese National Environmental Agency.

GAG'M: The Global Anti-Golf Movement

The global spread of golf course development has not gone unopposed, although until recently opposition tended to be local groups mobilizing to protest unaceptable development close to home. In recent years, the Global Anti-Golf Movement (GAG'M), with strong support in Japan and Southeast Asia, has arisen. GAG'M has national branches in a number of countries which share information and strategies.

A 1990 study of Japanese sports business by Masumi Yajima notes how the problem with modern golf course development is as much the form it takes as it is the land it occupies. "Only real estate firms and big business with access to large amounts of capital can afford to get involved in resort development," he notes. Yajima argues that "Because their aim is mostly profit, they fail to carry out the development from the viewpoint of improving the environment for sports activities and they do not plan the construction of leisure facilities well. Such poorly planned facilities have come under fire for destroying the natural environment and causing social problems."

The pressures exercised by Japan's golf resort development extend beyond its borders to Hawaii, Western Canada and, most recently, to Southeast Asia. Jungles are being razed and islands threatened in Malaysia and Thailand for the sake of foreign golfers and a small local elite. According to the Worldwatch Institute, Thailand is currently building one golf course every day, with golf now being the major cause of landlessness among rural Thai people. China and Singapore are draining rice paddies for golf while "the Vietnamese have donated a protected rainforest, Thu Duc Forest near Saigon, to a course developer from Taiwan."[14]

A similar growth phenomenon can be observed in Germany, where the number of golf courses rose on an average of 8 percent per year throughout the 1980s. For the sake of the nearly 70,000 golfers in Germany, Lobmeyer and Lutter note, "thousands of hectares of untouched land will be opened up and developed by uprooting forests,

[13] Masumi Yajima, "Possibilities and problems of sports business in Japan," in *Sport for All*, P. Oja and R. Telama, eds., Elsevier, 1991, pp. 571-7.

[14] Worldwatch, op. cit., p. 29.

draining brooks and streams, filling small ponds and replacing valuable natural vegetation with the uniform fertilized grass of golf courses."[15] German golf course developers also stand accused of "sports imperialism": with land considerably cheaper just over the border in France, a number of new clubs have opened on previously undeveloped land in Alsace, catering primarily to German and Swiss golfers.

Golf is also accused of: pollution of surface water and groundwater with pesticides, herbicides, fungicides and chemical fertilizers; the replacement of natural habitat and threatened species with "green monocultures"[16]; draining valuable wetlands; lowering water tables and local supplies through intensive irrigation practices; and spills of toxic chemicals and fuels from machinery and storage tanks.

4) Noisy tennis

Tennis, perhaps surprisingly, has been the subject of one of the highest-profile sport-environment conflicts in Germany. Though the sport's sudden popularity in the 1980s led to a tennis club building craze—following the success of professionals Boris Becker and Steffi Graf—it was noise rather than development issues which grabbed the headlines. Lobmeyer and Lutter report that "in recent years almost 100 court decisions have been made against tennis facilities in Germany because of noise disturbances."[17] Noise is a form of pollution which is not ecologically "threatening." Instead, it is more of a nuisance and a threat to the quality of life of those in the immediate vicinity. Tennis clubs, sports stadia, events which use loudspeakers and motor sports of all description are all sources of noise disturbances. In their extremes, some of these sports not only annoy people, they can disturb and alter the behavioral patterns of wildlife.

5) Turf: artificial vs. "natural"

Providing and maintaining outdoor playing fields, both natural and artificial, affects the environment in a number of ways. "Natural" turf is often anything but; requiring drainage, irrigation and chemical treatment in order to meet current standards. Artificial turf may introduce harmful substances to the earth and water as it wears and disintegrates. At the end of its useful life, the thousands of square metres of petroleum-based carpet becomes a major landfill problem. In addition, the production processes of artificial surfaces involve considerable energy consumption and disposal of potentially harmful by-products.

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[15] Lobmeyer and Lutter, *International Journal of Physical Education*, p. 22.

[16] M. Fordham, "Conservation Management on Golf Courses," *Journal of the Sports Turf Research Institute*, Vol. 64, p.10.

[17] op. cit., p. 20.

In addition to the above examples of common practices and problems endemic to certain sports or facilities, it is useful to consider instances which, though "one-of-a-kind," are symptomatic of an approach or an ingrained mentality in sport. This approach, which considers environmental concerns to be outside the orbit of sport, encourages, or does little to discourage, habits which are wasteful or even harmful.

Montreal's Big "Owe"

The history of sport can provide no more blatant example of waste and inefficiency than the 1976 Montreal Olympic Games. What had been touted by Mayor Jean Drapeau as a modest Games that would return to the origins and ideals of the Olympic movement spiraled out of control, becoming a monument to bad management. The original budget of $124 million grew to over $1 billion by the end of the 1976 Games. With interest payments and other costs, the Canadian and Quebec taxpayer will have been taken for a $3.5 billion ride by the time the debt is paid off in 1995.

Montreal's mega-debt represents more than just fiscal irresponsibility. It is illustrative of a way of thinking which came to dominate the planning of the 1976 Games: grandiose, wasteful and without any thought for the post-Games legacy. The result:

- a state-of-the-art velodrome which never again hosted a world-calibre event, lost millions of dollars in the following decade, and whose acres of hardwood cycling track were scrapped in the late 1980s to build a "Biodome" museum;
- the "Big O" Olympic stadium (also known as the "Big Owe") whose millions of tonnes of concrete are already in a state of advanced deterioration, whose roof was not finished until 1989 and has been shredded by winds and replaced on several occasions; and
- the Olympic Village, built at a cost of over $95 million, whose apartments were designed for a Mediterranean climate, and have proven very difficult to fill.

The legacy of 1976 for Montreal is one of wasted money, materials, energy, land and opportunity. The environmental tragedy is that with better planning, management and foresight, these same resources could have been used not only to stage a respectable Olympics, but to provide long-term facilities on a human scale for the residents of Montreal and future events. Instead, much of that concrete and steel is destined for landfill decades ahead of schedule.

In his tell-all 1976 book *The Billion-Dollar Game*, city councillor Nick Auf der Maur criticizes then-Mayor Jean Drapeau's "distorted set of priorities." He concludes that, "the Games simply grew too big and too attractive to those whose motive was personal gain." Auf der Maur notes that the problem with the Olympics is that they require "highly centralized sports facilities which

are more useful after the Games to professional spectator sports than to participatory amateur athletics," as opposed to decentralized and smaller sports facilities constructed where the people are, in neighborhoods, small towns, villages and big-city housing complexes.[18]

This problem of scale and grandiosity is endemic to the Olympic Games, and shows no sign of abating, as we will explore in more detail in Chapter II. Pressures to make each Games bigger and better have often been noted by organizers and observers in previous host cities, particularly of Winter Games, most recently by Norwegians in reference to the 1994 Lillehammer Winter Olympics. The challenge for any host city, as Auf der Maur noted later, is "to make the Olympics fit the city" and not the city fit the Olympics.[19]

Albertville—Dreams of Economic Development

The 1992 Winter Games in Albertville, France, though far better managed than Montreal, were the source of several particularly shocking tales. Profitable and efficiently run, the Albertville Games were envisioned from the start of the bid preparation as an engine for economic growth in the Savoie region. Already a heavily utilized winter playground, the "Three Valleys" boasted a wide array of skiing facilities and tourist amenities. The "JO" (Jeux Olympiques) were seen by many as an opportunity to modernize, expand and diversify. They would bring new roads, resorts, hotels, restaurants, housing, infrastructure improvements and sports facilities.

The problem with the JO was again one of vision on the part of organizers. Driven by the desire to maximize local development, they made little effort to ensure that building was either: (a) necessary; (b) appropriate to the setting—environmentally, socially or aesthetically; or (c) economically sustainable after the Games. The result was a series of environmental horror stories, some expensive emergency damage control measures and, less than two years later, a plethora of bankrupt hotels, unfilled apartments and over-sized infrastructure.

The bob and luge track at La Plagne was built in a village too close to too many people. Adding to the inherent dangers of refrigerating a track with ammonia, an acutely toxic substance, the entire run was built on an unstable slope. The solution to this potentially lethal situation was to issue residents with gas masks. The facility was also roundly criticized by many on aesthetic grounds: a visual blight on a picturesque mountain slope.

The highway leading to Albertville and onwards to some of the high Alps venues was chronically overburdened during peak ski season. Organizers realized that it would be unable to handle the volume of traffic of the JO. A major highway upgrading plan was therefore launched to allow

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[18] Nick Auf der Maur, *The Billion-Dollar Game—Jean Drapeau and the 1976 Olympics,* James Lorimer & Company Limited, Toronto: 1976. Permission of the publisher has been granted to reprint this excerpt.

[19] Auf der Maur in "Quebeckers are still paying for the '76 Olympics," *The Globe and Mail,* June 9, 1990, p. D2.

more vehicles to flow through the Three Valleys, already suffering from exhaust pollution, deforestation and erosion. The mountainsides overlooking many stretches of the highway from Albertville to La Plagne and Bourg St. Maurice are covered with pylons, concrete blocks and anti-submarine netting, as a preventative measure against erosion and landslides. That such visual scarring of this prized alpine region could have negative consequences for tourism seems obvious. Less obvious perhaps is a fact pointed out by a local geologist: "emergency measures such as those necessitated by road construction are always infinitely more expensive than good planning."

Poor planning proved expensive at several venues. Abandoning earlier proposals for a light-weight, temporary ski jump, a permanent alternative was built on an unstable slope, demanding an additional 600,000 tonnes of concrete reinforcement when it began to slip. All this for a sport which has almost no following in France. The construction of a new downhill run in Val d'Isere caused noticeable erosion. At Les Saisies, the biathlon and cross-country finishing arena was located in a rare wetland of protected status, almost destroying the bog.

Other issues of concern included drainage of valuable water reserves to supply new hotels and resorts, disruption of natural habitat, the "canalization" of stretches of the upper Rhone tributaries and the use of only the most basic forms of waste management: open incineration, incineration plants and landfills.

The Albertville Games were the first ever to have their opening ceremonies preceded by a protest march to complain about the Games' "legacy of pollution and environmental injury."[20] Some communities in the Savoie actually voted to refuse the Games, placing the preservation of their environment and their quality of life above any promised economic gains.

In a report released prior to the Games, the Mountain Commission of the Rhones-Alpes Federation to Protect Nature (FRAPNA) stated: "We deplore the Olympic project in Savoie....The equipping of the sites damages fragile and wild surroundings and entails risks; natural catastrophes, disappearance of fauna, shrinking of habitats and blighting of the countryside." Toronto's *Globe and Mail* concluded that "the ecology is the largely uncounted cost of the XVI Olympic Winter Games, if French officials see their Eurodream materialize and the Savoie becomes a hub for the European Community."

Problems on a Smaller Scale

Lest the impression be left that only major games such as the Olympics can harm the environment of their host community, examples abound of smaller events and facilities whose practices are equally detrimental, albeit on a lesser scale.

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[20] "Employment and the environment create a delicate balance," *The Globe and Mail*, Toronto, February 12, 1992, p. E6.

- At major sporting events in Tokyo entire track suits are typically handed out to members of the media, employees and other officials as a way of identifying them during the game and of gaining added publicity for corporate sponsors. Hundreds are distributed at each event. This one-use apparel item constitutes a particularly wasteful practice.

- It is common in ice hockey arenas to use a white paint to give the ice surface a brighter, more uniform look and increase reflected light. Coloured paints are also used to paint lines for hockey and other sports. Each spring most arenas will change their ice, usually by removing existing ice to an outside parking lot, leaving it to melt, along with the paint locked inside. Some arenas change their ice several times per year. While the paints are generally non-toxic, their release into the local sewage system can have a harmful effect on drinking water quality, nearby bodies of water and their flora and fauna.

- When the city of Ottawa was awarded a franchise in the National Hockey League in 1990, the company behind the Ottawa bid proposed to build a new stadium—the Palladium—on agricultural land under the jurisdiction of the neighbouring city of Kanata. As the land was zoned for farming, it was first necessary for approval to be granted by the Ontario Municipal Board (OMB). A vocal opposition group tried to block rezoning, arguing that Ontario's diminishing stock of agricultural land must not be paved over for any non-agricultural purpose. Additional environmental arguments raised included the fact that the setting would encourage the use of private vehicles as opposed to public transit. Vehicle traffic was expected to rise to such an extent that an additional interchange on the Queensway, the city's principal freeway, would be required. Whereas a more central location would be better situated for public transit and pedestrian traffic, the remote site would be unreachable on foot. At the 1991 OMB hearings, developers and politicians argued that the benefits of economic development would far outweigh any concerns over lost farmland. The city of Kanata, anxious to boost its tax base, stood firmly behind the Palladium application. The land was approved for development.

The Impact of a Degraded Environment on Sport

How the sports industry and our sports culture contribute to the degradation of environmental health is only one part of the story. For sport is not only a culprit, it is equally often a victim. In an ecologically degraded area it may be hard, if not impossible, to pursue certain sports. And where it is possible, it may often be unwise. In this next section we will explore some of the many ways in which an unhealthy environment hurts not only the athlete but hinders the motivation of individuals to pursue sport in the first place.

Common Environmental Threats to Sports and Athletes

Localized/short-term threats

- airborne smog
- indoor air quality
- toxic chemicals
- pesticides
- water-borne pollutants/bacteria
- noise
- cigarette smoke

Long-term/global threats

- ozone layer depletion
- climate change
- habitat/biodiversity loss
- radioactive contamination
- accumulation of toxins
- soil and water contamination
- acid rain

Water pollution, air pollution, stratospheric ozone deterioration, habitat loss, toxic waste, pesticide residues, noise, traffic emissions, climate change, indoor air quality and even cigarette smoke are among the myriad environmental threats to the safe and enjoyable practice of sport. Effects of these threats can be short term and local, hindering only the athletes present in a certain place or participating in a certain event, or long term and widespread, jeopardizing the very viability of a location, event or sport.

Examples of short-term threats include nitrogen dioxide buildup in ice arenas or cigarette smoke in indoor gymasia. Though these conditions may cause discomfort and nausea and even hamper the ability of the athlete to practise or perform, the threat ends with the removal of the source of the problem or with the removal of the athlete from that location. Should no attempt be made to address these sources, the athlete who is repeatedly exposed may suffer longer term consequences. The sport or indeed the facility only becomes threatened if athletes are made sufficiently aware of the threat to their health and decide to quit, switch to some other sport or move to a different facility.

Longer-term threats are typified by environmental degradation whose source cannot easily be identified and/or whose consequences may take years if not decades to fully materialize, and even longer to ameliorate. Falling into this category are everything from localized toxic contamination and high atmospheric pollution, to global phenomena such as the depletion of the stratospheric ozone layer and climate change.

Environmental Threats to the Sports Participant

A polluted or otherwise degraded environment would seem not to discriminate between the athletic and non-athletic members of society. However, the athlete's vulnerability increases dramatically through (a) the frequency of exposure to a particular threat, and (b) the intensity of effort exerted in that degraded environment.

Environmental Tobacco Smoke (ETS)

Canadian physician Dr. John Read was one of the first to sound the warning regarding the harmful effects of cigarette smoking for athletes. His message was that cigarette smoking has no

Vulnerability of the Athlete

While all residents of polluted regions are subjected to similar air conditions, athletes may be among the most vulnerable, given their exercise patterns and needs. Reasons for this are several:

- The "quantity of air inhaled during exercise is significantly greater and the depth of inhalation into the lungs—into the sensitive and generally less used tissues—is also greater."[21] When exercising, our consumption of air can increase by as much as ten times. For the endurance athlete, that figure may be closer to 20 times.
- Not only are we increasing respiration, we are not filtering the air we breathe as efficiently. By breathing predominantly through the mouth, we lose our "usually efficient nasal filtering mechanism."[22] The result can be greater intake of particulates which can cause shrinking of the air passage, fluid secretion and possibly even lung cancer. The American Lung Association equates running in a typically polluted urban area for 30 minutes with smoking a pack of cigarettes.
- Although the general public and those with asthmatic conditions will usually avoid outdoor exercise during pollution alerts, competitive athletes may not have the option of not training or competing during high-risk periods or in heavily-polluted areas.

place in the sports "arena." Dr. Read argued that it was passive smoking, or exposure to environmental tobacco smoke (ETS), often referred to as "second-hand smoke," at athletic venues, both indoor and outdoor, that presented the greatest environmental threat to the health of athletes, officials and spectators.

In his study "Smoke-Free Policies and Programs for Athletic Events," Dr. Read notes that athletes can have both their training and performance compromised significantly by exposure to ETS. More than 4,000 chemicals, of which at least 50 are known carcinogens, are produced by burning tobacco. ETS exposure can trigger immediate symptoms in up to 70 per cent of non-smokers. These include eye and throat irritation.

As anecdotal evidence in support of his "Fresh Air Program," which was adopted by the 1988 Calgary Olympics, Dr. Read cites the story of a member of Canada's alpine ski team. Exposed to tobacco in his room, at breakfast, and on the bus to the site of his event, the skier experienced congestion and difficulty breathing. His race results for the day were far below his usual standards. Read concludes that ETS compromised his performance. On the other hand, when Swedish speed skater Tomas Gustafson won two gold medals in the smoke-free Olympic Oval in Calgary, he credited it to the "nice clean air."

When forty elite Canadian athletes were surveyed on a range of environmental issues in October 1993, air quality—cigarette smoke in particular—was often mentioned as an environmental

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[21] Judith Scherff, "EcoHealth: Athletes and Pollution," *Buzzworm: The Environmental Journal*, July/August 1993, pp. 24-5.

[22] Henry Gong Jr., "Effects of ozone on exercise performance," *Journal of Sports Medicine*, 27, 1987, p. 22.

health concern. This was true for those who train and compete outdoors as well as indoors. Nordic combined skier Mark Rolseth described how, at a World Cup competition in Germany, "the course was lined with cigarette smokers, making me feel nauseous during the race." Even cyclists competing in outdoor races have complained about the clouds of spectators' cigarette smoke they must sometimes ride through.

Air pollution is one of the most obvious and frequently named "environmental" threats to sport. It can take a number of forms. Indoor air quality can be affected by ETS, poor ventilation, chemical "off-gassing" from carpets, furniture, paint and cleaning products. Outdoor air pollution has both local and long-range sources: vehicles, power plant and factory emissions, ground level ozone and smoke stacks as far as 5,000 kilometres away. Of these sources of air pollution, the most immediately harmful tend to be the most local, whereas long-range sources of pollution will have longer-term consequences. A runner in Hungary may feel the immediate effects of the ozone produced by that day's traffic smog, whereas the heavy metals carried by winds from Romania may not accumulate to dangerous levels in her body for ten or twenty years.

Indoor Air Pollution

Indoor air quality issues have begun to receive considerable attention, driven primarily by the increasing incidences and recognition of "sick building syndrome" and "environmental sensitivities." Indoor air, in addition to being poorly circulated and exchanged with the outside, can contain emissions from the thousands of plastics and petroleum products now present in a typical indoor setting. Added to that are off-gassing volatile organic componds (VOCs) from paint, cleaners, photocopiers and laser printers as well as perfumes, and scents from soaps, shampoos, fabric softeners and "deodorizer" products. On their own or in combination, these products are being increasingly recognized as the source of a number of "environmental" allergies and sensitivities. What is harmful in the office or home is equally or even more so in the indoor sport facility, where the rate of respiration and exertion can multiply negative effects. The danger of exposure to indoor air pollutants led the World Health Organization (WHO) and the American Society for Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) to produce comprehensive recommendations on maximum contaminant levels for nitrogen dioxide, carbon monoxide, carbon dioxide, formaldehyde, sulphur dioxide, ozone, asbestos and radon gas.

Key Indoor Air Pollutants

- passive smoking (ETS)
- sulphur dioxide
- nitrogen dioxide
- ozone
- carbon monoxide
- particulates
- carbon dioxide
- asbestos
- formaldehyde
- radon gas

The quality of air in indoor sports facilities is site specific. Whereas a well-ventilated facility which has taken care to limit the amount of off-gassing from paints, varnishes, insulation, cleaners and furnishing, as well as the presence of ETS within

the building, may present no health hazard to users, a similar facility may leave athletes with headaches, asthmatic problems, nausea, dizziness or any number of other symptoms.

Ice Arena Air Pollution

Indoor air has been shown to contain harmful substances in ice arenas. The problem stems from the machines used for resurfacing, which have been found to produce toxic gases, primarily carbon monoxide and nitrogen dioxide. When inadequately ventilated, these gases can cause health problems ranging from mild to severe. Carbon monoxide,[23] which is produced by traditional gasoline-powered ice resurfacers, presents a milder risk since the symptoms tend to be more obvious and easily diagnosed. Studies have shown that people with carbon monoxide poisoning seek fresh air before the effects become too severe.

The substitution of "cleaner" propane-burning machines for other fuels led to the expectation that "the inhalation of toxic gases would be eliminated."[24] A 1993 University of Saskatchewan study concluded, however, that in the case of nitrogen dioxide, poisoning has emerged as a problem. Though nitrogen dioxide poisoning as a result of malfunctioning propane machines is rare, the fact that its symptoms are not immediate and are not easily diagnosed can be lethal. The heavier-than-air gas settles directly above the ice, where it can be deeply inhaled by hard exercisers. Hockey players and figure skaters who spend long periods in such conditions on a regular basis run the greatest risk of poisoning. Officials and spectators may also be mildly at risk.

Problems at the Pool

At indoor swimming pools, health risks have been found to result from both air quality and water quality. The raft of studies on this subject indicate that symptoms range widely in both type and severity, but are most severe in competitive swimmers and staff, who are most frequently exposed to both the air and water. Though a direct relationship has been difficult to establish,[25] the main irritants are both chemical and/or biological: microorganisms and organic materials, disinfectant chemicals and disinfection by-products. Complaints reported by pool users and staff include sore eyes and throats, coughing and other symptoms commonly associated with allergies and/or asthma, skin rashes and even erosion of dental enamel.

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[23] Kwok, P.W. "Evaluation and control of carbon monoxide exposure in indoor skating arenas," *Canadian Journal of Public Health,* 1983; 74: pp. 261-265.

[24] Soparkar et al.: "Toxic effects from nitrogen dioxide in ice-skating arenas," *Canadian Medical Association Journal,* 1993; 148 (7), pp. 1181-2.

[25] Hrudey et al., "An overview of the studies investigating environmental health problems at public indoor swimming pools," University of Alberta, April 1992.

A deadly round of golf

In 1983 a 30-year-old U.S. naval officer playing golf near Washington, DC, complained of "headaches, fever and nausea. Within 3 days, his skin was covered with a severe rash and blisters hung from his back and arms. He developed pneumonia, his kidneys failed, and he fell into a coma and died just 20 days after the game. His autopsy revealed a lethal allergic reaction to chlorothalonil, a common golf pesticide."[27]

The most commonly identified risk is posed by gas chlorinators, which are used for disinfecting pools. As a result of reported accidents and the perceived risk to pool staff who work with these chlorinators, the chlorine industry in the United States has stopped selling gas chlorinators to pools, necessitating safer substitutes. Recreational facilities directors and managers in the province of Alberta have been behind a movement away from gas chlorinators, which they consider to be too risky for both staff and clientele.[26]

Pesticides, Herbicides and More

One of the more significant threats to both athletes and the public at large is the growing accumulation of pesticides in our communities. Rachel Carson's 1962 book *Silent Spring*, which shone the public spotlight on the risks of using persistent pesticides, herbicides and fungicides, was a rallying cry for the nascent environmental movement. By covering our crops and lawns with chemical compounds which are unable to biodegrade naturally, we are gradually saturating our soil, our water, our plants, our meat, our pets, our children and ultimately ourselves with substances which accumulate in our tissues. Being higher on the food chain than plants and other animals, humans may be among the last to feel the effects of these chemicals, but we also ingest those which have accumulated in our water, our foodstuffs and "lower" creatures which form a part of our diet.

To list all the studies which chronicle the risks posed to humans by these synthetic chemicals would be fruitless. It is relevant, though, to look at the damage already inflicted upon those species which act as warning signals to our own species: insects, frogs, fish and birds have been disappearing in alarming numbers. Instances of massive die-offs of ducks and geese within hours of feeding on, or in waters adjacent to, farmland, parkland and golf courses which have been recently sprayed are too common to dismiss.[28]

Pesticide producers and turf managers by the thousands will argue that the safe application of pesticides presents no danger. But what is a "safe" application? That depends on the terrain, the climate, the vegetation, the geology and a number of unknowns. Ignoring the raging technical debate, legions of ordinary citizens are saying, "I don't care what the studies say. I'm scared. I'm concerned for my kids, my pets and myself. I want pesticide use reduced!" In doing so, they are forcing the sporting facilities which they patronize to respond to their concerns.

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[26] Interviews with Margaret Lounds, executive director of the Alberta Association of Recreational Facility Personnel and Willie Jurcevic, Manager of Pools for the city of Calgary.

[27] Worldwatch Institute, "Toxic Green...", op. cit., p. 31.

[28] Tim Tiner, "Green Space or Green Waste," *Seasons*, Summer 1991, pp. 16-37.

Recreation officials and groundskeepers are being called on to address public concern over pesticides. The negative effects of pesticides on humans range from allergic reactions and respiratory ailments to nausea, numbness, paralysis, birth defects and even death. The severity of the threat is dependent on such factors as the type of pesticide, the frequency and degree of exposure as well as the person's individual sensitivity. Among those most likely to be affected are those most frequently exposed. This includes park, field and turf maintenance personnel and players of field sports such as soccer, football, cricket, golf and lawn bowling. It also includes children, who spend long hours in neighbourhood parks in contact with recently sprayed grass—oblivious to any mandatory warning signs. The U.S. National Association of Golf Superintendents is funding research on links between long-term pesticide exposure, cancer, and rates of mortality for greenskeepers, players and caddies.[29]

Hazardous Emissions

Pollution of our air, land and water by industrial and household activities can affect the athlete over the short term or the long term, as we noted earlier. Over the short term, air pollution from smog is perhaps the most common threat. Dangerous levels of smog are not only recorded in urban settings, but are common in rural regions where industrial sites are located or prevailing winds blow in heavily polluted air from up to several hundred kilometres away. Needless to say, a city like Los Angeles, Mexico City or Beijing does not produce many long-distance runners. Nor is outdoor sport a common sight in Upper Silesia where male life expectancy is a mere 52 years or parts of Hungary where one in seventeen people dies from pollution-related causes.[30]

Even in regions where the threat may be less extreme, air pollution in its several forms can pose a threat to sport and recreation. An extensive medical literature exists chronicling the effects on exercise and athletic performance of sulfur and nitrogen oxides, carbon monoxide, ozone and other particulates—all of which are common in urban and industrialized areas. Ozone (a major component of traffic smog) has its most obvious effects on the respiratory tract. Individuals exposed to sufficient levels commonly complain about "nose and throat irritation, cough, wheezing, shortness of breath, as well as nausea and headache."[31] High exposure to various air pollutants can have a particularly dramatic effect on asthmatic athletes, forcing those with moderate to severe cases to stop exercise altogether and exacerbating the conditions of only mild sufferers. A study of the 1984 U.S. Olympic team found that approximately 15 per cent of its members suffered from some degree of exercise-induced asthma.[32]

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[29] Worldwatch Institute, "Toxic Green...", op. cit., p. 31.

[30] *Our Planet*, United Nations Environment Programme, Volume 2, No. 2, 1990.

[31] Henry Gong Jr., "Effects of ozone on exercise performance," *Journal of Sports Medicine*, 27, 1987, p. 22.

[32] William Pierson et al., "Implications of air pollution effects on athletic performance," *Medicine and Science in Sports and Exercise*, Vol. 18, No. 3, p. 323.

Forced to Compete at all Costs

Renn Crichlow, Canada's 1992 World Champion kayaker advised organizers of the 1994 World Championships in Mexico City (possibly the most polluted city on the planet) that he would not compete unless the event was relocated. An asthmatic, Crichlow noted how athletes in many sports are frequently called upon to train and compete in highly unsuitable places. Out of fear of sanctions by national and international governing bodies, or concern that they may slip in rankings, most athletes will nevertheless go ahead and compete at their personal risk, he stated.[33] In Crichlow's case, he finally decided to compete in only one race, the shortest, and to fly in to Mexico City just beforehand and leave immediately afterward.

Though air pollution does not affect all athletes to the same extent, some will lose their competitive edge as a result of airway conditions. Meryl Sheard and Dr. David Martin of Georgia State University's Department of Cardiopulmonary Care have studied the effect of air pollution on athletes. They have found that more and more athletes are hypersensitive in airway function.[34] A number of studies have similarly concluded that the respiratory function of healthy, trained athletes such as marathon runners and competitive cyclists decreases with exposure to ambient air pollutants. In sports where mere millimetres can make the difference between victory and second best, air pollution should be considered an important factor.[35]

Emily Haymes and Christine Wells note the effect a range of air pollutants can have on both the performance and long-term health of the athlete. They recommend that athletic events and training sessions be scheduled to avoid the seasons and times of day when levels of such pollutants as ozone and carbon monoxide are highest. In addition, heavily travelled streets and highways should be avoided and all training or competition cancelled when air pollution episodes reach emergency levels.[36]

Worth noting is the fact that the impact of air pollution is not necessarily restricted to either endurance sports or urban locations. Biathlete Myriam Bedard, upon completion of her race at the 1993 world biathlon championships in the forests of Borovets, Bulgaria, commented that "the pollution level here is incredible. It's worse than downtown Montreal." Tennis players at the 1994 Australian Open similarly complained about the combination of heat and pollution, which made conditions unacceptably dangerous to the health of competitors.

Water Pollution

Local water pollution can present a similar threat to the health and performance of participants in such water sports as outdoor swimming, triathlons, rowing, kayaking, canoeing, sailing and

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[33] Conversation with Renn Crichlow, September 3, 1993.

[34] Judith Scherff, "EcoHealth: Athletes and Pollution," *Buzzworm: The Environmental Journal*, July/August 1993, p. 25.

[35] William Pierson et al., "Implications of air pollution effects on athletic performance," *Medicine and Science in Sports and Exercise*, p. 322.

[36] Haymes, Emily and Christine Wells, *Environment and Human Performance*, Human Kinetics, Champaign IL, 1986, pp. 114-15.

boardsailing. Not only are polluted waters unsightly and the source of noxious odours, they can also harbour infectious diseases and harmful chemical pollutants. Most public swimming beaches are tested regularly for bacteria counts. When those counts exceed acceptable public health standards the beach is usually closed, at least temporarily, and/or notices are posted warning swimmers that they are entering the water at their own risk. Because bacteria such as *e. coli* are relatively easily identified and are known to be an acute health risk, it is a simple procedure to determine when conditions are safe or not.

In the case of chemical pollutants, testing is much less straightforward and considerably more expensive. There are thousands of chemicals and heavy metals whose effects are frequently unknown or widely debated. Furthermore, symptoms of exposure to many chemicals may take months, years or even decades to appear. Thus water which is laced with low levels of pesticides or industrial effluent may pose no immediate threat to swimmers or sailors and may be declared safe by environmental and health authorities. While regular and prolonged exposure to the waters of the Mediterranean or San Francisco Bay may be harmful to the athlete over the long term, that does not prevent many from training or competing in them.

The dangers of waters polluted with organic materials such as sewage and rotting food and animal waste are well known to water sport participants. Frequent dunkings, accidental swallowing of water or the contamination of open cuts are the most common ways of contracting illness. The vast majority of athletes have the good sense to either avoid such heavily polluted areas entirely, venture into them only during "safe" periods, or take preventive measures such as wearing drysuits, applying waterproof lotions and showering thoroughly. In some cases, exposure to dangerous situations may not be left up to the athlete's better judgement. Just as areas of high air pollution may be selected for land events, bodies of water known to be highly polluted may be chosen for competitions. With seemingly no regard for the health of the athlete, world championships and Olympic Games have been staged in such cesspools as the harbours of Barcelona, Rio de Janeiro and Buenos Aires.

Carol Anne Alie, Canada's world champion boardsailor, can recount an endless list of events held in conditions she describes as "degrading and abusive." The boardsailing course at the 1992 Barcelona Olympics featured rats, condoms and a dead dog. At an earlier event in Buenos Aires, she describes sailing past the opening of pipes which were dispersing raw human sewage into the ocean. Alie has been ill frequently as the result of problems related to water pollution.

The state of the world's oceans and inland waters is such that truly clean water is a scarce commodity, at least anywhere close to a populated area. If the current global practice of treating the oceans as a free dumping ground continues, fish will not be the only endangered species. We might soon have to add to that list sailors, paddlers, rowers, triathletes and even their respective sports, which are running low on decent venues. To quote the technical director for the biathlon

in Lillehammer, whose words are especially applicable to water sports, "If we don't give priority to environmental awareness in the future, our sport will have no future."[37]

An extreme example of pollution affecting sport occurred near Eureka, California, where ocean surfers found their traditionally clean waters getting progressively more and more tainted by the toxic effluents from the plants of Simpson Paper Co. and Louisiana-Pacific. Surfers, who were getting skin rashes and other ailments, sued the companies over their more than 40,000 violations of the Clean Water Act. The surfers won their case, demonstrating how sports enthusiasts can take action to protect their rights to a clean environment.[38]

The Longer-Term and Global Threats to Sport

Ask five environmentalists what they consider the most serious global environmental threats and their list is certain to include climate change, overpopulation, deforestation, desertification, ozone layer depletion, and species and habitat loss. Of these, three will have or are already having an impact on the way we conduct sport: ozone layer depletion, habitat loss and climate change.

Ultraviolet-B Radiation Exposure

Some of the effects of the depletion of the stratospheric ozone layer are already upon us. Thinning of the ozone layer, a critical constituent of the earth's atmosphere, is expected to have two principal effects. First, it will filter out less and less of the ultraviolet radiation which is responsible for sunburn, snowblindness, eye damage, skin cancer, aging and wrinkling of the skin, weakening of the immune system and altering plant growth. All of these can be expected to increase. Secondly, the ozone layer's traditional role in regulating the Earth's temperature will be affected, likely contributing to climate change and the warming of the atmosphere. The consequences of ozone layer depletion are expected to grow in severity until late in the 21st century.

What this will mean for recreational activity—though it may appear rather frivolous to worry about sport when the biosphere of the entire planet is deteriorating—is a number of profound changes. First and foremost, protection from the sun will become a priority. For the sake of our skin, eyes and immune systems, it may be essential that we evolve quickly from sun worshippers to sun fearers. Compulsory equipment for those who practice their sport outdoors now includes hats, sunglasses, shoulder-covering clothes and repeated doses of sunblock. As great a nuisance as it may be to have to think constantly of covering up from the sun's dangerous UV-B radiation, the consequences of not doing so may be severe.

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[37] Sigmund Haugsjaa and Ellen Birgitte Stromo, "From Challenge to Opportunities," *Olympic Message*, No. 35, 1993, Lausanne.

[38] Paul Hawken, *The Ecology of Commerce: A Declaration of Sustainability*, Harper Collins, New York, 1993, p. 130.

Approximately 500,000 cases of skin cancer are diagnosed annually in the United States alone. Of those, 70 per cent are thought to be the result of UV exposure. According to Professor Margaret Kripke of the University of Texas, "if ozone decreases by 1 percent, UV-B radiation will increase by 2 percent and the incidences of common skin cancers will increase by around 3 percent in the U.S." Predictions from NASA are that ozone depletion over the northern hemisphere could be as great as 20 to 30 percent.[39]

In addition to skin cancer, the U.S. Environmental Protection Agency (EPA) predicts that as many as 2.5 million Americans born before 2075 will suffer from cataracts who would not have otherwise. Victims will also be struck much earlier in life than is currently common.

The human immune system is also expected to be a victim of increased UV-B exposure. Medical researchers fear that UV-B will "lower the body's resistance to attacking micro-organisms, making it less able to fight the development of tumors, and rendering it more prone to infectious diseases," such as herpes, leprosy and tuberculosis.[40]

Particularly susceptible to all of these threats will be those nearest the southern pole, under the reach of the hole in the ozone layer which now appears each spring over the Antarctic. Also especially vulnerable will be those people without the economic means or, perhaps, the education to protect themselves properly. The typical Californian golfer may be able to afford $100 sunglasses and $20 tubes of sun cream, but the Chilean sandlot soccer player, not to mention field labourer, almost certainly cannot. Similarly, much of the world's population does not have a lot of options when it comes to recreation. There may be no gymnasium to play in when the sun gets too strong.

The implications of ozone layer depletion for human health and the practice of outdoor sport are staggering, as are the anticipated costs both of protective equipment and clothing and of healthcare treatment. Next to the costs of treating additional millions of cases of cancer, cataracts and diseases brought on by suppressed immune systems, the estimated economic costs to industry of quick action to prevent further ozone depletion will be a drop in the bucket. For those people or countries with no healthcare coverage or even medical system adequate to deal with UV-B-related conditions, treatment may not even be an option.

Changes in habits so as to reduce the risk of UV-B exposure will in some cases be significant. In addition to whole new ways of dressing and applying protective products, athletes who train and or compete outside will have to rethink nearly everything they do. What time of the day is safest for practising? What time of day/year should events be scheduled? How long should an athlete stay outside? Can certain training be moved indoors? How can I wear sunglasses/protective

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[39] Judith Scherff, "EcoHealth: Athletes and Pollution," *Buzzworm: The Environmental Journal,* July/August 1993, p. 24.

[40] Cynthia Pollock Shea, *Protecting Life on Earth: Steps to Save the Ozone Layer,* Worldwatch Paper 87, Worldwatch Institute, Washington, D.C., December 1988, p. 15.

cream/protective clothing without intefering with my performance? From the major to the mundane, these are all becoming issues in our increasingly ozone layer-less world. The magnitude of these threats may be enough to put whole sports and ways of life on the cutting block. Sailing, surfing, canoeing, bicycle touring, tennis, even recreational swimming will all have to adapt to the new reality.

Climate Change

Another global environmental issue which is certain to affect sport as we know it is climate change. Unlike ozone depletion, which is of greatest concern to the individual athlete, climate change is likely to call into question where certain sports can be practised and, according to the most extreme scenarios, if they can be practised at all.

Global climate change is thought to be occurring as a result of a number of human-induced changes to both the atmosphere and the biosphere of our planet. While few scientists will venture to predict either the extent of climate change or the ways in which it will manifest itself in a given region, there is near-universal consensus that we can expect warming of anywhere from 2 to 7°C, rising coastal water levels as a result of polar ice cap melting and more frequent and severe storms. Though plenty of Canadians have quipped that a few degrees of warming wouldn't hurt them, several recent studies have shown that if you are a ski resort or golf course operator, those few extra degrees might spell doom to your business.

The period since 1980 has been a particularly bad one for the ski industry in eastern North America and in Europe. Unusually warm winters meant not only that little snow fell on the resort areas, but temperatures were often not low enough to make snow artificially. If this was in fact the start of a shift in climate or even an indication of what might be expected, skiing might be a doomed industry in precisely those areas which form the heartland of the sport. Several Canadian studies of the anticipated impact of climate change on downhill and cross-country ski resorts painted a similarly bleak future for these sports. Even a moderate warming of average winter temperatures could virtually eliminate the skiing industry. Complementing earlier forecasts of doom for skiing in Southern Ontario, a 1988 study of the impact of climate change on the Quebec downhill skiing industry predicted:

- a decrease in skiable days of 50–70 percent in southern Quebec
- ski resorts in the eastern townships and the Laurentians would be unable to operate during the economically-crucial Christmas holiday period without significant snow-making facilities.[41]

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[41] "Implications of Climate Change for Downhill Skiing in Quebec," *Climate Change Digest,* Atmospheric Environment Service of Canada, 1988.

In the case of golf and field sports played primarily on green turf, the droughts which are expected to accompany climate change will make even more intensive irrigation necessary at the same time as water tables are dropping. In the competition for scarce water resources, sports facilities may find themselves well down on any list of priority recipients.

Loss of Natural Habitat

The third global environmental trend which is having an impact on sport and recreational opportunities is habitat loss. The increasing development of the planet's remaining natural areas—forests, wetlands, prairie, coastlines and other green spaces—means that habitat in its original state is diminishing in size, number and quality. In addition, what little remains of these natural spaces tends to be in the more remote and uninviting corners of the planet. Paving paradise to put up a parking lot has several consequences for sport.

First, sports which rely on natural terrain for their authenticity, their appeal or their challenge are running out of options. How many untamed rivers are available for whitewater kayaking in Germany? Where in the denser parts of Europe, North America or Japan can one go for a hike without running into structured facilities and crowds of other hikers? As Myriam Bedard discovered, is there no forest remaining in Bulgaria whose air is unpolluted?

Second, the remoteness of most natural areas, since few have been preserved in the more populated regions of the planet, puts a *de facto* limitation on their availability for sport and recreational purposes.

Third, the pressures on these remaining wild spaces, especially ones that are reasonably close to urban centres, has become so intense it is often inappropriate to subject them to further stress from humans seeking recreational enjoyment.

And fourth, the important function of natural spaces as a purifier of air and water has been vanishing along with habitat. For the athlete, that means the likelihood of finding idyllic conditions of clean air and water is getting progressively slimmer.

Three trends are apparent in the recent evolution of sport. First, the way in which most sports are being practiced is increasingly disconnected with the natural environment in which they have their origins and/or upon which they depend for healthy conditions. Second, the ecological footprint left by events and facilities is growing in step with the greater scale, costs, frequency and technical demands imposed by a growing number of users. And third, the deterioration of the natural environment in most parts of the world is being felt increasingly by the sporting community and by the communities which play host to sporting activities of all kinds.

Evidence of these trends is plentiful. But what are the principal forces driving them?

2 The Growth of Political Pressures and Economic Influence

International federations hold monopolistic control over the organization of their sport, with considerable authority on technical aspects. However, their independence and autonomy are threatened by commercial and political factors.

Sport: The Way Ahead
The Report of the Minister's Task Force on Sport Policy[1]

Sport is surrounded with romantic ideals: man against the elements, woman against herself, the noble amateur, fair play and good sportsmanship. These are the lofty notions that spark the imagination of athletes and spectators. This is the vivid imagery which draws people to sport and holds them captive.

The Cherished Myths of Sport

Of all these ideals, few are more firmly entrenched than the notion that sport is somehow above the mundane concerns of politics and economics. Though all facts say otherwise, we cling to the idea, perhaps the dream, that sport is a higher calling; that it could be free of the base and corrupted influence of those motivated by political or economic gain, if it were only given the chance. From the dawn of sport, economic gain and prestige have been primary motivators of athletes and their communities, though we want to believe otherwise.

We want to believe that a purer form of sport, motivated by some mythical quest for athletic excellence, a higher state of being, is achievable. We want to believe that it is not only achievable but that it will one day be the norm. So, we continue to believe in and to aspire to the achievement of this ideal. You could even say we have constructed a modern-day cult of sport; a cult which, in its unwavering faith that sport is a higher calling, allows itself to accept the

[1] Fitness and Amateur Sport Canada, Ottawa, May 1992, p. 132.

imperfect version we currently have and to place it on a pedestal. Though this emperor has no clothes, and a great deal of warts, many faithful followers would prefer not to notice and to hush those who are so treasonous as to point it out.

Politics and economics have been sticking their fingers into sport from the earliest days of organized games. Historians have noted that even the ancient Greek Olympics were no pure athletic event. Though wars may have stopped to allow for their staging, the competition at Olympia was fierce. Prizes for winners were limited to an olive wreath, but a great deal of prestige, both personal and national, was at stake. Points tables were not kept, but there was keen interest in whether the Spartans had outperformed the Athenians. Economics was far from shut out of the Games. Trading was said to have flourished during and after the ancient Games, though it was a far cry from the crass commercialism of the modern Olympics.

Of Politics and Prestige

History books are filled with entrancing tales of athletic heroes and marvellous festivals which revolved around competitions, both friendly and often not so friendly. Jousting, archery, fencing, wrestling, boxing, boat races, horse races and foot races are among the many events which have been held in all parts of the globe. The source of great interest and passion, these competitions brought out the best and the worst in people: teamwork, dedication, hero worship, nationalist fervor, gambling, cheating and result fixing are not modern-day phenomena. A great deal of money has changed hands over the centuries in bets, bribes and more benign forms of support for athletes and rewards for the victors. Prestige has always been inseparable from competition, whether personal, ethnic, religious or national. The desire to be known as the best can be an extraordinary motivator. But as history has shown, and modern sport continues to demonstrate, the quest for prestige and profit can be an equally powerful corruptor.

Competitive sport at any level has always been, and probably always will be, steeped in politics. Behind the politics, from personal to national lies the quest to achieve prestige. Prestige need not be something negative. Someone who is respected for her skills, composure, leadership abilities and willingness to share her experience with others may have achieved as much or more prestige in the eyes of the public as the equally skilled but ranting and raving showman who never steps outside without a publicist and hairdresser. A country renowned for its soccer prowess or its world-class sports facilities can also be said to enjoy a relatively benign form of prestige. The uglier face of prestige shows itself when it appears to be the sole motivator for an athlete, a country or a host community, and where it leads to unethical means to a desired end.

The quest for prestige at the individual level tends to be economically motivated. The athlete whose principal motivation for taking part in sport is economic, will pursue fame and recognition as a means for achieving those economic goals. As a way to make a living, to support

a family or to "escape the ghetto," earning money through sport is no less ethical or moral than any other occupation, unless, that is, unethical means are used: steroids, bribery, intimidation or injury of opponents, for example. Where the pursuit of prestige loses its lustre is when it becomes not only the end in itself, but is thought to justify unethical means. American sprinter Leroy Burrell reveals just how far the quest for the rewards of prestige can lead in sport: "We're not in this sport because we like it or we want to earn our way through school. We're in it to make money," Burrell told the Wall Street Journal in the aftermath of the Ben Johnson steroid scandal.[2]

Prestige can show its ugly side at any level. Whenever a group, a community, a race or a nation uses sport to demonstrate its superiority over its rivals, the potential for abuse exists. Former East Bloc countries were long criticized for using sport as a non-violent means to carry on the Cold War. From the fifties to the late eighties, the Olympic Games became the stage for a childish game of "my system is better than yours." Accusations of doping and cheating were rife, and the West was no innocent in this thinly-veiled battle for public opinion.

Sports historian John Lucas observes how "the U.S., the Soviet Union, East Germany—in fact, most nations—have made nationalistic 'hay' out of Olympic victories. Some held forth that Olympic victories were the result of a superior national political system or, possibly, a superior race or ethnicity." He notes, however, that "it took no time at all for the world audience to see through such nationalistic claptrap."[3]

The quest for political prestige through sport has sometimes taken on religious and even racial overtones. The 1936 Berlin Olympic Games will always be remembered for Adolf Hitler's blatant efforts to showcase the physical superiority of the "Aryan race."

Though never so blatant as in Berlin, race and religion have surfaced on a number of other occasions. Many African countries boycotted both the 1976 Olympics in Montreal and the 1986 Commonwealth Games in Edinburgh to protest the continued ties between other competing countries and apartheid South Africa. Israel has for decades been blocked from competing in the Asian Games by a coalition of Moslem countries.

The use of sport for political reasons reached its peak during the boycott-filled seventies and eighties. Montreal, Moscow, Los Angeles and Seoul were all boycotted by at least one country, if not whole "blocs." And if there remained any doubt that sport had vaulted into the political big leagues, the bidding campaigns for the 1996 and 2000 Summer Games must have dispelled it. Prime ministers and presidents entered into the fray on behalf of their bidding cities; Athens reminded the world of its "historical right" to host the 1996 centennial games; Beijing

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[2] Leroy Burrell quoted in Peter Waldman, "Track Stars Set to Dash for the Cash," *Wall Street Journal*, 216, August 3, 1990, B1.

[3] John A. Lucas, *Future of the Olympic Games*, Human Kinetics Books, Champaign, IL, 1992, p. 39.

threatened dire consequences if one quarter of the world's population were to be rejected for the 2000 Games; and the U.S. Congress echoed hundreds of human rights critics in urging the IOC not to award the Olympics to the perpetrators of the Tiananmen Square massacre.

Amateurism: Dead or Never Alive?

Like the great myth of sport being apolitical, the myth of amateurism has penetrated deeply into our sports culture. The concept has been a principal tenet of modern-day sport, at least in theory. For most athletes, sport will always be an amateur pursuit: only the top few in any discipline will ever be offered financial or material rewards simply for playing their sport. Of those, an even smaller percentage will earn the mega-money which make the headlines, or be offered lucrative endorsement contracts.

A little-known fact about amateurism is that it is a relatively modern concept. Furthermore, it is an elitist idea invented by British male aristocrats which "fits uncomfortably with the political and economic realities of the late twentieth century,"[4] according to Lois Bryson. Far from being some ancient Greek ideal, amateurism—the belief that sport should be played for its intrinsic value, rather than for any material reward—was created and extolled by aristocrats and gentry who could afford to practise sport and were determined to keep out the "working classes."

The codification of many of today's popular sports such as soccer, rugby and cricket occurred in England in the nineteenth century. The "public" schools and graduates of these schools were behind the creation of rules and organizations to oversee each sport. Bryson reports that "there was little general enthusiasm to share the new sports with the lower orders, indeed amateurism was a strong principle and this was destined to, indeed it was aimed to, discourage the working class from participating."[5] The Amateur Athletic Club, formed in 1866, excluded anyone who had made money from sport, through teaching or prizes, as well as anyone who was a labourer, mechanic or artisan.

Though working-class men took up many of these sports, and leagues soon arose in which players were paid, there remained an informal distinction between "gentleman" and "professional" players, the former being seen as a superior class. From these origins an ethos of amateurism arose which, according to Dunning and Sheard, comprised of three attributes: (1) "pursuit of the activity as an end in itself;" (2) "self-reliance and, above all, the masking of enthusiasm in victory and disappointment in defeat;" (3) "the norm of fair play."[6]

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[4] Lois Bryson, "Sport, Drugs and the Development..." in *Sporting Traditions*, 1990, 6(2), p. 136.

[5] ibid., p. 139.

[6] E. Dunning and K. Sheard, *Barbarians, Gentlemen and Players*, (New York: New York University Press, 1979), p. 153.

The importance placed on amateurism by the subsequent modern Olympic Games is attributed to Pierre de Coubertin, whose fascination with this ethos of "muscular Christianity" was a part of the inspiration behind his revival of the Games. Sports historian John Lucas reports that de Coubertin was profoundly influenced by a sermon delivered by Bishop Ethelbert Talbot, who called for: "All encouragement... [to] be given to the exhilarating—I might also say the soul-saving—interest that comes in active and fair and clean athletic sports."[7]

These values of amateurism were subsequently entrenched in the formal goals of the Olympic movement, other major competitions and individual sports, a fact which helps us to understand nearly a century of protracted battles over professionalism within the Olympic movement.

Attempts to enforce a rigid definition of amateurism have incited debate and acrimony since the inception of the modern Olympics, though the controversy has also spread into sport at all levels. The IOC, through its rules and the way it has interpreted and enforced them, has exerted a tremendous influence on sports associations, both international and national, as well as the rules and regulations for universities and colleges, high schools, sports clubs and youth sports. The IOC's steadfast promotion of amateurism successfully limited the amount of financial assistance and material support athletes were eligibile to receive until well into the 1980s.

The fact that more and more athletes, associations and governments were finding ways to circumvent the amateur eligibility rules was one of the factors that led to the progressive crumbling of *de facto* amateurism, if not the ethos itself. Other factors included complaints about the hypocrisy of "state-supported" amateurism in the former East Bloc countries; growing awareness of under-the-table payments and in-kind rewards to athletes; the impossibility of true amateurs remaining competitive in a world of growing costs for training and competition; and steadily increasing pressure from commercial interests, such as television, to ensure that the world's best athletes would be eligible for major sporting events such as World Championships and Olympic Games.

With the inclusion of professional tennis players and the United States "dream team" of National Basketball Association stars at the 1992 Barcelona Games, the "reinstatement" of professional figure skaters for the 1994 Lillehammer Winter Games and the open awarding of prize money to "amateur" track and field competitors, amateurism at the elite level must be declared dead. Of the most popular Olympic sports, only soccer and boxing continue to systematically forbid professional competitors. It has been argued that in these two cases it is economics and politics which are preventing professionals from going to the Olympics. In a reversal of the situation with other sports, soccer's FIFA is loath to have its lucrative professional World Cup replaced by the Olympics as the premier event for soccer.

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[7] Talbot as cited in Lucas, *Future of the Olympic Games*, p. 97.

The Australian Olympic Federation's vice president testified to a 1989 Senate Committee on drugs in sport that:

> We are way past amateurism. The word does not exist and it has not been in the Olympic charter since 1972. The Olympic Games is all about the high performance athlete, and we are all about providing as much assistance to achieve high performance as possible, which is a long way from letting someone go out there and run on his natural ability.[8]

It is important to note, however, that the myth of amateurism as a noble goal prevails in many hearts. Furthermore, a *de facto* amateurism remains in a large number of lower-profile sports. While their figure skating, gymnastics and sprinting colleagues are picking up big pay cheques in either prize money or endorsements, the world's top lugers, archers, wrestlers and hammer throwers make do with minimal support. In most developing countries, even top athletes in high-profile sports cannot make money at home. Many go abroad in search of prize money, endorsements and athletic scholarships.

Just because professionalism is taking over the upper echelons of some sports does not mean that the percentage of athletes aboard the gravy train is much greater than it was half a century ago. Lucas notes that in the early days of the Olympic Games, 95 to 98 percent of competitors did not make any money from their participation. "Two generations later, nothing has changed except the sums of money involved. In the 1980s and 1990s, 90 percent of Olympic athletes came away with memories, good and bad, but absolutely nothing more. To be sure, there were those... who became 'as rich as Croesus.'"[9]

While Olympians with chauffeurs may still be in the minority, the way top-level events are now being run is closer to big business than to any amateur track meet. In fact, the Olympic Games, World Championships and World Cup events in most sports *are* big business. The 1996 Summer Games in Atlanta have a budget of more than $U.S. 1.5 billion for their 16-day event.

The Growing Influence of Economic Interests

Though it was inevitable that our increasingly commercialized world would some day turn sports into the commodity it seems to have become, the circumstances behind it are well worth exploring. Two words sum up the early principal driving forces: shoes and television, namely German shoes and American television.[10]

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[8] Senate Standing Committee on Environment, Recreation and the Arts (SSCERA), *Drugs and Sport Interim Report* (Canberra: Australian Government Publishing Service, 1989), p. 3.

[9] Lucas, *Future of the Olympic Games*, p. 78.

[10] Two excellent accounts of how sports footwear and television companies came to wield their extraordinary influence over both professional and "amateur" sport are Vyv Simson and Andrew Jennings' *The Lords of the Rings* (Stoddart, 1992) and J.B. Strasser and Laurie Becklund's *Swoosh: The Unauthorized Story of Nike and the Men Who Played There* (Harcourt Brace Jovanovich, 1991).

Shoe Wars

In the 1950s, the world sport shoe market was dominated by two German companies, Adidas and Puma, owned by Adi and Rudi Dassler, brothers who had split in a bitter feud following the Second World War. In their quest to capture more and more of the quickly expanding global market for sports and leisure footware, the Dassler brothers pitted their Adidas and Puma companies against each other in a no-holds-barred contest. In their quest to get their shoes onto the feet of highly visible athletes, Adidas and Puma began giving away shoes to soccer teams, runners and other professional and elite athletes. Before long top athletes not only expected to get free shoes and apparel, they were actually taking under-the-table payments to wear a particular make of shoe.

In the United States other companies entered the fray, each doing its utmost to ensure the highest visibility for its shoes. By the late 1970s not only was every professional football, basketball and baseball player being equipped for free, the top players were demanding tens of thousands of dollars in endorsement fees to wear a particular shoe. Before long, college teams were also involved in the great shoe wars. As the ante was raised in this industry of seemingly ever-growing demand, sports equipment manufacturers were seeking endorsements for their shoes, shirts, warm-up suits, baseball gloves—almost every piece of equipment imaginable. The companies were also sponsoring tournaments, races and clubs and training camps for athletes and coaches.

Though giving away equipment and offering financial support to non-professionals was clearly a violation of amateur rules, officials were forced to look the other way as it became clear that little could be done to stop this free-for-all. Soon almost every possible gap was filled by one or several companies. High school tournaments, community events: everything was fair game in the quest for global footwear, equipment and sports apparel markets.

Television

In the 1950s, television was in its infancy and the Olympic Games had not yet achieved the near-universal following it enjoys today. When the IOC first began selling the rights to broadcast the Games, for Mexico City in 1968, it received $10 million. For Munich, that figure rose to $17.8 million, and for Montreal, $34.8 million. Following the boycott of Moscow by the United States and others, $225 million was paid for the rights to Los Angeles, $300 million for Seoul and $633 million for Barcelona.

To make a profit, the winning network resells its services to networks in other countries and sells advertising domestically at great cost. To recoup its expenses, a significant proportion of Olympic Games coverage is devoted to advertising. With the enormous sums of money the IOC

is making on the sale of broadcast rights, the public is left wondering whether it too is in the business more for the money.

And business is the operative word. Television is not the only source of revenue. The IOC now sells to some of the world's biggest multinational companies the right to be official sponsors through its TOP (The Olympic Programme) scheme. The princely sum of $22 million is what Coca-Cola paid to become the sole soft drink sponsor for Seoul and to guarantee that "no competitive soft drink be allowed to display the Olympic rings or to sell their products at any Olympic stadia."[11] Companies such as Kodak, 3M, Ricoh, Sports Illustrated and Visa paid huge sums for similar privileges. The total revenue from the TOP-II plan at Barcelona put more than $120 million in the IOC coffers[12]—coffers which are said to be well over the billion-dollar mark.

On the IOC's recent attraction to the business of making money, Lucas comments: "The question is not whether the Olympic Movement should be generating a huge cash flow. Of course it should, and it is doing so successfully, honestly, and with dignity. Of deeper concern is the growing public opinion that the Olympic Games and the Olympic Movement are no more than gigantic money-making machines."[13]

This is indeed a valid concern when you consider that many of the individual international sports federations have taken note of the IOC's success and launched similar money-making schemes of their own. The soccer World Cup and world championships in track and field are entering the same money leagues as the Olympic Games. Even smaller sports have found ways to ensure substantial revenues through television and sponsorship.

Another source of revenue for the federations, learned from the IOC, is sanction fees from host communities for the right to host official world cup or world championship events. The sanction fee for hosting the World Road and Track Cycling Championship in the early 1990s was $250,000. The repercussions for events and host communities of having to pay such fees are significant, as will be discussed in more detail later.

Event organizers who have paid this kind of money must find ways to generate enough revenue to cover the costs; even more if they hope to turn a profit. To bring in money above and beyond the traditional sources such as government funding, corporate sponsors, admission tickets and souvenir and programme sales, events of all sizes are learning to be innovative in their marketing techniques. In many cases they are turning to professional sports marketers for help. The end result, at the middle and upper levels of competition at least, is that sports events are no longer just an athletic display, but an entertainment package which might include music, laser and light shows, mascots, dancers and ever-expanding lines of merchandise.

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[11] Lucas, *Future of the Olympic Games*, p. 77.
[12] ibid., p. 79.
[13] ibid., p. 74.

The Changing Face of Sport

Though sport may never have been completely free of the influences of money and politics, the degree of that influence appears to be on the rise. How this affects the complexion of sport—the way in which priorities are chosen and decisions taken—will be examined below. With a better understanding of the dominant trends in the industry we can then attempt to assess the impact of modern sport on the health of athletes, the community and the natural environment.

The trouble with sport becoming big business is that the needs of the athlete, the spectator, the host community and the good of the sport itself become subordinate to economic goals. Similarly, when sport is perceived as a useful vehicle for promoting political ambitions, decisions will be taken with those ambitions considered first and foremost.

Sports sociologist Bruce Kidd is concerned that the monies involved in advertising and promotion for professional sport "have given sponsors an enormous influence over the setting of goals and staging of events."[14] While the infusion of financial support has been welcome, allowing for sports events and facilities of higher quality, the obligations to promoters, sponsors and the media which are the *quid pro quo* of accepting their money often pose a challenge to the technical integrity of an event.

Canada's 1992 Task Force on Federal Sport Policy drew particular attention to the growing influence of corporate interests, noting that the dependence on sponsors has meant that these sponsors are seeking more and more control over everything from venue selection to scheduling of events to the choice of participants. One of the principal goals of organizers is now to seek maximum visibility for sponsors. By no means is this trend exclusive to professional sport. The task force concluded that at the international level of "amateur" sport, commercial domination is having an extraordinary influence:

> Many sports have changed their events to make them more attractive to television and sponsors. Justification has been that monies generated can be used to assist the less fortunate countries. Unfortunately, too often the result has been an increase in the grandeur and lavishness of events and international federation bureaucracies.[15]

The demands of television led to several major changes by the Lillehammer Olympic Organizing Committee (LOOC) for the 1994 Games. In order to optimize the light falling on the ski jump, the angle of the jump was shifted. More significant was the pressure on LOOC to build an additional ice rink. While two rinks had already been completed, Kristins Hall with a capacity of 3,000 and Hakons Hall with 9,500, it was felt that an additional large arena would make it possible for television to have its choice between games during prime-time television hours in

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[14] Bruce Kidd in a 1990 speech quoted in *Sport: The Way Ahead*, op. cit., p. 135.

[15] *Sport: The Way Ahead*, p. 135.

North America. The Gjovik arena was subsequently built at a cost of $20 million, and Kristins Hall was relegated to a warm-up arena. The result is that the Lillehammer region now has three arenas with a combined seating capacity of more than 20,000. This is not hockey country: the Lillehammer professional hockey team draws about 1,000 spectators per game.

Is Bigger Better?

The Olympic motto of *Citius, Altius, Fortius* (faster, higher, stronger), intended as an inspiration to athletes to reach for their greatest potential, appears to have been adopted by the entire sports industry. Ever upward is the creed: more events, bigger events, better athletes, the best facilities, more income! There must be a ceiling somewhere, but we don't seem to have reached it yet. The repercussions for sport of this obsession with grandeur are many and will be discussed below. But first, it is enlightening to revisit the key driving forces behind this upward climb: money, political prestige and influence.

The transformation of sport—from professional and top-level international, right down to Little League baseball and beach volleyball—into big business has changed our entire conception of what sport is all about. Though millions of athletes will be content to carry on participating in recreational sport for its own sake, they cannot help but be touched by the industry. What shoes are you wearing? Are they the shoes that Michael Jordan wears? Is your football the Joe Montana-signed model? Where are you skating? Is this arena supported by a beer company? A hockey stick manufacturer? Are you watching the Grey Cup? Or is it the Labatt Grey Cup now, the Seiko Japan Open, the Acme Fun Run, the Widget Memorial Stadium?

That so many companies are willing to support both amateur and professional sport is fortunate. Sometimes there would be no event or facility without them. But these corporations cannot be expected to hand out money with no return. Many make substantial charitable donations with no expectation of any payback, but the majority of money comes from promotion and advertising budgets. That money is an investment which is intended to bring in a profitable return: a positive corporate image, preferably, but an increase in sales above all!

To ensure the biggest bang for the buck, sponsors want maximum exposure: their names and logos on banners, in print advertising, on radio and television, in programmes, on merchandise. They want to deliver the right message to the right audience at the right time. The bigger the audience and the clearer the message is, the happier the sponsor is. In the case of a major event, sponsorship and television now play such a key role that fewer and fewer cities or even countries have the number, size and quality of facilities which are being demanded. Only a major metropolitan area could even consider hosting the Summer Olympics. The growing scale and technical demands of the Winter Olympics have also reached the point where either a larger city must be chosen, like Calgary, or an enormous stress is placed on a town like Lillehammer. The

Canada Cup series of cross-country skiing events, sponsored by Jeep, are held only near cities above a minimum size and which have Jeep dealerships. This rules out a number of traditional venues.

Technical demands are also growing. There are several reasons for this. First, television has a long list of technical requirements: lighting, sight lines, electricity, broadcast equipment, studios and more. Second, sponsors, sports federations, athletes and spectators want to see records set. So-called "fast" tracks, pools and now speedskating ovals are a prerequisite. Naturally, these cost more. Third, safety standards have improved; facilities which may once have been considered safe may no longer be. Liability concerns are now exerting enormous pressures on event organizers and facilities managers to take all possible precautions. Making these safety improvements and paying insurance premiums adds to costs. And fourth, athletes and spectators, even at the recreational level, want to have the best possible facilities, like they see on TV or in the neighbouring city. To keep users coming, facility operators need to keep up with or ahead of demand.

Subverting the Image of Sport

It is surely one of the great paradoxes of our time that tobacco and alcohol companies have succeeded in associating themselves so closely with sport. Healthy activity is being used to promote the world's leading causes of disease, disability and death. On this front the sport industry has done surprisingly little to preserve its integrity.

An offshoot of the demand for "better" facilities is a trend towards uniformity. As we saw in the previous chapter, there was at one time a great deal of variation in the venues where sport was played. Fields were of different sizes, turf varied from field to field, and climate was both varied and unpredictable. Similarly, pools were of different depths, widths and temperatures, running tracks had different shapes and the size and quality of ice surfaces varied from arena to arena. All of these made for unpredictability and, some would argue, excitement through variety. A noticeable trend throughout this century, as John Bale notes, is the increased "technologising of the sport landscape including the use of synthetic and artificial materials and the growing spatial confinement of participants."[16]

Bale argues that these tendencies are leading to "sports monoculture" or "sportscape." Some observers feel such tendencies are reinforcing the "anti-nature" character of competitive sports. Galtung refers to "the near laboratory conditions in which the unidimensionality of competitive sports can unfold itself under controlled conditions. Pure nature has too much variation in it; too much 'noise.'"[17]

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[16] John Bale, "Sport and the Environment," *Bulletin of Environmental Education,* London, January/February 1987, p. 7.

[17] Galtung, 1984, quoted in Bale, op. cit.

In many cases a facility is for sporting purposes still perfectly serviceable when, for social, safety, political or other reasons it is renovated or replaced. It is interesting to note that Boston's Fenway Park and many of Scotland's famous "links" golf courses could never be built today. The Hannenkahm downhill course at Kitzbuehel would never be allowed by the FIS today. It is too narrow and too dangerous in some places, yet it is a perpetual favourite among skiers and spectators because it is unique.

Sponsors, the media, owners, athletes, and users increasingly expect every facility to be as good as the best. Golfers expect their local public course to look like the lush green course at Augusta. While it may in some cases be possible to achieve these ever-increasing standards, it can be prohibitively expensive, both financially and environmentally, as well as being geographically, climatically and culturally inappropriate.

These demands for growth and improvement are expensive: too expensive in many cases. The papers are filled with stories of municipal facilities being forced to close down because they can no longer afford to operate. Professional franchises now move from one city to another because the stadium they were playing in is no longer big enough or doesn't have enough corporate "skyboxes" to meet the team owner's needs. When the city cannot afford to renovate or build a new stadium, a team can pull up its roots and head off in search of a better deal.

While the spiralling cost of running events and facilities is evident enough in wealthy countries and major cities, its effects are all the more keenly felt in smaller centres and in developing countries. These sites may not have either the facilities required or the funds. "Organizing competitions outside traditional sites is expensive and requires incentives, including prize monies, to bring in desired levels of competition,"[18] observed Canada's Task Force on Sport Policy.

Smaller sports also face significant challenges in hosting international competitions. These lesser-known sports do not attract many television viewers and are therefore less attractive to sponsors and media. Only a few sports are commercially marketable, while the rest struggle to attract sponsors and most athletes are heavily dependent on family or limited state support.[19]

A further ramification of the preference for big can be seen in the shifting emphasis in many countries toward high-performance sport and away from participation. Many sport organizations, in their efforts to attract new funds, have devoted far more attention to elite events, to the detriment of overall sport development. "Most sponsorship dollars are spent on events, with little spent on sport development in developed or developing countries," the Task Force noted.

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[18] *Sport: The Way Ahead*, op. cit., p. 118.
[19] ibid., p. 136.

The Myth of Economic Development

To be added to our growing list of sport myths is the frequent claim by boosters of a particular event, facility or team that it will bring economic benefits to the community. Putting aside for a moment the curious fact that these statements seem always to be made as part of a pitch for public funding, there seems to be limited evidence to support them. The fact that the majority of sporting events in this century have left communities and countries financially poorer is, however, well documented. Montreal's $3 billion debt is certainly the worst instance. The 1986 Commonwealth Games in Edinburgh lost millions of dollars, as did the World University Games in Sheffield ($20 million) and in Buffalo. Even the much-vaunted "profits" of Los Angeles and Calgary might be described as tricks of accounting. Los Angeles required "hidden government subsidies between $90 million and $128 million" and Calgary cost the taxpayers $416 million.[20]

It is hard to quantify the economic legacy of a sporting event, especially when such intangibles as increased tourism and business spin-offs are included. Canada's Task Force noted that "very little effort has gone toward validating the hypothesis that hosting games benefits an area's economy." It concludes, however, that other visible benefits for the hosting community include improvement in municipal infrastructure, civic pride, increased knowledge and skills and new sports facilities.[21]

In many cases these facilities are both valuable additions to the community and are well used after the event, even if not profitable. Often, however, they become white elephants, rarely used and expensive to maintain. Montreal's Velodrome and Olympic Stadium fit this description, as do the majority of ski jumps and bobsled and luge runs built for Winter Games.

That so many communities are so anxious to put themselves forward to lose money serves to underline the fact that sport, especially elite and international sport, is driven almost as much by politics as by money. The continued willingness of people to throw their resources into the risky venture of bidding for the rights to host an Olympic Games can be considered the best evidence of this.

The $16 million[22] which the Toronto Ontario Olympic Council (TOOC)—created to spearhead the campaign for the 1996 Summer Games—spent on its unsuccesful bid is typical of what an interested city must spend. Such a figure would include the preparation of the "bid

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[20] "Stop Playing Games With Toronto: An Anti-Olympic People's Bid Book" written by the Toronto social activist coalition Bread not Circuses, which campaigned against Toronto's bid for the 1996 Summer Games, p. 19.

[21] *Sport: The Way Ahead.* op. cit., p.116-17.

[22] An approximate figure based on several estimates and reports.

book," the fees paid to consultants such as architects and developers and the extraordinary cost of wooing and courting IOC members who will eventually vote to choose the host city. [23]

Where does this kind of money come from? And why, with no guarantee of payback, are communities willing to spend it? The answer to the first question goes a long way to answering the second. Typically, close to half of the bid money comes from public sources. In the case of TOOC's bid, the city of Toronto joined with the provincial and federal governments to put up 46 percent of the funding.[24] The private-sector funding, which amounted to slightly more than half of the costs, came from a combination of corporate cash and in-kind contributions.

Though the possibility that some corporations and individuals are acting out of philanthropy should not be entirely discounted, a closer look at who these corporations really are may give a more accurate picture. Almost without exception, the majority of the "boosters" who are behind bidding campaigns from the beginning, and who contribute a portion of the money required, are real estate developers, manufacturers of consumer products and sellers of services. What unites them is the likelihood that they will profit from hosting the Games. While there is nothing illegal or even unethical about taking a calculated risk with your own money in the hope of a major windfall down the road, it is important to clarify two things: first, half of the money they are rolling the dice with is coming from the taxpayer; and second, if the bid is successful, it is the taxpayer who takes the lion's share of the risk. If the Games end up costing double, triple or even ten times what was budgeted, the private sector does not lose money. Rather, it is the governments, which are required by the IOC to provide a financial guarantee, which are on the hook. This helps to explain why a number of companies made millions out of the Montreal Games while the taxpayer spent twenty years paying off the debt.

Interestingly, it is not the taxpayer who decides to enter into this risky business in the first place. Truth be told, if taxpayers were to be given the true cost to them of hosting a major event right from the start, instead of their being led happily along with reassuring forecasts of profits, there would likely be precious little public support for the venture. Full disclosure or even accurate forecasting are rare species. Montreal predicted a $124 million Games. It cost more than $3 billion. Calgary's $300-million forecast became $850 million. Atlanta's original 1992 estimate of a $1-billion Games was revised in early 1994 to $1.52 billion. Cost over-runs are assessed to the taxpayer. No directors or corporate sponsors are held financially liable. Bidders and organizers can play fast and loose with somebody else's money.

What do business leaders stand to gain from sports events? In the case of beverage, food and consumer goods companies, they will profit from sales during the event and from increased

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[23] Though IOC members are not supposed to accept personal gifts, Simson and Jennings in their exposé *The Lords of the Rings* chronicle the free travel, accommodation, and gifts doled out to IOC members in an effort to influence their votes.

[24] "Stop Playing Games With Toronto", op. cit., p.19

publicity. The entire tourism industry should benefit, some in the short term and others over the longer term. The city of Calgary recorded a 15 percent increase in visitors in the years following the 1988 Winter Games, a time when Canada as a whole was experiencing a tourism slump. Real estate developers and the construction industry benefit from building new facilities and infrastructure. Other benificiaries include financial institutions, computers and telephone companies and a host of other industries. Private sector involvement is not necessarily bad, but should corporate interests be allowed to make profits that have been subsidized by the taxpayer? Or can a system be developed whereby risks and gains are shared equally by private and public investors? If the private sector proves hesitant to enter into any such arrangement it would speak volumes about the economic viability of the event.

In her 1974 study "Power, Public Policy and the Environment: The Defeat of the 1976 Winter Olympics in Colorado,"[25] Laura Lee Katz Olson concludes that it is the anticipation of economic growth which is the principal motivation for most Games bids. This is what is so attractive to developers who want building contracts and land sales and to governments who want economic development and increased tourism. Given the pro-business bias of the backers of a bid, it is representatives of this element who come to control the process. In the case of Denver, "business leaders were able to initiate the project unilaterally and control major decisions surrounding its implementation without political opposition."[26]

Government interest in major games, however, is more than money-driven. Once again the desire for prestige shows its face. At the municipal level, not only do host communities want the tangible benefits of having new facilities built there, they are also especially keen to boost their image and name recognition both domestically and internationally. In the fast-moving era of globalization during the boom years of the 1980s, the desire of cities to be seen as "world class" became a near-obsession in many countries.

This has certainly been the case in Canada. While Montreal had enjoyed its heyday with Expo 67 and the 1976 Olympics, and Edmonton and Calgary had recently hosted major games, others like Vancouver, Toronto, Victoria and Ottawa seemed determined to make their mark as well. Sports seemed to be one of the principal vehicles by which these cities would try to grab the limelight. Vancouver and Toronto both attempted Olympic bids, built dome stadiums and were awarded NBA franchises. Victoria was awarded the 1994 Commonwealth Games; Ottawa made plans for a 2001 Francophone Games bid, built a stadium for its new professional baseball team and made plans to build a larger arena for its new National Hockey League franchise. Throughout this sports frenzy a similar refrain could be heard: "This franchise/stadium/event will put us on the map. We'll be known as a world-class city!"

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[25] Laura Lee Katz Olson, "Power, Public Policy and the Environment: The Defeat of the 1976 Winter Olympics in Colorado," University of Colorado, 1974.

[26] ibid.

In the majority of these cases, significant public money and government support were required and granted, though sometimes grudgingly. Explaining this fact, the Canadian Task Force on Federal Sport Policy underlines Olson's observations: "Generally, community bids are promoted by influential community members. As a result, there is usually intense pressure at political levels to support such applications. Other factors become secondary to political realities faced by governments in making their decisions to support such bids."[27]

At the national level the quest for prestige through sport manifests itself in several ways. First, there is a desire to be seen as a country capable of hosting a successful games on a major scale, especially for less prominent or developing countries—cases in point are Mexico City in 1968, Seoul in 1988, and Beijing's bid for the 2000 Olympic Games. These countries saw the Olympics as a prime opportunity to show their best to the world. Second, countries want to enhance their international standing by demonstrating their strength and skill through their athletes. Many have gone so far as to offer significant rewards to their athletes for winning performances: a Filipino boxer received $18,000 for a bronze medal at Seoul; Korean gold medalists got $16,600 a year for life; France awarded 200,000 francs for gold, 100,000 francs for silver and 75,000 francs for bronze.[28]

Governments have other political motivations for backing sport aside from prestige, however. In the fifties and sixties, a time of colonial break-up and newfound independence for many countries, and again in the nineties, international competitions like the Olympics offered these states a prime opportunity to legitimize their statehood. Wearing their own uniforms, carrying their own flags and listening to their own anthems played at the Olympics was a momentous occasion for the athletes and the people of countries like Malaysia and Belarus.

Sport can also have political value at the domestic level. Canada's Task Force noted that it has been used "to foster participation for both health and social reasons, and to promote national pride and unity at home."[29] Sport has proven a useful vehicle to encourage general fitness in many countries. Major events can act as catalysts to improving sports programmes for the public and for getting people involved in their community. The Montreal Olympics were used by the Canadian government to promote public sports programmes and to foster national and community pride.

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[27] *Sport: The Way Ahead,* p. 119.
[28] Lucas, *Future of the Olympic Games,* p. 125.
[29] *Sport: The Way Ahead,* p. 130.

Counting the Costs to Athletes, Society and the Environment

For the purposes of this book, it is essential to have a clear picture of the economic and political forces which are driving sport. While the economic forces tend to be more open and better recognized, the political forces are often as hidden as they are complex.

But sport is about more than just politics and economics. It is about people, communities, societies and places. The forces explored above affect all of these: the lives and lifestyles of athletes, spectators and residents and the natural environment in which they live and play. In fact the purpose of our tour of the economic and political landscape of sport was to account for the social and environmental impact of the sports industry as we know it today.

What does the emerging dominance of commercial interests mean for the athlete? For the community? For the natural environment? How are they affected by the sporting community's political motives? The remainder of this chapter will attempt to answer these questions.

We have seen how the media and sponsors can exert pressure on sport to ensure top-level performances. We have seen how governments will attempt to use sport to further political goals. And we have seen how communities, bolstered by commercial interests and corporate players, will vie for the privilege of hosting sporting events.

Impact on the Athlete

If we were to use a scorecard to judge the impact of these forces on the athlete, results would be mixed. On the positive side, the majority of athletes now have access to better facilities, safer equipment, better coaching and organizational support. In some cases, elite athletes are well compensated. But for the majority little has changed, especially for participants in the more obscure sports which do not draw big audiences and for most athletes in developing countries. Looking at purely recreational sport, the overall cost of participating is being driven progressively higher. With free access to recreational facilities or even green space dwindling all the time, enthusiasts must turn more and more to user-pay clubs and facilities. And with the demand for higher standards and more elaborate facilities, those costs keep rising.

For the elite athlete, the most significant negative effect of both economic and political pressures is on their health. The most important result of Ben Johnson being caught using performance-enhancing drugs and losing his gold medal in Seoul was the forcing open of the closet door to reveal some rather unsightly skeletons. What those countries who had enough ethical backbone to conduct full-scale inquiries discovered was enlightening for all. The world of elite sport was revealed as a brutally competitive one in which the health of the athlete is of little importance. Driven by the desire to succeed, the money to be made and the pressure from sponsors,

governments and the media to win at all costs, a number of athletes will engage in a range of unhealthy practices: training too hard, competing too often and resorting to illegal and harmful drugs.

Canadian sprinter Tony Sharpe, testifying to Canada's Dubin inquiry summed up the entire situation in just ten words: "The glory is too sweet, the dollars are too much."

Drug use raises the whole issue of ethics in sport, ethics which appear to have shifted significantly since the early days of fair play and sport for its own sake. Since the topic of ethics is one of the principal themes of Chapter Three, suffice it to say here that the shift from "rules-based ethics" to "end-point ethics" (or winning is everything), has been exacerbated by the transformation of the upper echelons of sport into an entertainment rather than an athletic pursuit.

With or without drugs, the athlete's health pays a hefty price. Stress and ultimately early burnout, both physical and psychological, are all too common in sport. The latest manifestation has been the early retirement of child tennis prodigies like Tracy Austin, Andrea Jaeger and now Jennifer Capriatti. Pushed by parents, coaches, clubs and sponsors to get to the money-making big leagues at a very young age, these girls and women, like many gymnasts and figure skaters, peaked early and burned out young. A similar phenomenon was common in the former East Bloc and is still in practice in China today: promising athletes are selected at a young age and placed in rigorous training programmes, frequently away from their parents and families. While this is often considered an honour at first, Nadia Comaneci and Olga Korbut do not have nice things to say about this system.

Though steroids and stress tend to be most common in the upper echelons, many of the threats to health shared by recreationist and Olympian alike are those we consider "environmental." As we saw in the first chapter, these threats range from air and water pollution, to pesticide-contaminated food, water and venues, to the dangers of exposure to UV-B radiation. Is it fair or even accurate to blame all of these on economic and political pressures? Yes and no.

The majority of these threats are not caused in any major way by the sports industry. Most of them are, however, exacerbated by some sporting practices. For example, demand for the perfect golf course or soccer field lies behind the heavy usage of pesticides, to which golfers, soccer players, spectators and maintenance staff are exposed. For the most part, however, it is not that the industry is creating environmental threats to athletes, it is that athletes are not being adequately protected from threats that exist. Why were Mexico City, Los Angeles, Barcelona and Seoul chosen to host Olympic Games? Certainly not for their air and water quality. How can the harbours of Buenos Aires and Rio de Janeiro be selected for sailing and windsurfing regattas? It is here that we see the hand of money and politics at play. Venues may be selected for any number of economic or political reasons, but the environmental impact on the athlete is rarely considered.

Social Consequences

The social consequences of big business sport are many. On the positive side, money is invested in sports facilities and programmes. A major event or the presence of professional sport franchises may boost the local economy. On the negative side, the primary complaint levelled against elite sport is that it siphons off money and resources from more urgent social programmes.

Michael Shappcott, one of the leaders of Toronto's Bread not Circuses campaign against the 1996 Olympic bid believes that big-business sport, with all the mystique that surrounds it, can easily pervert the public agenda. When a major games comes to town or a new professional stadium is built or a professional franchise is in economic trouble, the taxpayer is the first to be called upon to hand over money. In the city of Ottawa it is an annual ritual for the perpetually-ailing Rough Riders football team to ask the city for a bail-out. The trouble with looking to the public trough for money is that this money must be taken from somewhere else. All too often that "somewhere else" is money that was earmarked for social programmes, public housing and environmental protection, or it is taken out of amateur sport and recreation budgets.[30]

During Toronto's Olympic campaign, former mayor John Sewell criticized the mega-project mania which seemed to be gripping the city: "The quest for world class saps the energy which might otherwise go toward basic problems—getting affordable housing, cleaning up the lake so that people can actually swim in it, addressing solid waste problems, worrying about income distribution. One reason why the city has not been able to address these problems is that its energy is used up elsewhere."[31]

The social cost of the sports business showed its darkest face in Korea prior to the 1988 Games when rioters were brutally suppressed on a number of occasions and in Mexico City where protesting students were gunned down just prior to the 1968 Games. The totalitarian governments in both countries were anxious that dissenting citizens not be allowed to tarnish this lifetime opportunity.

Development pressures generated by a major sporting event can have several effects. First, land that may have been designated for parkland, agriculture or social housing may suddenly be freed up for development. Second, the easiest place to find land on which to build new facilities, athletes' villages, etc., is in the poorer areas of the downtown core. Derelict housing is torn down and replaced by modern structures. While this may not seem like a bad thing, it can be for the former residents of these buildings if they cannot afford to move back into their former

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[30] Material has been produced on the social impact of major sporting events such as the Olympics by coalitions in Toronto, Amsterdam, Atlanta and Berlin, all of which vocally protested their own cities' bids.

[31] John Sewell's column in *The Toronto Star*, August 30, 1989, p. 29.

neigbourhoods after the games. And third, the development boom which proceeds an Olympic Games can generate increased growth pressures and drive up costs for local residents. It was such a concern over development pressures and their environmental impact which triggered the successful anti-Olympics citizens movement in Colorado.

The Colorado case, like Toronto's, is an example of local residents calling into question all of what they have been led to believe about the advantages which a major games will bestow upon the city. As the citizens of Colorado and Toronto went to some lengths to emphasize, they were not against sport. "Just the opposite," said Bread not Circuses. "The Olympics have no connection with community sport and more to do with the television entertainment industry. The Olympics run as a multinational corporation, not a programme aimed at broad-based sport participation for all communities."[32] Such a corporation, many citizens felt, should be able to finance itself without public money.

Like "world-class city," "best-ever games" is a frequently-used cliche which sums up admirably the mind-set which has come to dominate the IOC and the organizing committees for major games. Every games must be better than the last one. Since the definition of better usually boils down to bigger, grander and more elaborate, every games is bigger and more expensive than the previous one: more events, more participants, more facilities and more accommodation. But the repercussions for hosts are not just financial, they are also environmental.

Environmental Repercussions

When a host community feels compelled to build more facilities (and to higher technical standards), accommodate more athletes, officials and journalists, and hold more elaborate opening and closing ceremonies, the pressure on the environment grows accordingly. More buildings are built, resources used and waste generated. More transportation is also required.

As Lillehammer organizers discovered, their plans to use existing ski hills, an outdoor speedskating oval and two hockey arenas were not adequate. A combination of pressures forced them to build additional facilities. Television wanted another large arena for hockey. Skiers felt the downhill course should be more demanding. The town of Hamar wanted an indoor oval for future use and the speedskating federation much preferred indoor "fast ice." In response, a new hall was built on the edge of a protected wetland sanctuary. Even the original plan of holding the bobsled and luge events in Albertville were overriden by the Norwegian bobsled federation and the municipality which wanted to have the facility. A small Games with minimal new facilities gradually became just the opposite.

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[32] "Stop Playing Games With Toronto," p. 20.

A common target of sporting events and organizations seeking a venue, and of developers anxious to build such a venue, is green space and parks. The incursion of sports facilities into increasingly scarce green spaces and wilderness areas has been a concern of environmental advocates and ecologists for many years. As the amount of green space, considered ideal for golf courses, ski resorts and tennis clubs, continues to shrink on this planet, pressure grows to allow for development on either agricultural land, fragile wetlands and river valleys and in national parks. Banff National Park in Canada's Rocky Mountains (which are already dotted with ski resorts and golf courses) is under constant pressure from sports resort developers and from governments who would like to see the parks bring in more revenue.

The issue of whether or not to allow Banff or Lake Louise to be used for Olympic venues was a divisive one during Calgary's many bids for the Winter Games. Though the 1988 Games did stay out of the parks, the decision to build a new resort at Mount Allan, a previously pristine area, was highly controversial. Some felt that with so many perfectly adequate resorts in close proximity to Calgary it would not be necessary to build a new one, especially on a slope which was frequented by rare Bighorn sheep. There has been similar controversy over Atlanta's use of Stone Mountain and Nagano, Japan's plans. The IOC, according to Olav Myrholt[33], has put pressure on both cities to modify their plans, as well as on bidders for the 2002 Winter Games to stay out of protected parks.

The pressure to build facilities which are not only of a high standard but which attempt to mimic some "ideal" state can have a number of effects. To achieve a golf course, soccer field, cricket pitch or lawn bowling green which is weed-free and perpetually green, requires constant irrigation (in all but the wettest of climates) and heavy use of pesticides. The repercussions for water tables, for ecosystemic balance, for wildlife, for water quality and for users can be dire. Billy Casper, a Hall of Fame golfer, recounts how at one tournament in Miami he began to lose strength and play badly: "My eyes were bloodshot, my complexion was very ruddy and my right hand was swollen from taking balls from my caddie. My doctor said it was acute pesticide poisioning."[34]

Rather than accept weeds and brown patches during drought, the majority of golf courses continue to aspire to a perfect green carpet. The construction of golf courses around Palm Springs, California has changed the normal desert ecosystem into a tropical environment. The arrival of tropical birds, never before seen in the area, was a clear sign of the change.[35] John Bale notes how a new breed of golfers has "forgotten that much of the game's satisfaction results from dealing with the hazards of nature."[36]

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[33] Personal conversation with Olav Myrholt, director of Lillehammer's Project Environment Friendly Olympics, December 1993.

[34] Carolyn Cox, "Pesticides on Golf Courses: Mixing Toxins with Play?", *Journal of Pesticide Reform,* Fall 1991, p. 2.

[35] Edmondson, J. "Hazards of the Game," *Audubon,* November 1987, pp. 25-37.

[36] John Bale, "Sport and the Environment," p. 14.

The same might be said of many athletes and officials who have seen the doming, manicuring and artificial turfing of so many sports. Bale finds it paradoxical that the spatial confinement and artificialization of the sports environment has been undertaken with a concern for the comfort of participants and spectators as well as improved sporting performance, and yet "a feeling of dissatisfaction" seems often to be the result.[37]

Bale believes that sports venues are becoming identical: "In sport there are very strong pressures to make one place the same—exactly the same—as the other."[38] He quotes a number of athletes who are not at all sure that the newer, more artificial facilities should be considered progress. Former baseball pitcher Howie Reed states: "I've pitched in those big sterile stadiums in the States and believe me, it's much better to play a game in Jarry [a small outdoor park in Montreal]. Intimacy is an asset."[39]

The baseball industry has recently begun to recognize this need, with several Major League teams building smaller, more intimate stadiums—albeit equipped with dozens of money-making corporate boxes. This new trend demonstrates that smaller can indeed be profitable as well as popular.

Bale concludes that the domination of artifice and confinement has led to a sports monoculture which has created a backlash: "There is something of a reaction against the most spatially-confined sports with the emergence of 'green' sports like running, orienteering and skiing, and also something of an anti-sport feeling in the growth in interest of non-competitive physical activities undertaken without the need for special environments."[40]

Bale's conclusion is underscored by several recent American and Canadian surveys which found that the fastest-growing activities include walking, cycling, swimming, birdwatching and gardening, whereas competitive sports and ones requiring a lot of equipment tended to be on the decline.

It may be that more and more people are coming to the conclusion that if organized sport is not headed in the directions they would like it to be going, it is up to them to either change that course or strike out on their own. The next chapter will look at how the sports industry, in order to assure itself of a healthy future—economically, socially and environmentally—must reevaluate its priorities. Sport can take steps now to change itself for the better, and to the advantage of all stakeholders. Chapter Three argues the need for a more sustainable model of sport and points out why and how the industry will benefit from such a fresh and invigorating approach.

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[37] Bale, "Sport and the Environment," p. 12.
[38] ibid.
[39] ibid., p. 14.
[40] ibid.

3 The Need for a Green Games Ethic

Sports exerts a growing influence on major areas of human activity, including the political, economic, social and cultural arenas. Its presence can also be felt in the realm of education and health. Sport has infiltrated the great social institutions of family, school, municipality and private enterprise, and it has also encroached upon all the major media to become one of the greatest social phenomena of the twentieth century.
Gaston Marcotte and Rene Larouche[1]

All but the simplest of activities are now somehow influenced by commercial and/or political pressures. At the same time, the relative importance that sport plays in our lives seems to have dramatically increased during this century, where organized sport has become the predominant form.

An extreme example of the importance some people attach to sport is the middle-aged spectator interviewed on television following the 1992 Toronto Blue Jays World Series victory. "This is the greatest moment in my life!" he proclaimed. Noam Chomsky offers an irreverent explanation of such idolatry. Sport, he says, "offers people something to pay attention to—that's of no importance. That keeps them from worrying about things that they might have some idea of doing something about."[2]

But even if some have accorded sport a bit too much importance—the shooting of a Colombian soccer player for scoring against his own goal at the 1994 World Cup comes immediately to mind—it is certainly not without importance. It does play a big part in people's lives, whether they are participants or spectators. It is a motivator, a symbol, a diversion, even a passion for some. If, as Marcotte and Larouche contend, sport is truly one of the great social phenomena of the century, then it is easy to see why there is growing concern over its social impact, not just its

[1] Marcotte and Larouche, "Coaching: A Profession in the Making", S.P.O.R.T.S. (1991), Vol. 11, No. 8.
[2] Noam Chomsky, quoted in J. Creskey, "Turning over news coverage to the sports department," *the Ottawa X Press,* September 15, 1993, p. 5.

economic impact. If we spend so much time playing sport, watching sport or emulating the people and the behaviour that are so much a part of contemporary sport, it is understandable that we—our youth in particular—will absorb some of sport's dominant values. Canada's Task Force on Federal Sport Policy observed that "the physical activities we engage in, how we integrate them into our community life, the values we express through them... help define us as individuals and as a nation."[3]

The traditional image of sport as a teacher highlights its positive potential. Sport teaches us values, fair play, teamwork and cooperation, self-respect and respect for others, the Task Force observed optimistically. Through the same rose-tinted glasses it concluded that "Canadians use sport to develop healthy lifestyles that may translate into improved health, well-being and self-esteem."[4] This is certainly the sporting ideal we have traditionally strived for, but how honest and accurate a portrayal of contemporary sporting culture is it?

Anyone at all familiar with athletes and sports organizations will be aware of the gap that exists between the ideals and values we wish were being promoted and those that may actually be. The reality is that the way the sporting community acts, in the boardroom or on the playing field, is entirely consistent with the way society at large acts, which is often counter to many of our ideals.

Lois Bryson argues that since the goal of winning has been placed above such genteel values as fair play, it is entirely consistent that we have allowed a value system to take hold in which all but the most excessive forms of cheating and achieving unfair advantage are tolerated or even encouraged. When you consider the political prestige and the rewards (both symbolic and material) that go to the winner, as well as the profit to be made by other interested parties, is it surprising that "self-regulating gentlemanly codes" have been for the most part abandoned? Bryson goes so far as to suggest that "traditional genteel rules are now antithetical to the commercial and national interests being served by much sport."[5]

While as a society we may wish to preserve and encourage many of the "old" values, it is important to recognize them for what they are and not to expect too much of them. For while these values may have been relevant to a privileged elite for whom financial gain was of little concern, they can hardly be expected to stand up under the pressures that come with huge financial rewards for individuals and corporations as well as prestige for nations.

Bryson suggests that we have reached a point where "we need to take a cold hard look at how sustainable are the traditional sporting values," particularly in elite sport.[6] If we are to reduce or eliminate the kinds of pressures that motivate athletes to put their health at risk, inspire communities to spend considerable energy and money on hosting or bidding for major games,

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[3] *Sport: The Way Ahead*, p. 19.

[4] ibid., p. 22.

[5] Lois Bryson, "Sport, Drugs and the Development...," pp. 144-5.

and lead to decisions which have a negative impact on environmental health, fundamental changes are necessary. Sport will have to shift its focus away from profit making and competition, away from both monetary and symbolic reward and begin to emphasize participation and cooperation.

The primary goal of this book is to demonstrate to the sporting industry how it can benefit from embracing its environmental responsibilities. This is in no way dependent on the downfall of commercialism or competition. However, the sporting industry, society at large and the natural environment can all benefit by establishing a common set of values and a code of ethics/conduct that will promote those values.

The sports industry has the potential to mature and evolve in such a way that it promotes economic well-being, human and environmental health and community improvement, at the same time as many traditional sporting values. These values will only be promoted, however, if the ethical underpinnings of the sporting community are appropriate to the task, clearly defined and embraced at all levels. What is needed is a common ethic which embodies these shared principles. The elements of such a Green Games ethic are proposed in Chapter Four.

First, however, it is necessary to demonstrate how the industry can be changed for the better with a new approach. This chapter will look at how a Green Games ethic, which is seemingly designed to promote environmental values only, is in fact admirably suited to promoting through sport a broad range of social values. For ultimately, the goal of greener games is competely consistent with, and cannot be accomplished without, a new and revolutionary vision of sport: one which pursues and nurtures such values as equality, community and respect for all living beings.

Sport is a Powerful Agent for Change

If it is indeed true that sport values reflect those of the society at large, can those sport values be altered in any substantial way without first altering those of the society in which we are operating? Though environmental awareness may not take hold within sport before it has done so in society at large, sport does have a special role to play in accelerating the process. It may not be the birthplace or breeding ground for such a movement, but sport has an opportunity—a responsibility, even—to take a prominent role in any push toward a more sustainable society. The role to which the sport community is admirably suited is that of spokesperson and publicist; by virtue of its prominence and influence, it can become a powerful agent for change, leading society at large. First, it can lead by example, showing to other sectors and to the general public the benefits of adopting a Green Games ethic. Second, by publicizing its commitment and successes, it can serve as a messenger to the unconverted within the industry.

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[6] ibid., p. 150.

Mike Bossy, a respected former professional hockey player, feels that athletes can be important messengers, especially for children: "I've always been very conscious of the fact that kids look up to professional athletes. If you're going to have that kind of influence on kids, you have to act and speak responsibly."[7]

That view is echoed by Hall and Richardson: "Many of the values we admire in our sportswomen and sportsmen—honesty, fair play, hard work, discipline and dedication—are the very societal values we wish to see inculcated in everyone. Sport, therefore, is highly significant in the socialization of young people," they argue.[8]

Sport's messenger role goes beyond the words of professional athletes, however. By simple virtue of the number of participants in sport at all levels, there is a large audience for messages which are learned either from instructors or through the activity itself. At a 1991 world congress of ski instructors, a resolution was passed emphasizing that "ski instruction is a means of increasing ... awareness and love of nature."[9] Over 300,000 instructors teach more than ten million skiers each year.

Sigmund Haugsjaa, environmental coordinator for the Lillehammer Olympics believes that sports organizations have a special responsibility to deliver environmental messages, through events, facilities and training and education. Children, he feels, are especially open to education through sport, since nearly 100 percent participate in sports.[10] Between 70 and 90 percent of North Americans and Europeans of all ages participate in sport in some form.

The Benefits of a Green Games Approach

So much for the messenger; what about the message? Can an approach to sport which accords highest importance to safeguarding the natural environment also help to meet social and economic goals? The benefits of adopting a Green Games approach for people who organize sports events and design and operate sports facilities fall into four principal categories: economic savings, environmental health, human health, and community awareness and improvement.

Green is the Colour of Money

The popular misconception about environmental protection is that it costs money. Despite hundreds of examples of companies and organizations whose environmental initiatives have saved them millions of dollars, the myth still prevails in some quarters.

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[7] Mike Bossy in *Sport: The Way Ahead*, p. 123.
[8] Ann Hall and Dorothy Richardson, "Fair Ball," 1982 in *Sport: The Way Ahead*, p. 110.
[9] *Skiing*, November 1991.
[10] Interview, December 14, 1993.

To be fair, most steps to minimize environmental impact involve an initial expenditure. In some cases that expenditure will be large. In a few cases, the savings may never match the initial expense. In the vast majority of cases, however, money spent to improve environmental performance will bring a significant return on investment. Furthermore, not only will money be directly saved through reduced costs on such items as energy, material inputs and waste disposal, other savings might take the form of lower insurance premiums, fewer accidents and avoided legal costs.

This win-win phenomenon has come to be known in managers' lexicon as "eco-efficiency." Eco-efficiency means using as few resources as possible as efficiently as possible, thus reducing the waste you must pay to dispose of—either through process changes which produce fewer byproducts or by finding buyers who require those byproducts as their own raw resources. Greater eco-efficiency, though it will often require up-front investments, translates into lower costs, greater savings and greatly reduced waste and pollutant production.

Examples of eco-efficiency abound in sports.

- A high school field house in Illinois installed a new lighting system which, in addition to providing superior lighting, costs 68 percent less to operate than the previous system, resulting in a pay-back period of under two years;
- Canada's 3,600 ice hockey and curling arenas could save 430,000 MWh of energy, or $17,200,000 annually, through the introduction of operational improvements and five new technologies (not including lighting, heating and overall design improvements), according to a recent study.[11]
- At Hamar Hall (the Lillehammer Games speedskating venue), energy savings from heat recycling and heat pumps using surplus heat from the ice-making system will use 2.5 million fewer kilowatt-hours than if no such measures had been taken, an annual savings of $U.S.180,000.

There are dozens of areas where a Green Games approach to running events and facilities has saved or could save money.

- Energy demand can be reduced through better building design or renovations, insulation, new lighting technology, and heat and lighting management sytems.
- A comprehensive materials and waste management scheme can reduce the need for certain materials, guarantee a longer life for or multiple usage of certain materials, and reduce disposal costs through recycling.
- Transportation planning can reduce the cost of building new roads and parking spaces, through better siting of facilities and events.

[11] "Potential Electricity Savings in Ice Arenas and Curling Rinks Through Improved Refrigeration Plant—Volume I," December 1992. Report for the Canadian Electrical Association by Marbek Resource Consultants.

A Sheepish Way to Cut Grass

Calgary Olympic Park's use of sheep to keep grass cut on its slopes demonstrates Green Games thinking in action. The sheep do their cutting for free, consume no fuel, make no (well, very little) noise, and their only waste fertilizes the grass. They can even get into the difficult spaces around trees, buildings and pylons where machines cannot. As an added bonus, tourism has increased since the introduction of the herd.

- Water conservation measures will reduce the cost of both water purchases and sewage disposal.
- Integrated pest management on golf courses and other natural playing surfaces will reduce the need for pesticides and the risk of accidents, lawsuits and fines.

Though these are only some examples of the economic benefits that a Green Games ethic might bring to the sports industry, they are adequate to dispel the myth that being environmentally responsible is an added expense. Yes, an initial investment is sometimes required, but it is precisely that: an investment, with an impressive rate of return in many cases. In other cases—waste management and transportation planning, for example—there is little if any up-front cost, only savings.

Enviromental Health

Many of the environmental benefits which stem from greening sport are fairly obvious, whereas others are only now begining to be recognized. Some of the most significant of these benefits follow.

- Less energy consumption means reduced greenhouse gas emissions, air pollution, radioactive contamination from nuclear plants or damming of rivers.
- A reduced demand for water from facilities will lessen the strain on local supplies and perhaps obviate the need to increase infrastructure capacity simply to meet peak-period demand.
- Better transportation planning will help reduce the demand for private vehicles, limit traffic congestion and lessen the need for new roads and parking. This translates to less smog, noise, resource consumption and loss of green space.
- A comprehensive materials and waste management scheme can reduce the amount of purchasing, control the content of those materials purchased, ensure multiple usage and divert materials towards recycling.
- By reducing or eliminating the use of pesticides at sports facilities, the industry can help protect the quality of surface and ground water, as well as limit harm to flora and fauna.
- Green spaces, parks and nature preserves can be protected by placing them off bounds for further development and by limiting both the frequency and the scale of intrusions by sports activities into the most threatened and fragile areas.

Human Health

The health of athletes, spectators, officials and local residents is closely connected to enviromental health. The majority of steps taken for environmental reasons have the added benefit of improving conditions for human health. Some of the principal areas in which a Green Games approach might have a positive effect on human health include:

- Limiting the exposure of athletes in practice or in competition to dangerous conditions such as water pollution, air pollution, poor indoor air quality, tobacco smoke, and hazardous chemicals such as pesticides.
- Taking into account the dangers of Ultraviolet-B radiation when setting the times and location of training and competition, and providing adequate warnings and shelter for all participants and spectators.
- Placing a higher priority on the health of the athlete when selecting venues and designing facilities.

Not only should sports organizations at all levels, from elementary schools to international federations, place the health of participants first and foremost, the entire sports community has the opportunity to become an effective public educator on sports-related health issues. Furthermore, the sports community should take responsibility for coordinating an effective lobby group that promotes policies at a national and international level, aimed at addressing those environmental problems which place not just practitioners but entire sports at risk.

Community Awareness and Local Environmental Improvement

The decision to green a sporting event and/or facility can have a profound impact on the community in which the event is held or the facility situated. First, the community may benefit from any economic savings. Second, the effects of greening are directly felt within the community, through a reduction in environmental impact. Third, any action taken to improve the quality of the sport environment for the sake of participants, will also benefit the health of local residents.

But the benefits go beyond these considerations, and into the realm of education, awareness and new habits and attitudes. As we explored above, sports events, organizations and personalities can use their high profile to deliver important messages. When an event is held which has taken genuine steps to "green" its components, organizers and sponsors can benefit from spreading the word that they are running a Green Games. Though the media and the public have grown sceptical of hollow claims, any event which can demonstrate that it has made a substantial effort should do so. The same can be said for a facility, either new or retrofitted, which has

African Youth Pull Themselves Up By Their Bootstraps

In one of the poorest slums of Nairobi, Kenya, a unique program was created to combine sports and community clean-up for the benefit of the community. In 1987, a league was created in which each team was required to perform weekly clean-up duties, in addition to playing their scheduled games. Bonus points were given to those teams who performed their clean-up assignments. It was left up to each team to police its own members and ensure that they showed up for clean-up duty. By 1993 the Mathare Youth Sports Association (MYSA) had 4500 youths playing on over 250 soccer, basketball and netball teams, representing 50 villages and estates. Every weekend over 2000 boys and girls take part in MYSA sports and slum clean-up projects. In June 1992 MYSA received the Global 500 Award from the United Nations Environment Program (UNEP). The executive director of UNEP, Elizabeth Dowdeswell, took part in 1993 in a MYSA clean-up project and was given a shovel by the kids. She took that shovel into a global conference of housing ministers, where she told the delegates that their many recommendations for action would have little effect unless more people in their countries, like the kids in the Mathare slums, picked up a shovel and tackled the problems directly.[12]

incorporated design features and systems which are more environmentally benign than is common or than those being replaced.

Once we are past the initial scepticism—which serves the useful task of keeping claimants honest—this is a golden opportunity to demonstrate to the community what has been done and how well it is working. One green event/facility breeds another. The next event/facility will have a hard time getting away with not being green, as the community comes to expect it. Awareness raising of this sort has the potential to extend well beyond the sports industry, into the homes, offices and businesses of the community—wherever the lessons of the Green Games approach are applicable. The benefit to the community is that thinking green can be habit forming.

Greening a sporting event or facility is also an opportunity to get the host community directly involved. Since the majority of employees and volunteers come from the host community, they will have the opportunity not just to see how each step is being implemented, but to be involved in that implementation. Local residents will learn about greener purchasing practices, materials and waste management, traffic calming, noise reduction and much more. Appropriate systems will also have to be put in place. When the 1993 Canada Games came to Kamloops and the 1994 Winter Olympics to Lillehammer, neither had regular recycling schemes in place. Once they were set up and running for the Games, however, it made no sense to shut them down when the athletes went home. The legacy of a Green Games for the host community, in terms of facilities, systems and education, can be its greatest benefit.

At the simplest level, residents of a community can become personally involved in greening sports events

[12] Based on discussions with Bob Munro of MYSA, and his background documentation. The full story of MYSA can be found in Appendix A.

and facilities. They can also take it upon themselves to use existing sports structures to accomplish environmental goals (see sidebar).

Clearly a Green Games ethic can help to accomplish many things. Such an ethic derives its strength from the fact that it is the sum total of many values which are cherished by a civilized society. Though a number of these values may not at first appear to be connected with sport, it is becoming increasingly clear that they can help to guide sport in a positive direction, and encourage the sports industry to join in promoting many desirable social objectives.

An ethic is capable of providing guidance and meaning to an activity, though it is not itself a tangible goal. In the case of sport, what is needed is a target or objective, which the Green Games ethic will help us to reach. That ultimate goal is "sustainable sport." Since sustainable sport is not, however, a fixed point that one can get to and then quit, the objective is really to strive continually to improve the sustainability of sport. As with the pursuit of excellence in the sports arena, once one goal is achieved we must set a higher objective and strive to reach that. For the sake of guidance, however, a definition of sustainable sport might be as follows:

> Sport is sustainable when it meets the needs of today's sports community while contributing to the improvement of future sports opportunities for all and the integrity of the natural environment on which it depends.

For various stakeholders to actively pursue greater sustainability in sport, they will require more tangible guidelines. What will sustainable sport look like? Chapter Four provides an initial glimpse in the form of twelve "principles," each of which forms a strand in the greater web of sustainability.

4 Defining the Principles of Sustainable Sport

"Sport is the only human institution that is based on idealism... Anything which is not based on ethics cannot be called sport. If it's a corrupt environment, we can't invite our children into it. We must be jealous guardians of that ideal if we're going to bring them into it and every time we see anyone breaking that ethic we've got to jump on them. Otherwise we lose the precious jewel that we hand to the next generation. And I don't think that my generation has been particularly good at looking after it."

Ron Pickering, former British Olympic coach, teacher and broadcaster[1]

The IOC's decision to "reinstate" professional figure skaters, enabling them to compete at Lillehammer as "born-again amateurs," must surely have put the final nail in the coffin of the amateurism myth. In earlier chapters we concluded how incompatible amateurism and many of the traditional "genteel" values are in a sporting world—indeed a society—in which commercialism and political objectives wield such a powerful influence. The sporting community appears now to be floating in search of an ethical anchor, one which is compatible with the realities of a commerce-driven world but which places greater emphasis on those social values we most cherish and wish to see supported by the sporting industry.

It is simply not good enough to accept that the direction in which sport seems to be headed is somehow inevitable, not unless we are prepared to accept that the future for sport is one in which victory and profit are the principal motivators and in which athletes, communities and the environment pay the price. If there are things about the sports industry we do not like, it is up to us to work to change them. Conversely, if there are aspects we do like and which we see are being progressively diluted or abandoned, our task must be to promote, protect and reinforce them.

[1] Simson and Jennings, p. 276.

Whatever we choose to do, our actions will derive strength, direction and a common sense of purpose if they are supported by a shared ethic, a set of principles and values which are held by all. Since sport is such a powerful force, for good or evil, in the words of Canada's post-Seoul Dubin Inquiry, "it cannot exist outside ethical consideration."[2] This chapter proposes twelve principles which might form the foundations upon which to erect a more sustainable model of sport. By accepting and promoting such an ethic, we can begin the process of planting a new and stronger value system in sport and in all areas connected with it.

Twelve Principles for Sustainable Sport

1. Conservation
2. Stewardship
3. Eco-efficiency
4. Partnership
5. Leadership
6. Quality
7. Responsibility/Accountability
8. Democratization
9. Investing in the Future
10. Equity and Access
11. Diversity
12. Active Living

1. Conservation

Conservation can be practised either for ethical or practical reasons, or both. The conserver society may be motivated by a belief that nature's resources are sacred and not to be squandered, or by a more blatantly self-preserving desire to assure itself and its offspring of an adequate supply of the fundamentals for survival. Typically thought worth conserving are those elements essential to the maintenance of life and health: clean air, clean water and good soil, as well as the animals and plants we require for food, clothing and shelter. Modern societies have added to their list such materials as fossil fuels and minerals. Also to be conserved are such vanishing natural features as forests, wetlands and other habitat—and most recently the ozone layer—which perform essential functions in keeping the biosphere and local ecosystems in balance.

Like many modern pursuits, sports tend not to have a strong conservation ethic built into either their codified rules or their rituals. With the exception of some wilderness sport enthusiasts who emphasize a "low-impact" approach, the majority of sports and their practitioners have grown

[2] The Dubin Report, 1990, p. 510.

to take for granted that there will be clean air and water and plentiful available terrain at their disposal. Perhaps it is only with the realization that these desirable conditions are becoming scarce that the sporting community will take stock of the situation, and seek to reflect in its rules and rituals a sense of the "sacredness" of those natural conditions which make sport possible.

Signs of a resurging ethic of conservation are becoming more and more frequent: in the rules and rituals of hikers and canoeists; in the guidelines for designers of golf courses and skiing trails; and in the waste disposal practices of sailors. This is perhaps a mirror of a broader social trend, one which Anglican Archbishop Robert Runcie described as "the conviction that nature does not exist simply and solely for the benefit of humankind." Runcie felt that such a conviction is becoming "increasingly widespread and articulate" and that since it finds its true source at such deep levels of the human spirit, it must be considered "a religious conviction."[3]

Sport, being virtually a religion to so many people, has the potential to absorb as a fundamental tenet that any infraction against nature is a blow to sport itself. The event organizer, course designer, spectator or athlete that harms those environmental conditions upon which sport depends should thus be thought of as committing modern-day sacrilege.

The pillar of a sports conservation ethic, as Lillehammer environmentalist Olav Myrholt argues in a submission to the IOC, is the recognition that "we are all in the same arena: planet Earth." Any harm done by the sport industry to the planet is thus a strike against the future of sport itself.

2. Stewardship

Environmental stewardship is the belief that all individuals, organizations, companies and countries are "stewards" of the environment, and must be responsible managers of those resources and regions on which our activities have an impact.

Good environmental stewardship is fundamentally good management. A number of subsidiary concepts fall under this rubric: sound management of resources, restoration of resources which we have despoiled, and the safe-keeping of significant resources for posterity. Some of the principal means for accomplishing these goals include:

- When in doubt, refrain from doing. This approach was best described by twelve-year old Severn Suzuki in a speech to the world's political leaders at the 1992 Earth Summit: "If you don't know how to fix it, please stop breaking it!" In our fast-moving industrial society we are often faced with opportunities to do things or use materials whose

[3] Runcie in Shridath Ramphal from *Our Country, The Planet,* Island Press, p. 204. Granted with permission from *Our Country, The Planet,* Shridath Ramphal, ©1992 ECOFUND '92. Published by Island Press, Washington, D.C. and Covelo, California.

consequences are uncertain. Typically in these situations, the onus has been placed on regulatory bodies to protect us from danger and on scientists or environmentalists to demonstrate that significant harm may result, rather than on the person or company actually taking the step whose results are in question. That must be reversed. As we have grudgingly learned from thalidomide, DDT and radiation experiments, it may take decades before harmful effects appear, by which time they will have done considerable damage. The new maxim must be "when in doubt, don't." This applies to habitat destruction for building sports facilities; the use of chemicals on golf courses, as snow hardener or as a coolant; intensive water use for irrigation and snow-making, and much more.

The environmental goals of the Sydney 2000 Games illustrate stewardship in action at a sports event. Sydney has set itself five categories of objectives where it will practice environmental stewardship:

1. Energy conservation and use of renewable resources;
2. Water conservation;
3. Waste avoidance and minimization;
4. Protecting human health with appropriate standards for air, water and soil;
5. Protecting significant natural and cultural environments.

- Meet or exceed environmental standards and best current practices. Wherever an event is held or a facility is built, the onus is on organizers and planners to meet or surpass the highest environmental standards in that region and to employ the best current practices known, even if that means playing a leadership role. Too often regulations are ignored with the justification that better practices would have been too expensive or, with the complicity of the authorities, that the economic benefits outweigh the environmental consequences. The latter is a flawed argument, comparing apples and oranges: money and jobs cannot replace a lost ecosystem.

3. Eco-Efficiency

The most economically efficient and environmentally responsible way to carry out any task or make any product is to develop a system which minimizes the amount of materials required as input, the amount of processing required of those materials and the amount of non-productive output beyond the desired end product. The ultimate eco-efficient system buys only what it needs, reuses material as many times as possible and recycles or sells whatever may go unused. By producing no unsellable waste/pollution, disposal costs are avoided.

INEFFICIENCY = WASTE = COSTS
ECO-EFFICIENCY = WASTE AVOIDANCE = SAVINGS

Eco-efficiency is a front-end solution which avoids costs and pollution and the problems that accompany them. Eco-efficient thinking can be applied to any activity or field. The organizer, manager, designer or equipment producer who endeavours to apply eco-efficiency to any problem from the earliest possible moment is certain to see tangible economic benefits, in addition to reducing environmental impact and demonstrating stewardship.

4. Partnership

The idea of forming partnerships is nothing new to the sports community, where there is a tradition of groups and individuals working together to, for example, sponsor an event, or share a facility. What has begun to happen in many sectors and is especially applicable to sport, is two things: (i) innovative partnerships are being formed between non-traditional partners, and (ii) partnerships are becoming longer-term arrangements and are being formed at an earlier stage in a project.

Examples of innovative partnerships are those in which the private sector gives financial support to public facilities, for the betterment of the community. The obvious benefits to the company include the availability of those sports facilities for employees and their families as well as a good profile within the community. Other new and important trends in partnership formation include:

- the involvement of community representatives in planning for construction, renovations or hosting an event.
- involving athletes in the design and running of facilities, the choice of venues for an event and the planning process for events.
- partnerships to promote environmental sustainability in all aspects of sport.

The idea of a partnership is to make maximum use of the resources (both physical and intellectual) which each partner has to offer, thus making even greater strides as a group with a common goal than would ever be possible as individual operators.

A Triple Partnership in Lillehammer

Every Thursday for more than two years, representatives of the Lillehammer Olympic Organizing Committee, the Ministry of the Environment and the watchdog group Project Environment Friendly Olympics, met to discuss environmental issues, possible solutions and implementation plans. The partnership proved effective in reducing environmental harm, encouraging sponsors and donors to become positive players in greening the games, and handling media requests. Perhaps its greatest legacy was in demonstrating that industry, government and citizens groups can work effectively together to find common solutions.

Examples of powerful partnerships of this sort, as described in Section B, include:

- Sports organizations working closely with their sponsors/donors/suppliers to ensure that issues such as packaging waste and recyclability are considered from the earliest stage.
- Event organizers and facilities managers involving the media as partners in the broader social goal of promoting more sustainable practices.
- Host communities are not only the most concerned about what the sports industry is doing in its backyard, they also have a lot to give. Partnerships between sports organizations and local communities in planning and running an event or facility will help to ensure that both the partners and the local environment are winners.
- Sports organizations can invite respected environmental groups to play a positive role in all aspects of running an event or facility. There is no better source of knowledge and input available on issues of sustainability than groups who specialize in promoting this concept.

5. Leadership

The sporting industry can demonstrate leadership on any number of social issues by showing that change is possible; we don't have to accept the *status quo* if we're not satisfied with it. Throughout history the greatest inventions and innovations have come from people and organizations which recognized that with change comes opportunity. In the words of William Mulligan, manager of environmental affairs at Chevron Corporation, "environmental excellence has to become part of strategic thinking. It is in our best economic interests to do so. In fact, whenever we are forced to change, we often find potential opportunities."[4]

Members of the industry can be leaders not only to other sports organizations but to groups outside of sport. They can be innovators, educators, motivators and guides. Those who have tried new ways should make what they have learned available to others, through formal educational techniques such as courses and seminars as well as more informal means. Similarly, they can motivate others to emulate their successes, and help guide organizations through the process of systemic change.

Many organizations, in sport or otherwise, have shown that the process of moving towards sustainability can be stimulating and profitable, without being especially difficult, something renowned French ecologist René Dubos recognized two decades ago. "We can manage the Earth so as to create environments that are ecologically stable, economically profitable, esthetically rewarding and favorable to the continued evolution of civilization. We need only muster the will," said Dubos.[5]

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[4] W. Mulligan in *Business Strategy for Sustainable Development: Leadership and Accountability for the '90s.* International Institute for Sustainable Development, Winnipeg, 1992, p. 13.

[5] Dubos in Ramphal, *Our Country, The Planet,* op. cit., p. 197.

6. Quality

Modern society's obsession with continual growth and development is very much in evidence in sport. Unfortunately this growth has placed a much greater emphasis on quantity than on quality. The Toronto SkyDome is big and modern, but do people *like* to play there? When the New York Marathon reached its peak popularity in the 1980s, drawing tens of thousands of runners, did this make it a better event—for anyone but the organizers and sponsors—than if it had drawn one-quarter the number? Are the Summer Olympics even more exciting now that the number of medals awarded are into the hundreds and the number of competitors close to 15,000?

The sporting industry must shift its emphasis from size and quantity to quality if it expects its events to continue to hold the interest of competitors, spectators and sponsors. If what sponsors and advertisers value most is an audience for their messages, the proliferation of opportunities to send that message may actually be reducing not only the size of the audience, but the amount of attention being paid.

The motto of the Olympic Games themselves has frequently been described as an open invitation to unlimited excess. We can only go "higher, faster and stronger" to a point. Athletic performances cannot be pushed much beyond this point without unnatural, synthetic and dangerous means. Similarly, events and facilities reach a point in size, cost and environmental impact where they may be doing more harm than good. Lucas argues that "because 'higher, faster, stronger' has infinite, no-limit connotations and because the human body in its natural state is finite and very much limited, the Olympic code has dangerous implications physiologically, morally and chemically."[6]

Myrholt proposes that "higher, faster, stronger" be redefined qualitatively or replaced. The LOOC called for the Olympic motto to be applied to the environmental effort: "higher environmental objectives; stronger effort and commitment; and faster speed and greater impatience to reach our environmental goals for the sake of the future."[7]

Philosopher Hans Lenk argues that today's mega-Olympic Games may have to give way to alternate games which are "smaller, more beautiful, more intimate, more participatory, more humane."[8]

What qualitative improvements will mean for the community and the natural environment is a greater emphasis on such things as: low-cost sporting opportunities for the general public; better environmental conditions for sport; increased concern for the health and well-being of the

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[6] Lucas, *Future of the Olympic Games*, p. 96.

[7] An unpublished LOOC report, "From Challenges to Opportunities," 1993.

[8] Lenk in Lucas, p. 32.

athlete; a stronger focus on what values are being promoted; less disruption of the normal activities of a community; and reduced disturbance of natural habitat and other species.

An overall emphasis on quality in sport is consistent with "small is beautiful" economist E.F. Schumacher's philosophy of using "appropriate technology" in all aspects of life: organize events which meet the needs of participants and build facilities which meet the requirements of the greatest number of users, but always keep in mind such principles as humanity, ecology and aesthetics. Helmut Digel similarly calls for the sports industry, including the individual participant, to learn to distinguish their needs from their wants: "a retreat from the desirable but non-essential."[9]

7. Responsibility/Accountability

In any sphere, the possession of power brings with it a responsibility to wield it wisely. The institutions of sport have become so highly regarded that top athletes have eclipsed politicians, scientists and humanitarians as idols and role models in our society. Sport now has an inordinate amount of influence, and with such influence comes responsibility: to show leadership, to educate and motivate, and to set a positive example, for youth in particular.

The recent media attention given to those "bad apples" who have committed crimes or engaged in behaviour considered unethical or immoral, has raised an important question: should we expect people who have achieved notoriety solely by virtue of their athletic prowess to behave any better than the rest of society? There is no logical reason why people should be fashioning their behaviour after athletes, except perhaps on the playing field. But they do. From dress, to walk, to talk, to "attitude," many of us copy what we see our athletic heroes doing. Because we see Michael Jordan so often, not only doing great things with a basketball but telling us what to drink and wear, we begin to follow his example.

Far from shunning this kind of profile, the sports industry and its close relatives—media, entertainment and advertising—have gone out of their way to use sport to sell, not just sports equipment and tickets to an event, but a way of thinking and a lifestyle. You cannot sell a lifestyle on prime-time television without accepting some responsibility for its repercussions.

Some would argue that any high profile person or institution deserves to be scrutinized in every action. This is going too far. Where the sports industry should demonstrate responsibility is in its activities related to sport. An athlete or franchise must ask the question, "what messages are my sports-related actions sending to the public regarding acceptable behaviour?"

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[9] Helmut Digel, "Sports in a Risk Society," *International Review for the Sociology of Sport*, 27(3), 1993.

At a minimum, the sports actor should be responsible for not setting a negative example. That means refraining from activities which send the message that cheating is acceptable, that money and winning are everything, or that forests and streams are expendable.

Koss Sets a Golden Example

Johan Olav Koss, winner of three gold medals in Lillehammer, is an advocate for Olympic Aid, a charity created by Norway's athletic community to support young victims of war. Attributing his world records to "wanting to skate for Olympic Aid," Koss donated most of his bonus money (tens of thousands of dollars) to the charity, and challenged every person in Norway to donate 10 Kroner for every gold medal won by Norway.

Though no individual or organization can be compelled to set a positive example, many in the industry feel that they do have an obligation to send the "right" messages. Some athletes believe that they have a responsibility to use their enormous influence and the tools at their disposal—money and a high media profile—in a positive fashion. Olympic historian John J. McAloon argued that the Olympic athlete has the capacity to make certain precious messages meaningful. There is surely no finer example of an athlete who took his "responsibilities" to heart than Norwegian speedskater Johan Olav Koss.

Though remarkable, Koss is not alone. Athletes, former athletes and officials in many countries have set up organizations and run events which raise awareness of such concerns as health issues, poverty and violence, while also raising funds for charity. In addition to providing concrete help to those in need, these initiatives reflect positively on the institution of sport itself. The message they are delivering is that sport is an important part of the fabric of any society and as such has a responsibility to give back at least as much as it takes.

8. Democratization

At any level of sport organization, decisions have to be taken. Typical issues include the allocation of money, design and location of facilities, scheduling of events and hiring of coaches. For many decades sport has been an "old boys' club." Since the days of the first British governing federations—a select group of self-appointed aristocrats—decisions regarding the rules and regulations of the major sports and sporting events have been taken by a non-elected and mostly-male clique. The situation is only just beginning to change, and change it must. Sport must be democratized. If the organizations which set policies and guidelines and make many of the major decisions regarding events and facilities are to remain relevant, they must move quickly to recognize the needs of their constituents and to involve more of their stakeholders in the decision-making process.

Though several key stakeholders have recently been brought into the decision-making process—namely sponsors, advertisers, the media and professional organizers—these represent only one

side of the constituency. The principal stakeholders who have, until now, had relatively little input include athletes, volunteers, host communities and groups representing social and environmental concerns. Many of the people most profoundly affected by decisions have had little say in those decisions.

Canada's Task Force on Federal Sport Policy pointed to the need for greater democracy and accountability within the entire sport system. The sport community must be accountable to all of the above groups and especially to the general public for preserving and advancing values of sport, for being socially responsive, community-centred, efficient and effective. It must also develop decision-making and consultative mechanisms which give a meaningful voice to all such stakeholders.

The Athlete-Centred Sport System

Probably the strongest trend in sport in the late 1980s and early 1990s has been a movement towards "athlete-centred sport." Though the strength of the movement differs from country to country and from one level of competition to another, it shares a similar goal: athletes are demanding a better balance between their rights and responsiblities and those of the sports organizations.[10]

A sport system which is athlete-centred protects athletes' rights to certain standards and services as well as demanding that they meet a number of clearly defined and mutually accepted responsibilities. Foremost among the "rights" of the athletes is protection of their health and well-being, including "care for the individual's growth and development, physical, moral, emotional and spiritual health."[11] Although such thorough support may not be available to athletes below elite-level competition or even to elite athletes in less wealthy countries, even they should reasonably expect protection from harm.

The Task Force characterizes the athlete-oriented system as one which "considers their health and safety, and ensures fair and meaningful participation in all decision-making that affects the athlete," as well as providing a quality sport experience, good coaching, fair play and an environment in which they can make thoughtful decisions about their choices, free from excessive pressures to win at all cost.[12]

As for the responsibilities that accompany these rights, athletes carry a share of responsibility for the ethical development of the sport system. This they can influence through their own personal conduct and the moral and ethical values with which they approach their sport. Responsibilities

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[10] *Sport: The Way Ahead*, p. 61.
[11] *Task Force on Federal Sport Policy Report*, Ottawa, 1992.
[12] *Sport: The Way Ahead*, p. 57.

which athletes are typically expected to uphold include avoiding performance-enhancing drugs, submitting to dope testing and acting as role models and ambassadors for their sport, their organization or the region they are representing.

To these should be added the right to a clean and healthy environment in which to practise their sport, as well as the responsibility to safeguard that environment by refraining from and discouraging harmful practices and by actively promoting the protection of environmental health within their sport.

One of the principal demands of athletes is to be granted more direct involvement in decisions that affect them. Although athletes do not want to become managers, they do want to see that their knowledge, experience and insight are put to better use. An example of this is the demand made by world-class boardsailors that the site for world championships never again be chosen without their consent, a demand which is the result of a number of bad experiences with highly polluted water.

Groups of active and retired athletes are forming organizations like the Canadian Athletes Association to assist them in moving towards such an athlete-centred system. Giving strength to this movement is the fact that the athlete is the heart of sport. Without a system that encourages young athletes to strive for excellence, there will be no elite competition. IOC member Raymond Gafner underlines this point: "It is the athlete who brings both wealth and prestige to the Olympic movement," he states.

Canadian Olympic team physician Dr. Andrew Pipe offered a medical as well an ethical perspective when he testified to the Dubin Inquiry that "the care, training and athletic education of an athlete should be accorded the highest standards of ethical behaviour."[13] For the sporting industry to ignore the needs of the athlete, or, worse still, to permit or promote conditions which harm the athlete, ultimately harms sport itself.

Community-Centred Sport

Though elite sport grabs most of the headlines, the vast majority of athletes do not, and never will, compete at this level. Most sport occurs at the community level, whether through schools, clubs or recreational programs. Community-centred sport recognizes that it is not appropriate to push an elite national model of sport down into the community. The goal of community-centred sport is to provide broad opportunities for participation to the greatest number of people. This is generally accomplished when all community groups, including elite athletes and clubs, work collaboratively to make full use of facilities and resources.

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[13] ibid., p. 169.

Experience has taught many communities to be wary of plans that promise great riches and benefits, but fail to consider their actual needs. This is the source of the NIMBY (not in my back yard) syndrome which plagues so many large-scale projects these days. A new 70,000-seat arena may bring jobs and tax revenues into a community, but it also brings traffic, noise and possibly vandalism. It may also destroy green space while failing to provide what is really needed: playing fields for youth and community programs. The Olympic Games may bring world-class facilities and coaching to a community, but the general public must be allowed to benefit from these.

Canada's Task Force called for the development of a new model of sport which, using a participatory, inclusive process, "links an an enhanced community-based system into the existing national/provincial sport infrastructure." A step in this direction was taken after the 1988 Games by the Calgary Olympic Development Association (CODA). As the manager of the Games' legacy fund, CODA has close ties to the community, offering a full range of programmes, from recreational to high performance. It has links with the public education system and offers coaching assistance to community groups at all levels, as well as making all facilities available to the community.

Community-centred sport generally emphasizes multi-sport facilities, which are then used to full capacity. This makes economic as well as environmental sense. The economies of scale help to lower costs, and when maximum use is made of any one facility, fewer need to be built. Facility-sharing can be combined with coach- and staff-sharing arrangements to lower the cost to all parties while granting the community access to better quality programmes.

Montreal city councillor Nick Auf der Maur criticized the 1976 Olympics as the epitome of non-community-centredness. The scale, location and design actually alienate facilities like the Olympic Stadium and the Velodrome from potential users. Unlike the user-friendly velodrome designed for the 1994 Victoria Commonwealth Games, which has the minimum allowable incline on corners, the Montreal Velodrome was a state-of-the-art, high-incline facility which only world-class cyclists dared to use. Auf der Maur favours decentralized, smaller installations constructed close to where the users live, with the goal being to promote mass participation, local clubs and improved health.

9. Investing in the Future

Promoters of major events inevitably raise the prospect of a positive "legacy" for the community. Such a legacy can take many forms: money, facilities, tourism and community spirit, to name a few. It is quite possible that an event will generate most, if not all, of these. Professional sports franchises sing a similar refrain, especially when they are seeking tax breaks, loans or sweeter deals on stadium rental from local governments: "Just think of the economic benefits we bring to the community," they chant.

It is essential to note that in all such cases, the success of an event or a professional team depends heavily on community support. The flip-side of this coin is that a successful operation owes a great deal to the community on which it is built. The sports industry has some obligation therefore to return to the community as much as it takes—either in money or in kind. To make good on this obligation should be considered an investment in the future of the sport and the organization. Not to do so should be seen as sawing off the branch on which you are sitting.

Sports organizations can invest in their future in any number of ways. Money can be spent on facilities for the community, on support for local sports clubs or programmes and on promising individual athletes. Funding can also be provided for restoring any natural sites which may have been damaged by construction or heavy use. Community sport development programmes and training camps might be offered to young athletes. Even non sport-related activities which are of benefit to the community should be considered investments in the future of sport. The Ottawa Senators hockey team holds an annual charity fund-raising dinner in which players act as waiters—demonstrating that sport can give back as well as take.

10. Equity and Access

In an age where inexpensive recreation is becoming an endangered species, a growing number of people have limited options when it comes to sport. For the middle classes, the choice of what sport to pursue may be based less on preference than on cost. For lower-income people and in poorer countries the choice may not be what sport to play but whether to play sport at all.

Ice hockey was once the sport of the masses in Canada, but the growing cost of equipment, insurance and ice-time is turning it into a rich person's game. And while we have always been able to console ourselves that even the poorest child could take a soccer ball out into a field, as the number of public recreational fields diminishes, even options such as these are shrinking. High among the reasons why basketball is now the urban game of choice is that it can be played on a paved surface, the one thing of which there is no shortage.

Economics is not the only obstacle to participation in sport, however. Gender, geography and physical and mental disability can also be impediments to access and choice in most societies. The growing recognition of this disparity in opportunities gave rise to the "Sport for All" movement, which is based on the belief that fairness is one of the central values of sport and that equity and access exemplify fairness. Its objective is to ensure that opportunity to participate in sport and recreation is not limited by factors like income, gender and disability.

What Sport for All has led to on a practical level is an emphasis on simpler, inexpensive sports and activities, with less stress on competition and organizational structures. Where facilities and equipment are required, an effort is made to ensure that all users have equitable access.

Even outside the Sport for All movement, people and groups have responded to the needs of less-advantaged communities. In Canada, a number of groups have created programmes to send used hockey equipment to needy players. At the international level, governments and institutions like the Commonwealth are providing not only equipment but expertise to less-developed countries to help them raise the calibre of their physical education, coaching and competitive sports programmes.

There are clear environmental benefits to emphasizing sports which favour minimal equipment, facilities and infrastructure. A national programme which favours fitness above Olympic medals can make do without many of the technological accoutrements that seem to be part and parcel of elite sport.

11. Diversity

One thing that any vibrant culture has in common with any equally vibrant ecosystem is diversity. In human society, diversity and variety ensure that the needs of the majority of people can be satisifed, whether in language, career, entertainment or recreation. In the natural world, biological diversity ensures that individual species are provided with the conditions they need to survive, thus guaranteeing the viability of the ecosystem as a whole. Remove that diversity in the natural world, as we have seen in monocultural forestry and agriculture, and you risk complete collapse; remove diversity and variety from human society, and you risk alienation, boredom and tunnel vision.

In sport, if one or several forms of recreation come to dominate all others, the variety and unpredictability of experience which are one of its principal attractions are likely to be lost. Less diversity not only among sports but within the same sport makes for sports monoculture: sports experiences so uniform as to be described by some athletes as sterile, non-distinct and the ultimate non-experience.

The danger of losing diversity in sport is that the majority of resources and facilities will be devoted to a shrinking number of activities. Where these activities are expensive to practice, are difficult to play on a recreational level or require facilities which only major urban centres can support, many recreational athletes may find themselves shut out by the system. If few young athletes can participate in a sport as it is practised at the elite level (like bobsledding or yachting), there may be a large gap between the recreational and the high-performance level.

A strong and "seamless" sport system which allows people to participate at all levels, while at the same time encouraging aspiring competitors to move up through the various stages to the elite level, must appear as a broad-based pyramid. If the base of that pyramid becomes too narrow, the apex cannot be sustained. For that base to remain broad requires high interest and participation, which in turn relies on enough diversity to attract all types.

Fortunately, there appears to be a strong backlash against "big" sport, as well as against repetitive and sterile activities. More and more people seem to be seeking unchanneled, adventurous forms of recreation where they can strike out on their own. At the same time as the advent of the skating technique began moving cross-country skiing closer to its flashier cousin, alpine skiing, those who wanted nothing to do with machine-groomed trails, bodysuits and high-tech equipment moved into off-trail, backcountry skiing.

When the two types of skier, or the hiker and mountain biker, or the canoeist and the motorized boater, are forced to share the same facilities/areas, conflict can arise (and has!). By refusing to lower its demands (i.e. noise, terrain, infrastructure), one sport may be effectively robbing another of its right to exist. If representatives of the various parties cannot voluntarily reduce their demands so as to accommodate all activities, a solution will have to be imposed by some third party.

Ted Cable and Edward Udd observe that just as different types of habitat support specific wildlife populations, the availability of land with different physical attributes ensures a range of sports experiences. It follows then that just as habitat loss is the leading cause of wildlife extinction, it is also "the greatest threat to maintaining a diversity of recreation experiences."[14]

12. Active Living

Active living is a way of life that recognizes and values physical activity as an essential part of each day. It is an idea which fits naturally with and supports the principal goals and priorities of a healthy community, such as equity, personal choice and the appreciation and protection of the natural environment. Though similar in many ways to physical fitness, the concept of active living goes one step further, building on several decades of promoting fitness. Where it differs is by emphasizing enjoyment rather than "working out" or doing sport solely for the sake of fitness. Active living recognizes that sport-related exercise may not appeal to all people, but that encouraging sedentary people to enjoy moderate activities like walking, gardening and dancing on a daily basis will do the greatest good for public health.

Active living is a philosophy of sport and recreation that does not depend on sophisticated and expensive equipment and facilities or complex organization.

An important aspect of active living as it is being promoted by various Canadian government and broad-based community initiatives, is the pursuit of activities which are as good for human health as they are for environmental health. Such a holistic approach to health is closely aligned with other efforts to improve the overall quality of life for individuals and communities. Active

[14] Ted T. Cable ad Edward Udd, "Endangered outdoor recreation experiences: contextual development and lexicon," *Leisure Studies* 9 (1990), p. 48.

living promotes new and stronger partnerships by bringing together into common projects groups from recreation, health, education, environment, the private sector and community services. It also supports policies that promote quality, daily physical activity programmes—at school or in the workplace—and the creation of basic infrastructure such as urban bicycle paths which further an active lifestyle.

Cycling to work is a prime example of active living, as opposed to pure sport. Through this one act, we can promote personal health, reduce our impact on the environment, and contribute to the building of communities which are less automobile-based by promoting safety concerns and bicycle route improvements that encourage others to take up more active living. The "Rails to Trails" movement which is sweeping across many countries is another example. Instead of converting abandoned rail lines to roads or snowmobile routes, Rails to Trails promoters are turning these rights of way into non-motorized recreational routes. While providing a new, simple, multi-use facility, this movement is propagating a whole new way of thinking that encapsulates not only active living but the whole ethic of sustainable sport.

From Principles to Ethic

The quest for a more sustainable form of sport is in its infancy. At the time of writing, little work has been done in this field outside of the very focused efforts to green specific events and to propose ways in which specific sports or activities can reduce their environmental impact. We are at a stage where new terminology is being defined and ideas proposed for criticism and further clarification. What principles might serve to guide us on our exploratory voyage toward sustainability? The twelve proposed above are an attempt to provide a "straw man" for further discussion.

From these principles and the values they embody, we can similarly propose a Green Games Code of Ethics. Though subsequent chapters will expand on this Code of Ethics and call for more detailed codes of ethics and codes of practice for different groups within the sports industry, it is useful at this stage to proffer a general ethic that might serve as a guide or even a conscience for the entire community.

A Proposed Green Games Code of Ethics[15]

Participants in sport and recreational activities of any sort shall, through their policies and actions:

1. Recognize protection and conservation of the natural environment as a primary responsibility of all who engage in sporting activities.
2. Pledge to pursue sport in ways that do not compromise the intrinsic values of natural environments and the cultural and social integrity of host communities.
3. Recognize the pursuit of "Green Games" to be a commitment to sustainable sport and a meaningful contribution to the goal of environmental sustainability.
4. Commit to enhancing personal or social understanding and awareness of natural environments and associated human communities so as to develop appreciation and win support for resource conservation.
5. Accept ecological principles as the preferred basis for determining the capacity of host landscapes to support sports facilities and activities.
6. Engage in personal behaviours that contribute to the spirit of teamwork, sharing, respect and pursuit of excellence that characterize sport.
7. Accept that ethical behaviour in sport is global and applies to all level of activity.

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[15] This code is modified from that proposed for Ecotourism in Scace *et al.*'s "Ecotourism in Canada," Canadian Environmental Advisory Council, March 1992, p. 30.

5 Promoting Sustainable Sport at All Levels

"There is no more room on Earth to destroy nature for the sake of a mere game."[1]
Gen Morita, Global Anti-Golf Movement

Sport, as we have seen, is at a turning point. At the competitive level it is losing the few remaining vestiges of amateurism and is becoming more and more an entertainment business, dominated by money and politics. Profit and prestige are the name of the game: for athletes, coaches, governing bodies, professional franchises, facilities owners and host communities. In such a culture, the "traditional" ethic of sport—embodied by such guiding principles as fair play, teamwork, respect for others and humility—is of less and less relevance. As Bryson argues, such an ethic may now be "antithetical" to sport's commercial and national interests.

At the non-competitive or at least less-competitive recreational level, an equally profound transformation is occurring. Opportunities for participatory recreation, which flourished throughout most of this century, are now being curtailed. Budget cuts have hit almost every level of government in the debt- and recession-ravaged 1990s. Community facilities and programmes have suffered from the drop in public support and are being forced to raise their fees and reduce services. The emergence of the user-pay philosophy means that fewer people can use facilities and participate in programmes and events. Those who do, can do so less often.

A particularly disruptive shift has been observed in the allocation of funds for sports and recreation, both public and private. The proportion of financial support available for smaller, participatory events and simple public facilities is dropping, whereas the percentage that goes to major events and larger, more sophisticated facilities has gone up. Municipalities seem to have little trouble finding money for new stadia and arenas, used primarily by elite and professional

[1] Gen Morita in "Toxic Green - The Trouble With Golf," *Worldwatch*, Vol. 7, No. 3, May-June 1994, p. 32.

athletes—almost all male—while at the same time pleading poverty when it comes to repairing bicycle paths or keeping open public parks and pools. Similarly, corporate sponsorship has shifted dramatically in favour of major events most likely to receive strong media coverage, to the detriment of local and regional events.[2]

Many countries are also being forced to reevaluate how they fund the wide variety of sports disciplines. Realizing that they cannot provide adequate funding to between 50 and 100 sports and sports associations, they are faced with the fundamental question of whether to fund sports according to performance or participation. Should the sports that win Olympic medals get the biggest share, or should the emphasis be on sports that have mass participation? Which is more important—public health and fitness, or national prestige?

The environmental and social consequences of sport can vary significantly, according to the priorities set by those bodies, public or private, which provide funds. Will the emphasis be on profit and medals or on accessibility and participation? On large, modern, sophisticated facilities or on venues that stress affordability, functionality and appropriate scale? On uniformity and predictability or on diversity and respect for existing natural systems?

The five remaining years of this millennium have been described as a momentous occasion for a "paradigm shift." Will we bring our economic and social models into synchronization with the natural systems that govern the planet, and achieve some form of sustainability? Or will we continue to follow the unfettered growth model that denies the existence of limits to what we can take from nature and spew back into it?

Though this may all sound a bit heady for most sports participants and observers, the concept of a paradigm shift or a turning point is extremely relevant. Those willing to look at the institutions of sport with a critical eye will recognize a number of features that are not sustainable. To continue following a model of sport that denies the industry has much of an environmental and social impact or that it should take responsibility for any such impact, will have two undesirable consequences. First, the bigger sport gets, the less healthy and rewarding the experience will be for future participants. Second, the image portrayed by sport and the example it sets will only encourage individuals, groups and other sectors to carry on with the old unsustainable ways, resulting in sport being forced to make do with an even more polluted and degraded environment.

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[2] The Olympic Games have had no trouble finding corporations willing to spend millions. Many community and regional events, on the other hand, have been cancelled or scaled back in size and frequency. A popular Vancouver bicycle race was cancelled in 1994 owing to a lack of corporate sponsorship. Organizers attributed this to the fundraising efforts of the Commonwealth Games, a much larger event taking place that same summer in neighbouring Victoria.

That a better way exists is becoming abundantly clear, however. As Chapter Three argued, this new direction—sustainable sport—is one which makes all sides winners, including the environment. Sport can be at the same time popular, profitable and environmentally responsible. For this to be possible requires several elements:

1. The adoption and promotion of an underlying Green Games ethic
2. An understanding of and commitment to the goal of "sustainable sport"
3. Guiding principles which will lead to sport being more sustainable
4. Appropriate "tools" to assist with the greening of our games at all levels.

This book is intended to provide a foundation for all four of these elements. The first three have been explored in Section A; Section B is devoted to the fourth.

What makes the pursuit of a more sustainable form of sport realistic is the fact that it does not deny the existence of commercial and competitive forces. Rather, it attempts to harness the strengths of these motivators and turn them to a positive and broader use. A solution that depended on the eradication of commercialism and competition would be as naive as it was ill-fated.

For sustainable sport to be achieved will, however, require a dual approach. First, the benefits of sustainable sport will have to be recognized by the various "players" in the industry and at all levels at which sport and recreation is practised. From this recognition will stem an understanding of why and where voluntary restraint may have to be exercised in certain areas and situations. Each group may want to develop its own guidelines or code of conduct/practice. Second, where voluntary measures are not adequate, feasible or sufficiently quick, they will need to be complemented or encouraged by the relevant governing bodies. Guidelines and criteria can be set and promoted by governing bodies such as governments, sports federations and associations, school boards, club directors and recreational facilities associations. An effective combination of voluntary and compulsory measures should provide optimum results.

No matter how persuasive the theory, it is action that counts—action that has not been much in evidence beyond the examples of Lillehammer, Sydney, Victoria and several more local initiatives. Why not? What excuses are various sports players offering for their abject failure to jump on board and reap the benefits of sustainable sport? This is not a concept reserved for any one level of sport or any particular position. Sustainable sport applies to everyone:

- athletes
- spectators
- officials
- ministers of sport
- IOC members
- wilderness users
- coaches
- administrators
- federation heads
- media

- sponsors
- engineers
- caterers
- equipment/apparel manufacturers
- teachers of outdoor education
- architects
- suppliers
- service providers
- facilities managers and staff
- recreational leaders

Similarly, all manner of events and activities should be greened:

- Olympic Games, Commonwealth Games, Universiade, other "global" events
- African Games, Asian Games, PanAm Games and other regional events
- world cups
- world championships
- national and local games
- university and school events
- professional sport
- facilities operations
- recreational programmes
- wilderness activities
- outdoor education

The temptation in offering solutions is always to focus on the biggest problems, or at least the most visible ones. Hence the attention that gets devoted to major games, golf and alpine skiing resorts and large recreational facilities. But in terms of numbers, people, quantities of pollution, devastation etc., "smaller-scale" sports activities should receive equal scrutiny.

Fortunately the potential for solutions is equally great at the level of recreation and non-facility sport. Though the recommendations of Section B appear aimed at "big" sport, many of the issues discussed and solutions offered are applicable at any level: community events, low-facility and non-facility activities, wilderness adventure, and outdoor education in schools. Each can take a step to reduce its environmental footprint and to reap any of the available savings.

No level or group should be given the chance to opt out of greening sport. Or, to put it in a positive way, every group should be given the chance to opt in. Every group, from athletes to spectators to sponsors, can play an important role and can benefit in some way from doing so. Spectators can be asked to sign a Green Games pledge and can be given opportunities to pitch in—bringing their own mug, recycling, taking public transit, etc. Likewise, sponsors and suppliers can be brought into the greening effort as partners with a lot to contribute and just as much to gain.

Impediments to Action

If sustainable sport is so obviously beneficial, why has the sporting community as a whole been so slow to recognize its usefulness and to implement its practices? There are three explanations: (1) resistance to change; (2) lack of clear understanding of its applicability; and (3) the absence of "tools."

Resistance to Change

It is human nature to resist change, to balk at trying something new. This can be because we are uncertain of how to act in a new situation or because we may be wary of the outcome. If nobody has introduced environmental management practices into a sports organization before, all the optimistic forecasts in the world may not be enough to convince managers and employers to try a new approach. Resistance can be especially pronounced in sectors which value traditions and rules. As one such sector, sport has historically been slow to welcome change.

Applicability

Just because a new approach is called for in one industry does not automatically make it so for another. The chemical and forestry industries may have seen the importance of adopting better environmental management practices—for their image as well as their bottom line—but the sports industry on the whole has not recognized the need to stop some existing practices and the advantages of embracing new ones. Leading physician and health advocate Dr. Andrew Pipe notes how sport has shown "a remarkable capacity to ignore social issues, even those growing wihtin its own domains." The importance and relevance of environmental concerns are only just now being recognized by the more perceptive individuals within sport.

Tools

Even those who are ahead of the game when it comes to developing good sustainable sport strategies may be at pains to come up with the tools to make necessary changes. Though there is a growing literature on environmental auditing and management practices, it tends to be quite specialized and, from the view of sports people, filled with jargon that is foreign to them. In addition, the producers of such material have made little effort to spread either their message or their tools to the sports industry. Some good work has been done in specific fields (i.e. pools and arenas), but that knowledge has not been made widely available.

This book set out to overcome these obstacles: first, by demonstrating that change which follows a new model of sustainable sport is not only necessary but will improve, invigorate and materially benefit the institutions of sport; second, by showing how this message is applicable to the entire sport sector and will only be truly effective if embraced at every level; and third, by providing the tools—both theoretical and practical—that will be required.

With fewer excuses for inaction, decision-makers and leaders now face a fundamental choice: To act or to run away. Essentially we can choose to be spectators or players. As spectators we can cheer when things go right and complain when they don't, but give away any power to influence. As players we can exercise some control over the future direction of our sports, our lives (through health and opportunities) and our planet. If we choose to act, the future begins with the following steps.

1. Leaders and innovators in the sports industry must embrace change, not with reticence, but with gusto. In keeping with some of their own metaphors, they must set their sights high, develop an ambitious game plan and go for the gold. For guidance, they can follow the examples of organizations in other sectors which have been successful in implementing environmental change and are now reaping the rewards.

2. Sports officials and managers must recognize that the very institutions of sport do not exist above or even outside of the concerns of society at large. Since what goes on in a community affects what happens in sport, and vice-versa, sports leaders must become better versed in the many issues which affect them and upon which they have an effect. They must show greater concern and take greater responsibility for the world around them, not just their small corner. If sport is going to be global, it must think globally.

3. The sport community must develop and disseminate the "tools" whose absence may currently be limiting even the most innovative people. These tools can take several forms: written information—either printed or in electronic form— including background material on specific issues, guidelines, case studies of success and failure, management techniques, sources and statistics; audio-visual presentations of similar information; and educational services, which might include courses, seminars and workshops. There is also an urgent need for a "Green Games Network" linking groups in order to share information. Such a sustainable sports network would allow all manner of stakeholders to share their experiences and learn from others. It might include sports professionals, sports organizations and governing bodies at every level, host communities, the media, sponsors, environmental groups, academics and athletes.

This book is one such "tool." It is a first attempt to bring together all of the concepts, concerns and recommendations that make up the nascent field of "sustainable sport," and contains comprehensive information of practical use to all of the above stakeholders.

Conclusion

What must be emphasized in summarizing this first section is the universal relevance of the lessons of sustainable sport. Just as those of us who are involved in sport will pay the price—economic and environmental—for our unsustainable practices, we will also benefit from a new "greener" approach to our chosen sport. Perhaps as great a motivator as economic incentive and moral responsibility, the great attraction about sustainable sport is embodied in the term itself: we will be able to keep on doing what we love most, as long as we do it the right way.

Doing it right applies to every one of us: we are all responsible. We must all be environmental stewards. We must all be guardians of and advocates for sustainable sport. We are all beneficiaries.

Environmentally Responsible Golf

The Royal Canadian Golf Association has developed a comprehensive set of "Environmental Guidelines for Canadian Golf Clubs" (see Appendix E). Their booklet entitled "Environmentally Responsible Golf" provides a statement of intent, strategy, guiding principles, and general guidelines for golfers. It also sets out some specific considerations for golf designers and developers and for club directors, managers and superintendents.

In Chapter Six it is proposed that all of the principal stakeholders in sport develop a voluntary Code of Practice which they feel best represents their commitment to sustainable sport. Such a Code could serve as the conscience and ethical guide for each sub-community within sport.[3] Just as the CERES Principles[4] have been adopted by a number of leading businesses and the chemical industry developed its Responsible Care Initiative™, different groups within the sports industry should be doing something similar. For not only do such codes serve the practical purpose of delineating and reinforcing what the group's members consider to be responsible behaviour, they have the effect of spreading the message to other organizations, sectors and parts of the world. If done right, they may even persuade the public that you care.

We have the choice, according to Paul Hawken, between carrying on with our current degenerative economic systems—whose "growth" and "prosperity" depend on the gradual consumption and depletion of the planet's remaining resources, habitat and capacity to absorb our pollution— or of moving to a "restorative" economy. The restorative economy is one which favours quality over quantity. It seeks not only to conserve, but to reconstruct and to revive.

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[3] Examples of codes of practice adopted by various industries can be found in Appendix E, as can a summary of how groups might go about creating and publicizing a Code of Practice.

[4] Voluntary charters and codes of practice have been adopted by various industries, associations and organizations. These will be discussed in more detail in Chapter Six. Appendix E contains several of the most prominent ones, including the CERES Principles.

"The impulse to enhance the economic viability of life on earth through the recognition and preservation of all living systems is one that is becoming increasingly central to religion, science, medicine, literature, the arts, and women. It should be the dominant theme of generations to come,"[5] says Hawken.

Sport, which has played its part in the economy of depletion, is not on Hawken's list. It can be, should be and will be if the sports community seizes its opportunity to play a leading part in this restorative revolution.

Is such a green revolution in sport imminent or just wishful thinking? While the dinosaurs continue to outnumber the cutting-edge success stories, change is clearly in the offing. Stories like Lillehammer and Sydney are grabbing headlines and helping to state the case for greener games. But, just as importantly, sustainable sport is starting to both filter down to and rise up from the efforts of grassroots organizations and sports decision-makers. For only when the MYSA soccer players, the Etobicoke Parks & Recreation Department and the golf course managers of the Audubon Co-operative Sanctuary Program[6] become our role models will we be well and truly on the path to sport that is sustainable.

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[5] *The Ecology of Commerce—A Declaration of Sustainability,* New York, Harper Business: 1993, p. 13.

[6] See Appendix A for the full story of MYSA, Appendix B for a list of savings achieved in Etobicoke, and Chapter Sixteen for a description of the Audubon program.

B Greening Our Games—How is it Done?

Section A addressed the "why." Section B will present the "how"—how to make sport more sustainable and realize the inherent economic, environmental and social benefits.

The chapters of Section B are designed and ordered to maximize their practical utility to the reader. Each of Chapters Six through Eighteen explore a specific issue and subject area, as indicated by its title. Generally, the chapters have been ordered to go from broad to specific. For example, Chapter Six looks at setting up an appropriate structure for good environmental management, whereas later chapters address more specific issues such as transportation and ceremonies. An attempt has also been made to order the chapters chronologically, so that the first steps that a decision-maker will need to take appear in the earliest chapters.

The two final chapters are designed more as practical summaries for the operational reader. Chapter Nineteen is intended as a working guide for event and programme organizers and managers who wish to know which of the many issues covered in the book are of particular relevance to their type of event or activity. The principal issues of most importance to, for example, a week-long national championships or a community fun run are highlighted and summarized. Though the scope and nature of this book rules out getting into the technical detail of "greening" sports facilities, Chapter Twenty is designed to point facilities managers or those who supervise a number of facilities in the right direction. It identifies the key areas in which facilities can reduce environmental impact and save money. It is intended more as a starter's kit than a professional's tool box.

As an attempt has been made to cover all of the principal issues relevant to making our sport more sustainable, there will inevitably be some information which is not directly applicable to sport at every level. Readers may choose to: (1) read the entire section while paying particular attention to issues applicable to their situation—this has the advantage of imparting a broader understanding of the full range of topics; or, (2) use the table of contents to pick those topics which will cover the information required.

6 Environmental Management Responsibilities: Top Down and Bottom Up

Eco-efficiency—the marriage of good environmental practice with superior economic performance—begins with the establishment of appropriate management structures and processes. An effective environmental management system for any organization is one that is capable of (a) defining the environmental and economic goals, policies and strategies of the organization, and (b) implementing them.

The most common mistake made by organizations in the early throes of incorporating sustainable thinking into their operations is to assign all environmental responsibilities to a mid-level manager who becomes the one-person "environmental" department. In theory, the mid-level manager will receive input from people at all levels and will report to a senior manager, who will then take responsibility for implementing the appropriate action. In reality, lower-ranking employees who are not a part of the process do not tend to contribute to it, depriving the organization of their valuable knowledge, and top managers, who may not attach a great deal of importance to the reports of someone with little clout, often put environmental concerns on the back burner.

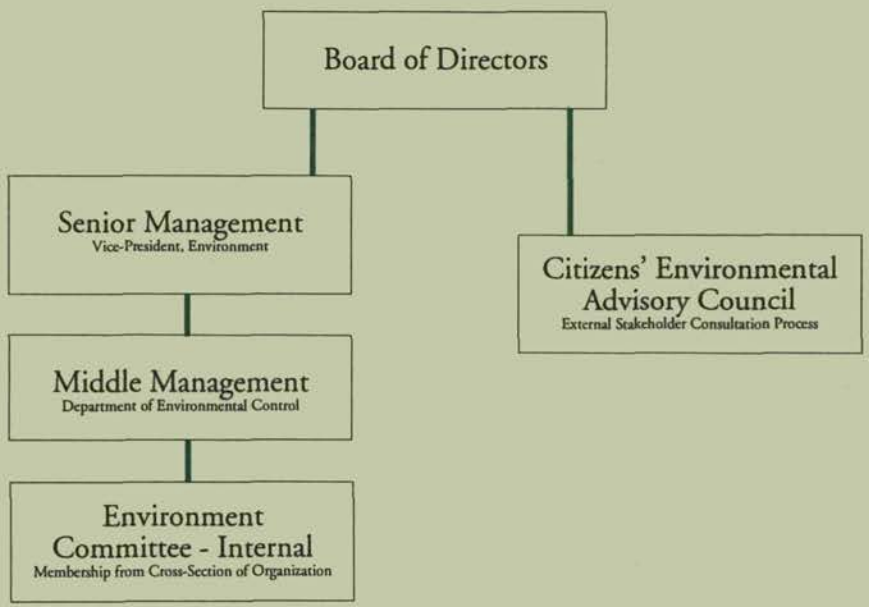
Management Structure

A good structure for environmental management takes a simultaneous top-down and bottom-up approach. First, support for this radical shift to sustainable practices must come from the top. Not only must the most senior people be interested in the cause, they must be seen to be so. They must be "champions" of the cause, showing vision and leadership. They must demonstrate commitment and a willingness to take risks, if the entire organization is to view this as a serious exercise. The LOOC document *From Challenge to Opportunities* emphasizes these points:

"Successful 'greening' of any organization depends on one primary condition—commitment and knowledge at the top of the organization. Modern environmental policy must be anchored at Board level."[1]

Second, people throughout the organization must be and feel that they are a part of such an initiative. They need to believe that they have an equal stake in achieving better environmental management and that they will share in its benefits. This requires that all members of the organization be involved in the development, implementation, monitoring and enforcement of the initiative.

Table 6.1: A Basic Environmental Management Structure



Third, stakeholders in the results of such an initiative are not limited to the confines of the organization itself. They include a range of outside parties which vary according to its size and type: investors, sponsors, tax-paying voters, local citizens and environmental groups are but a few. These stakeholders should be partners in both the structure and process.

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[1] LOOC, *From Challenge to Opportunities*, p. 5.

The ideal structure has two parallel but interlinking tracks, one exclusively within the organization and the other involving outside stakeholders.

(i) Within the organization, ultimate responsibility should reside with the top person, normally the president or chief executive officer. Though a vice president or controller for the environment is often assigned responsibility for daily tasks and policy implementation, this person must have an effective route for reporting regularly to the top. In addition, where there is a board of directors, environmental management reports should be tabled regularly at meetings of the board. At the operational level, an environmental department/division may still be required to carry out specific tasks related to environmental issues, such as coordinating programs, education and monitoring. The danger of creating a dedicated group of this sort, however, is that the rest of the organization will attempt to pass on to it anything at all related to the environment. The LOOC, for example, assigned primary environmental responsiblities to three departments: finance, quality assurance and environment. It must be made abundantly clear that environmental responsibility resides at all levels and in all functional areas. In its book on sustainable development practices, the National Round Table on the Environment and the Economy (NRTEE) states:

> Sustainable development cannot be seen in isolation or tagged on as a specific issue; all those responsible for every aspect of planning must take it into consideration. Sustainable development is not just ecology: it is the nexus between economics and ecology and therefore needs to be incorporated into all aspects of a business.[2]

For this to be possible, all members of an organization need to be educated in the relevant environmental issues, a matter that will be dealt with below. They must also be provided with a process that encourages participation. For example, in addition to such tools as suggestion boxes and a "green hotline" for information and advice, a large organization should have an Environmental Committee, with representation from every department and every workplace function, i.e., cleaners, equipment maintenance staff, groundskeepers, cafeteria staff, secretaries, purchasing managers, accountants, public affairs personnel and volunteers.

(ii) The second track must be equally inclusive of concerned parties from outside the organization. The importance of involving these stakeholders cannot be over-estimated. This is an opportunity to hear from such diverse interests as local residents, environmental groups, social welfare organizations and others whose voice may be as important to the quality of the event as business groups and elected politicians, but who are rarely granted a forum. The majority of businesses and governmental organizations tend to view such non-governmental organizations (NGOs) as environmental groups and social

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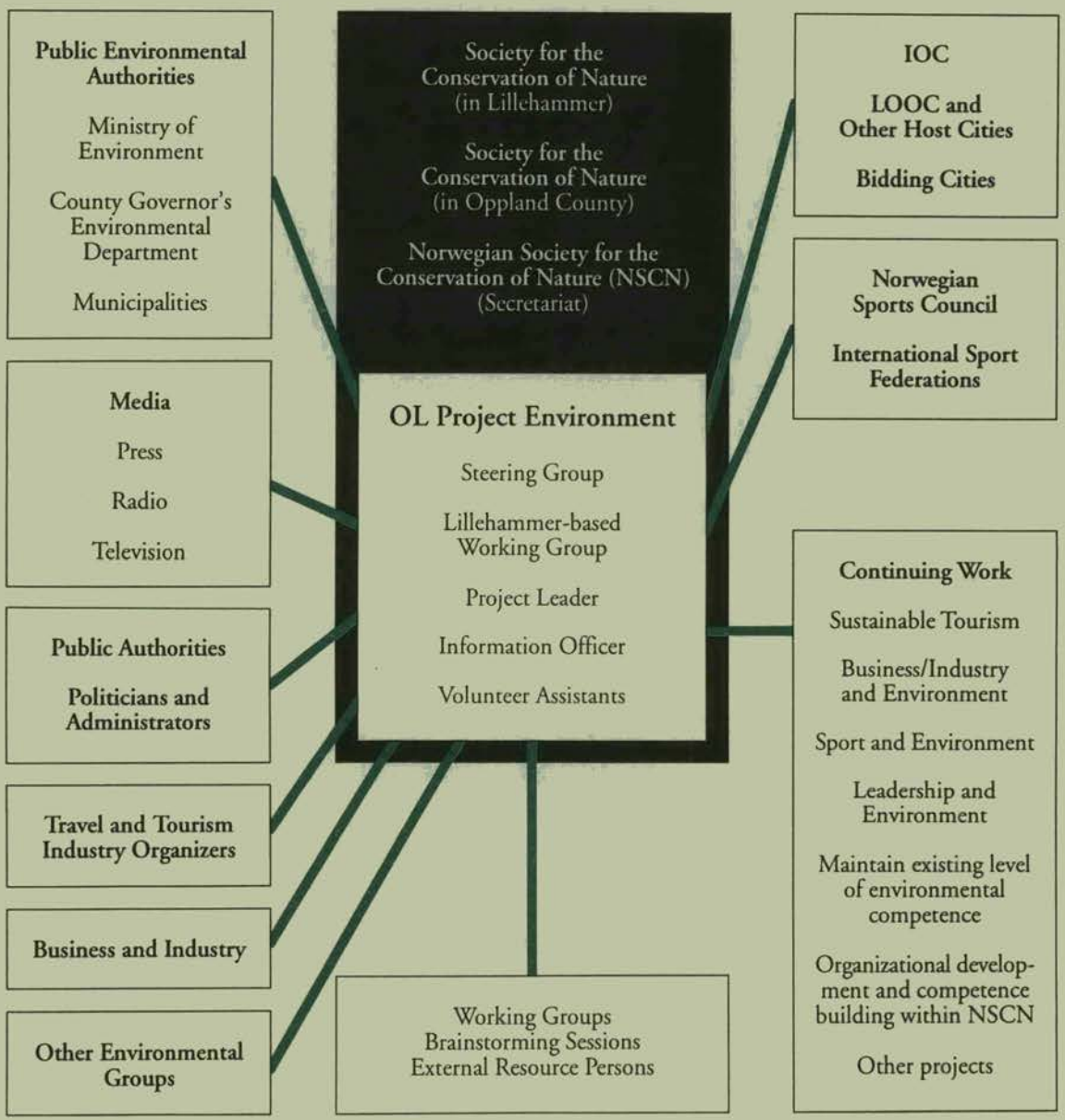
[2] NRTEE, Decision Making Practices for Sustainable Development, Ottawa: 1991, p. 19.

Lillehammer Olympics (OL) Project Environment Organization Chart



Community Relations

Under pressure from a coalition of concerned community groups, the City of Toronto initiated a public consultation process and provided intervenor funding to allow citizens to express their concerns about the bid for the 1996 Olympics. The Toronto Organizing Committee (TOOC) showed little interest in this process, however; it failed to incorporate concerned stakeholders—outside of the bid's corporate backers—in the decision-making process.

Lillehammer's bid mirrored Toronto's initially. The LOOC—composed of the typical cast of sports officials, local business leaders, municipal politicians and developers—showed little interest in acknowledging the concerns raised by Games critics. Under pressure from the county government, the Norwegian parliament, the media, and eventually the IOC itself, to make the Games "an environmental showcase", LOOC joined in a multi-party process to examine how environmental concerns should be addressed. It was recognized that to meet such a goal would require new ways of working, new alliances and new tools. In 1991, a constructive tri-party relationship was established between LOOC, the Ministry of the Environment and Project Environment Friendly Olympics (PEFO). Their unique model of cooperation solved a series of single issues and led to the "green profile" of the 1994 Games.[3]

activists with a blend of fear and mistrust. This is unfortunate, and stems more often than not from a (mutual) lack of understanding. The more innovative companies and governments have, in recent years, begun to invite these traditional "antagonists" into their meetings and even onto their boards. Those who have done so have benefited from the knowledge that these NGOs bring with them: a knowledge of public concerns and social trends which may have a profound effect on their future. Sports organizations would do well to invite environmental NGOs to act as their critics and watchdogs.

Such a participatory process should be formalized by creating a Citizens' Environmental Advisory Council which includes representation from these groups and which gives them genuine input into decision-making. Though public consultation should be a part of such a process, it must go beyond that if it is to be seen as more than window dressing. The recent experiences of the Toronto Olympic bid and the Lillehammer organizers (LOOC) illustrate these points (see box).

With a two-track structure such as this, a process can be created that takes full account of and makes good use of the viewpoints of people within the organization and outside of it.

Greenpeace Australia's entry into the architectural design competition for the Sydney Olympic Village was one of five joint winners. Greenpeace was subsequently invited to participate in the bid preparation process for the 2000 Olympics as an advisor on issues related to the environmental sustainability of the Sydney bid.

[3] A more detailed "case study" of the Lillehammer experience can be found in Appendix A.

Defining Environmental Goals and Objectives

Any organization committed to better environmental management must first define its goals. Once this is accomplished, it is necessary to elaborate the policies, strategies and initiatives by which the goals will be achieved. The International Institute for Sustainable Development (IISD), in its *Business Strategy for Sustainable Development*, states that "management should incorporate stakeholder expectations into a broad policy statement that sets forth the organization's mission with respect to sustainable development."[4] Such a statement should be "both inspirational and capable of influencing behaviour." Though the IISD acknowledges this task to be challenging and time consuming, "the benefits are well worth the effort" because such a statement serves as the organization's principle means of focussing attention on this commitment.

A policy statement should be supplemented with a series of specific objectives and, where possible, with assignments of responsibility as well as deadlines for completion. They should complement the organization's existing strategies rather than pulling in an opposite direction.

The Lillehammer Games established (with the participation of stakeholders) the following environmental objectives:

- to make people aware of their attitudes in dealing with the environment;
- to be considerate of regional social considerations;
- to encourage sustainable development and growth in industry and business;
- to build facilities friendly to the environment; and
- to assure environmental quality in all facets of the Olympic event.

The RCGA's Statement of Intent[5]

The Royal Canadian Golf Association is committed to taking every practical precaution towards ensuring that products and techniques used in the development and maintenance of golf courses present the lowest possible risk to their employees, golfers, the public or the environment.

Translating objectives of this breadth and generality into operational terms requires numerous changes to an existing organization or, in the case of an organization still in the planning stages, changes in approach to how it is set up. The IISD describes it as a "rethinking of the corporation." To develop, implement and enforce the type of sustainable approach captured by the above policies and objectives requires changes to such major areas as:

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[4] IISD, op. cit.., p. 33.

[5] Reprinted with permission of the RCGA from *Environmentally Responsible Golf - Environmental Guidelines for Canadian Golf Clubs*, Royal Canadian Golf Association, April 1993. See Appendix E.

- Active involvement of the board of directors and senior executives;
- An effective two-way consultation process to elicit ongoing feedback from stakeholder groups;
- Modifications to the organization's systems and processes to ensure that the organization's day-to-day activities are consistent with the objectives;
- Developing a supportive "corporate culture" through retraining in new management systems, technical processes and procedures, as well as through reward systems and incentives;
- Strategic planning processes modified to reflect the new priorities and the desire to increase stakeholder involvement;
- Management information systems to assist managers and employees in planning and controlling their performance against the established objectives;
- Marketing which considers the new demands and needs of customers regarding the environment;
- Procurement processes which further the organization's objectives by evaluating the environmental profile of products and their suppliers; and
- Financial planning that considers the capital requirements for process changes and the ramifications of new processes and procedures.

Precisely how many of these changes might be applied by sports organizations will be dealt with in subsequent chapters. Those that fall primarily within the ambit of "management," however, are covered here.

Developing a Supportive Corporate Culture

Attempts to implement sustainable policies and procedures will not get far in an organization whose corporate culture is not open to such changes. Several steps can be taken to ensure that such a culture is developed, steps which, as an added bonus, have the fortunate effect of improving the working atmosphere for all. Many organizations which have introduced advanced environmental management practices have in the process experienced "a new type of organizational renewal."[6]

Those at the top can best demonstrate the organization's commitment by becoming personally involved. This point cannot be overstated: "The active and visible involvement of senior executives and the board of directors can be a powerful force in forming attitudes and creating a supportive culture for sustainable development."[7]

As part of the prerequisite step of ensuring that environmental responsibility is introduced at all levels, employees are made to feel a part of these positive changes. The IISD observes that "the

[6] IISD, p. 38.
[7] IISD, p. 40.

increased involvement and participation of employees in these programmes not only generates positive practical ideas, but also increases energy and enthusiasm for the programmes. Most customers and employees want to be part of organizations that are committed to operating in a socially responsible manner."

Four additional ways in which to spread the appropriate corporate culture—establishing effective means of communication; training and educating staff and volunteers; creating reinforcing incentives; and designating adequate resources—merit further exploration.

Communication

Employees and managers must be given full and advance warning of what they can expect from any shift to new practices. People must understand the policies and objectives that are being established. They must also have a means of expressing their concerns.

Infiltrating the Norwegian Army

LOOC devoted a great deal of energy to educating their volunteers, including thousands of Norwegian army personnel, because, according to Sigmund Haugsjaa, it was recognized that the Games would benefit from a well-informed volunteer corps, and that when they returned to their normal activities after the Games, volunteers would take their newly-acquired values and skills with them.

Training and Education

Any sustainable development initiative must be accompanied by appropriate training and education programmes. While these should certainly be tailor-made to cover the specific tasks and responsibilities of the target audience, it is equally important that all members of an organization be informed of the broader rationale for changes. This should include an explanation of the general environmental and economic context in which the initiative has been launched, for example, the issues of climate change, ozone depletion, waste disposal and pesticides—their global and local impact as well their relevance to the operations of the organization. Most often neglected by educational programmes are senior managers and volunteers. The former may feel they are already adequately informed and far too busy to set aside a day for training whose immediate application is not obvious to them. The latter tend to be wrongly dismissed as marginal members of the organization who do not merit the expense of such instruction. This is unfortunate, not only because volunteers can outnumber paid staff, but because they are often the public face of the organization at a major event.

Incentives

Incentives can go a long way towards building an appropriate corporate culture. Existing disincentives can be equally destructive of such a culture. The most simple example of a practical incentive comes from Bell Canada's Zero Waste initiative. Having been informed in advance, employees arrived at work one Monday morning to find a blue recyling bin and a small plastic bag for disposal of non-recyclables, where their garbage cans had been. From that date onward the blue box would be emptied nightly while the plastic bag would be replaced each week only. It would be up to them to take their non-recyclables to the one large bin allocated for each floor. By reversing the services to which people were accustomed, a powerful incentive to recycle was created.

One form of disincentive to reduce waste is common in many large organizations: at fiscal year-end, financial managers rush to spend any remaining funds so as to justify receiving a similar amount in the next year's budget. Money which has not been spent is viewed as a sign of bad forecasting, as opposed to one of fiscal responsibility. This can lead to a situation like that of one Canadian government office which had ten laser printers in an office of nine people, two of whom could not type. Organizations must ensure that established disincentives are not cancelling out any new incentives.

Designating Adequate Resources

Sufficient resources must be allocated up front to properly implement an environmental management initiative. Though countless organizations have recouped their investment many times over, an initial investment is required to make system and process changes, to introduce effective communications and to train and educate people. Failing to provide sufficient funding for people to carry out their assigned tasks is certain to sabotage the initiative and dampen enthusiasm. The amount of money in question need not and should not be extravagant. An overly glossy "greening" program runs counter to the values being promoted, and is likely to lead critics to wonder if the initiative is more public relations than substance. The most important point for managers is that front-of-the-pipe spending (i.e. waste reduction and pollution prevention) is far more effective and less costly in the long run than end-of-the-pipe measures such as waste disposal and clean-up, or paying fines.

Environmental Management Tools

Environmental Audits

Every organization which is serious about environmental management should conduct an environmental audit. These can take several forms—management audits, compliance audits, performance audits and risk audits. Though compliance and risk audits should be undertaken at some stage to evaluate to what extent an organization's operations and facilities are in compliance with environmental regulations and at what risk their operations and assets might put them, of most relevance to a sports organization would be the management and performance audits. The management audit reviews the philosophy, policies and practices of an organization and, by examining current structures and systems, advises on steps that should be taken to improve environmental management. The performance audit, also referred to as a process or operations audit, is the most detailed. It entails a thorough investigation of operations to evaluate environmental efficiency, procurement practices, use of current processes and overall use of resources.[8]

An initial audit should be conducted by an impartial outside specialist versed in "leading-edge" practices. It is especially important that a risk or compliance audit be performed by experts in this field. Though a management or performance audit can be carried out internally, it is advisable to include at least one outsider in the assessment. The auditing group conducts on-site visits, interviews with management and employees, document reviews, direct measurement, estimation and comparative studies. The auditor's report will then make recommendations for improvements. Depending on the detail of audit requested, an action plan for implementing necessary changes may also be provided. This might include recommendations for improved management structures, consultation processes and financial control systems, as well as strategies for waste management, energy reduction, incentive programmes and purchasing practices.

Ongoing Monitoring and Evaluation

Once an initial audit has been conducted it is essential that follow-up audits be performed, at least annually. Though subsequent audits might be less detailed and performed in-house, the initial audit will be of little value if annual progress is not evaluated. The real value of the audit becomes apparent when performance can be monitored and evaluated from year to year, allowing managers to identify trouble spots and areas of opportunity.

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[8] See Appendix A for details of the Lillehammer organizers' environmental auditing process.

Reporting Procedures

The final step in the environmental management process is to prepare and disseminate reports on the organization's sustainable development objectives and its success in achieving them. Providing relevant, reliable and meaningful information is not only a valuable means of communication with both internal and external stakeholders, it is a further sign of commitment. It can also indicate to the general public, directly and through the media, that organizational effectiveness is about more than sales and profits. Though the typical annual report is limited to hard economic and financial statistics and analysis, Michael Alexander warns that this is only a part of what stakeholders want, indeed need, to know: "If information is limited to financial and economic matters," he states, the organization "cannot expect to be heard by its employees, its communities and society."[9] These groups are as interested in and concerned by the social and human impact of the organization as they are by the economic.

Every organization should as a minimum have the following reporting procedures:

1. Line managers (or their public sector equivalents) should regularly report on the extent to which they have met their environmental and sustainable development targets.
2. Senior management should, in turn, provide periodic reports of this nature to the board of directors.
3. An annual external "sustainable development report" should be produced to be included in or to accompany the standard annual report.

Although some sports organizations will find that parts of the above material do not apply to their situation, the majority of these management practices can be effectively implemented by the lion's share of sports groups.

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[9] Michael O. Alexander, "Social Accounting If You Please," *Canadian Chartered Accountant*, January 1973, pp. 23-33.

Summary of Recommendations for Environmental Management

- Develop a structure and a process which gives everybody responsibility for and a stake in good environmental management.
- Embrace environmental leadership at the top.
- Do not relegate "the environment" to one person or group.
- Establish an inclusive process, both internally and externally, that takes account of and learns from the concerns of all stakeholder groups.
- Create an internal Environmental Committee.
- Create a Citizens' Environmental Advisory Council.
- Set up a "green hotline" for those seeking specific information and advice.
- Invite an environmental group to act as designated "watchdog."
- Define an environmental/sustainability policy statement.
- Develop a series of specific objectives with assignments of responsibility and deadlines for completion.
- Encourage a supportive "corporate culture."
- Establish effective means of communication.
- Provide training and education for staff and volunteers.
- Create reinforcing incentives.
- Designate adequate resources.
- Conduct environmental audits.
- Perform ongoing monitoring and evaluation.
- Create an effective internal environmental reporting mechanism.
- Prepare and disseminate an annual sustainable development report.

7 Organization, Administration and Operations: Getting Out of the Blocks Early

The quickest and most visible way to begin greening a sports organization—assuming the appropriate managerial commitment—is within the offices and the departments that actually run the place, which typically include administration, accounting, purchasing, planning and marketing. It is these offices, through their size, rank and visibility, that will set the trend for the organization.

With the right corporate culture in place, or at least in a healthy formative stage, these offices can use several tools to effect change. The judicious application of several fundamental principles to the way in which all offices are run, the equipment and materials they use, the way in which purchases are made and the manner in which resources are ultimately disposed of can have a far-reaching effect within the entire organization. Critically, these decisions can also have a profound effect on almost every other organization that these offices deal with, since these decisions are most visible to people inside and out.

Though a commitment to sustainable management should come first, it is fruitless to wait for all managers and employees to be "onside" before the first practical steps are taken. In fact, the more dubious members of an organization can be brought into the believers' camp when they see how well initial changes are working.

The Green Office

The most effective anchor for creating a more sustainable organization is the Green Office. More than just a nice place to work, the Green Office is a concept. A Green Office programme is one which promotes use of the most appropriate materials, equipment and routines in every

conceivable situation. It includes everything from choice of paper and office equipment, to cafeterias, washrooms and responsible waste management. It extends into every task performed by the "office worker." Though many of these same issues and practices arise in other situations (and will be discussed in that context in subsequent chapters), the idea of a Green Office as a place where so many environmental issues converge and are positively addressed, is a particularly useful starting point.

The goal of the Green Office is to make the most efficient use of resources and to reduce waste so as to limit environmental impact. Both measures generally translate into long-term savings, even if some initial investment is required.

Paper and Supplies

Contrary to the "paperless office" forecast in the Seventies, consumption of paper products has actually increased with the addition of each new piece of equipment. Photocopiers and laser printers seem to have bred an even greater demand for paper-based information. The Green Office uses a three-prong approach: (i) reduce the amount of paper being used; (ii) ensure that the right kind is being used; and (iii) limit paper entering the waste stream. A number of specific steps to accomplish these objectives are detailed in the Green Office Checklist later in this chapter.

More than half of the waste created by a typical office is paper. By placing a special emphasis on reducing the amount of paper being used, by encouraging reuse techniques like double-sided copying, and by ensuring that paper is ultimately recycled, a number of savings can be achieved. Also, by ensuring that the paper which *is* used contains a high post-consumer recycled fibre content and is as chlorine-free as possible, an office: (i) helps create a market for paper which is produced in a less harmful manner; (ii) minimizes the amount of chlorine, dioxins and furans entering the ecosystem; and (iii) reduces the demand for virgin pulp from old-growth forests.

The Peterborough, Ontario office of Quaker Oats Company of Canada took steps in 1991 to reduce the number of computer reports being distributed throughout the office. An estimated 500,000 fewer sheets of paper are now used per year, at a savings of $24,000. By encouraging double-sided photocopying they save $8-10,000 per year. Quaker Oats also uses 100 percent recycled paper products in its office equipment.[1]

Similar steps to limit the consumption of non-paper office supplies and keep hazardous materials out of the waste stream can generate comparable savings and limit environmental impact. Refilling toner cartridges saves money and cuts down the amount of plastic, packaging and hazardous chemicals entering the waste stream.

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[1] Environment Canada, *Working Your Way to a Green Office*, 1992, p. 17.

By stocking office supplies which are durable and which have high recycled material content, the Green Office helps to "complete the loop": recycled materials are turned into new products which are in turn used in the office.

Equipment

Not all photocopiers are the same. Nor for that matter are computers, printers or fax machines. Some have features which greatly reduce their operating expenses, energy consumption and other forms of environmental impact. A photocopier with a "power-saver" or "standby" function can cut electricity consumption by as much as 60 percent. A desk-top computer with colour screen and laser printer uses 30 times more energy than a lap-top computer with an ink-jet printer. Annual energy costs for the two are $61 as opposed to $2, according to Ontario Hydro figures.

Smart equipment practices are about more than just energy savings. Some newer fax machines use ordinary paper instead of rolls of thermal paper. Thermal paper is non-recyclable, non-recycled, has a limited lifetime, and costs more.

Reduce, Reuse, Recycle

The Green Office takes a "3R" approach to all materials, equipment and resources. Keeping in mind, however, that there is a hierarchy to the 3 Rs—first reduce, then reuse and then recycle—the emphasis must be on modifying processes and behaviour so as to encourage reduction above all else. It is when an organization requires less of something that it makes its biggest savings impact. By eliminating the use of disposable single-serving coffee cream containers in one cafeteria and replacing them with bulk dispensers, one Canadian hotel saved more than $8,000.

The challenge in making the 3 Rs work is generally one of changing behaviour patterns. Getting people to recycle can be achieved relatively easily by making it convenient for them. Encouraging reduction, however, requires a shift in thinking: do I need a copy of this? Do we need new binders for this report, or can we collect last year's and reuse? Better yet, can we issue the report without binders? Here communication, education and incentives can play a critical role in an organization: communicate the purpose and the benefits of reducing and reusing; explain clearly how to go about doing it; and design the system so that it rewards "3Rs" thinking and action as opposed to penalizing it.

Reducing, reusing and recycling apply to many of a sports organization's functions and operations, well beyond the office. These are examined in more detail in subsequent chapters like Materials and Waste Management, Facilities Operation and Operations Services.

Environmentally Sound Purchasing

Canada's House of Commons in Ottawa established the following principle on environmentally sound purchasing practices in November 1989:

"In order to increase the awareness and the use of environmentally sound products the responsible manager, in cooperation with Purchasing staff, shall regularly review contracts and tender specifications for goods and services, to ensure that wherever economically justifiable, specifications provide for the use of products and services:

- that produce fewer polluting by-products and/or environmental hazards during use and disposal than competing products;
- that contain the maximum level of reusable, recycled and/or recyclable content to reduce post-consumer waste, without significantly affecting the intended use of the product or service; and
- that these purchasing decisions be supported by cost analysis justifications in order to ensure that the products are made available at competitive prices."[2]

Purchasing

The Green Office can have a huge impact by establishing "green" criteria for buying products and services; it will then have power not only to screen what it is paying for, but to exert some influence over its suppliers. The objective of the Green Office is to purchase, wherever possible and feasible, the most environmentally-responsible products on the market. In order to do so, it is first necessary to establish criteria and guidelines for determining which products and services are "green" or "greenest" (see box). It is also essential to establish just how far, in terms of cost and time spent, the organization is willing to go to implement its green procurement policy. Environmental considerations must, after all, be integrated as far as possible with other criteria, such as performance, life expectancy, quality and value for money (cost).

This approach to purchasing can be a positive and potentially ground-breaking one. As we will explore in the chapter on Sponsors, Donors and Suppliers, an organization can set new trends in the types of products and services on the market by demanding that certain criteria be met and, if they do not yet exist, by working with suppliers to develop them. If a client is big enough and important enough, a supplier can go to great lengths to meet its demands. Once a supplier has gone to the trouble and expense of developing a new product or service, they are likely to seek additional buyers for it.

Energy

Saving energy is a matter of technology and behaviour. By getting people thinking and acting in an energy-conscious manner, electrical and heating bills can be cut with little if any expense. Solutions can be as simple as turning off lights and computers and making fewer photocopies and laser prints. This is often best accomplished by reviewing existing routines and habits, identifying wasteful ones, and establishing new routines. For example, a specific routine

[2] House of Commons, *Greening the Hill: A Retrospect*, 1991, p. 50.

for shutting down computers and printers and turning off lights should be established for the last person out of the office. Sometimes, however, the principal culprit is the technology itself. No matter how conscientious the office staff are, it may be the heating and lighting systems or other office machinery which are simply inefficient technologies. It is therefore essential that a Green Office program assess the efficiency of existing machinery and evaluate the economic payback of retrofitting or upgrading systems and equipment. One Bell Canada building was able to reduce energy consumption by more than two-thirds through a combination of power-saving steps.

Energy conservation is explored in detail in the Facilities Operation chapter.

Water

Water conservation, like energy conservation, is a combination of habits and equipment. From turning off taps to installing low-flow faucets, toilets and showers, the Green Office can greatly reduce its demand for water and its related sewage requirements, thereby saving money on both. See Facilities Operation for more on water conservation and pollution prevention.

Food

The majority of offices have some form of cafeteria, catering service or self-serve kitchen. Accompanying these are such waste issues as disposable cups, plates and cutlery, the packaging of condiments and the recycling of bottles and cans. Energy and water issues also come into play through the cooking and cooling of foods and the washing demands.

All of these questions are considered in the Operations Services chapter.

Communications

The Green Office can examine its communications practices, both for the tools that are used and the effectiveness with which messages are delivered.

- The use of paper can be significantly curtailed by keeping to a minimum the number of copies of memos, letters, reports and other written materials which are widely circulated. Through better use of burgeoning electronic networks, much communication can now be done electronically, using the machines that most offices already have on their desks.
- The effectiveness with which environmental objectives and practices are encouraged within the organization should be considered. Is there a good system for delivering information and providing assistance to people? Do people know what they are

Green Office Checklist

Some ideas for making the most efficient use of resources and reducing waste

General

- produce only double-sided documents.
- collect paper which has been used on one side only, and reuse it for: fax cover sheets, draft documents and note paper. Stroke out the used side to avoid confusion.
- circulate documents and post memos rather than distributing individual copies.
- edit documents on-screen rather than printing unnecessary drafts.
- ensure that all publications meet environmentally-responsible printing standards
- use electronic mail instead of hard copies
- rejuvenate laser printer cartridges
- dispose appropriately of any hazardous products whose use cannot be eliminated
- regularly update subscription and mailing lists to ensure accuracy
- reduce fax-related paper waste at both ends by using a cover sheet that is:
  - reusable (a laminated sheet with dry ink pen)
  - printed on the flip side of a used piece of paper
  - designed with space to list multiple recipients; and with space for a message
  - on only a partial page.
- send longer documents by mail unless urgency demands that they be faxed
- establish a routine for turning off all lights, computers and non-essential equipment
- return plastic cerlox bindings, binders and other folders to the print shop for reuse

Food

- use reusable cloth or stainless steel coffee filters in all office coffee machines
- use personal mugs for coffee/tea; keep extras on hand for visitors.
- encourage in all cafeterias the elimination of disposables and excess packaging

supposed to be doing and why? Are they given regular progress reports? Do they have a simple means by which to express concerns and offer suggestions? A good Green Office uses various communications tools to make this possible: suggestion boxes; a "green hotline"; a "green" bulletin board, either physical or electronic; environmental coordinators and committees.

Green Office Checklist (continued)

3Rs

- follow letter/memo formats which minimize unused space
- recycle fine paper that cannot be reused
- recycle glass, cans, newspapers, and corrugated cardboard

Purchasing supplies

- When purchasing give preference to:
  - reusable and durable supplies and materials
  - products with maximum recycled content available
  - products that meet national environmental standards
  - products with minimal packaging
  - for paper products: unbleached and non-deinked with a high recycled content

Equipment and facilities

- Equip offices with:
  - fax machines which use bond paper instead of thermal rolls
  - photocopiers with automatic double-sided capabilites and stand-by features
  - computer systems appropriate to office needs and with energy-saving features
  - printers with double-sided capabilities
  - an accessible area for used supplies such as binders, file folders and envelopes

Transportation

- use alternative fuels to reduce costs and emissions
- have servicing done at a garage which recycles oil, batteries and recovers CFCs
- encourage car-pooling, public transit and human-powered commuting
- instruct drivers in fuel-saving driving habits
- ban idling near any buildings

Transportation

Employees and managers can reduce the impact of their transportation choices, both on office business and when commuting. The type of transport used (public vs. private), the choice of vehicle (truck, van, car, bicycle), its fuel type (gas, propane, electric) and efficiency, as well as various maintenance and operating practices should all be considered. Policies should also be reviewed: are official vehicles evaluated for their environmental impact? Are drivers instructed in fuel-saving practices? Does the office encourage or assist car-pooling, the use of public

transport or bicycling? Are bus passes subsidized? Is there protected bicycle parking as well as change rooms with showers?

All of these are part of Green Office thinking. While some steps will save the organization money, others will contribute to human and environmental health. These issues are considered in the Transportation chapter below.

The Green Office approach views the workplace in a holistic fashion. It is not something separate from our home lives. We cannot insulate, recycle and compost at home and then hang up our green coats at the office door. The office, like the entire organization, is a part of the community and of the larger environment. Being consistent in our concern for the planet may have a positive influence in two directions: those who have already adopted less wasteful practices in their home lives can influence colleagues and the organization for which they work, saving them both money; and a vibrant Green Office can influence the thinking of those who have not yet adopted many conservation practices at home. The leader, whether the organization or its members, influences the follower.

The principles of the Green Office apply to every aspect of administration, even if some of the detailed recommendations may not be relevant to every organization, owing to size or type. Several specific functions typical of a larger sporting organization where this sustainable approach applies deserve further discussion.

Printed Materials and Publications

Though the sports industry outside of equipment and apparel manufacturers is not generally considered a producer or manufacturer of materials, many events and professional franchises pump out an incredible volume of material. Almost all of it is paper: advance information for participants, spectators, sponsors and the media; registration packages for participants; promotional material to attract spectators and sponsors and to bring recognition to those sponsors; programmes, statistics and tourism information. Inevitable? Perhaps. But there is often a right way and a less right way of doing things.

Most who produce such materials would argue that it is a key part of the sports business. They are half right: most of the information they are disseminating is considered essential by most of the recipients. But they are also half-wrong: not all of this material needs to be produced, and that which does can be printed and distributed in a less harmful and far more cost-effective manner. There are three related issues: (1) how much printed material is produced; (2) the way it is produced; and (3) how it is distributed.

1. Forecasting

The most crucial decision related to document production is whether the item is needed at all. Far too many publications are created with neither a reason for being nor an audience. At the closing ceremonies of the 1993 Canada Games, a $3 souvenir programme was on sale at the gate. Almost none were sold. People had already received a simpler programme along with their admission tickets. With better planning and coordination, the document might not have been produced at all.

This lesson applies as much to free information kits and promotional material as it does to items for sale. It is too frequently assumed that people would like a copy of whatever they can get their hands on. In this age of information overload, people are more discerning about what they read. The challenge is to forecast if something is needed and, if so, how many copies. Market surveys and demographic statistics may be helpful. The simplest and most effective tactic, though, is to learn from those who have gone before you. How many documents were produced the last time this event was held? How many were left over? How many seemed to be thrown away? What did recipients think of the document? Would they like to receive the same again? In the case of an event, is attendance or participation increasing or decreasing? Is media interest on the rise or on the wane? If the event has never been held before, has anything like it been held which will shed light on these questions?

This is all part and parcel of a good advance study of the demand for a particular document. In some cases, forecasting will be easy. For instance, with advance registration, it is possible to produce the exact amount required. The rule of thumb for the producer is to save money by producing only what is necessary, when necessary.

2. Planning and Design

The second step in the preparation of printed material is to determine what the finished product should consist of: its content, appearance and method of printing. For guidance, remember the "first R": reduce. Though nobody wants a dull, grey document, fortunately a lively and even colour-filled publication is not at all incompatible with reducing waste. Design sense combined with modern techniques and materials can produce an attractive and informative document that costs less and wastes less.

The first step in "green" publishing and printing is to determine whether the same information can be distributed via an electronic format. The Victoria Commonwealth Games used an electronic system to conduct its registration and accreditation of media from any country which could do so technically. They will also make their reports and other planning documents available on diskette to the hosts of the 1998 Games.

Planning for Greener Printing and Distribution

Let's use the example of a fictitious upcoming charity bicycle tour. Six months before the event, it is estimated that 300 publicity posters and 4,000 brochures will be required in order to attract 1,000 participants. These figures are calculated by organizers based on last year's event. Last year 200 posters were produced and 6,000 brochures were sent out, but only 600 people entered the event. Several months before the event, posters and packages of 100 brochures (which contain a registration form) were placed at sporting goods stores, recreation facilities and other prominent locations. A follow-up study just after the event looked at two things: (1) how aware of the event local cyclists were, and (2) how many brochures were taken or left over. An informal survey of bicycle club members determined that most were aware of the event and that they had heard about it because of the posters at bicycling specialty stores. A similar survey of sports store managers revealed that stores which did not deal primarily in bicycling goods had dozens of brochures left over. Cycling stores, on the other hand, ran out of brochures early but the managers were not instructed on how to request more. Brochures left in areas other than sports facilities were almost untouched. Using this relatively unsophisticated information, organizers developed a strategy for this year: produce more posters for those areas which were found to be highly effective; produce fewer brochures and distribute them primarily through those stores and facilities which worked last year; hold back 25% of brochures, to be forwarded to those locations which ran out; inform store and facilities managers of how to request more brochures; and visit the principal distribution areas to replenish brochures if necessary. In addition, participants would be asked in the registration form how they learned about the event—information which will be useful for next year's publicity effort. The organizers will save marginally on printing costs this year, but hope to generate increased revenue through better distribution. They will also keep 2,000 unused brochures out of landfill.

Where printed material is necessary, a number of guidelines can be followed to reduce environmental impact as well as costs (see Green Publications Checklist).

3. Distribution and Packaging

Closely related to the question of how much of any item to print is the question of how to distribute a sufficient quantity of such materials as race application forms and press kits to ensure that the target audience is covered, without generating needless waste or incurring needless costs. It is essential to have in place a process for accurately forecasting the demand for a publication and then monitoring the accuracy of the forecast.

Modern printing systems often make it possible to produce a minimum number of copies up front, and then request more later on demand. Though this may be slightly more expensive in printing costs, savings can be made on transportation and storage and there is less of a chance of waste. Such a system can be closely tied to distribution. Rather than providing more copies than a recipient is likely to need, it may make better financial and environmental sense to send just one copy and to set up a dedicated telephone line (toll free, if justified by quantity and location) so that they can order more copies with ease.

Green Publications Checklist

Planning and Design

- Determine if a publication is required at all.
- Provide information electronically if possible.

If printed material is necessary:

- Use both sides of the paper.
- Use paper with a high recycled fibre content (at least 50 percent post-consumer waste) that is not chlorine-bleached.
- Use as light a weight of paper as is practical.
- Use a standard paper size, to cut down on waste from trimming.
- Use white space efficiently (i.e. narrower margins and single-spacing) and select typeface sizes to reduce the overall size and length.
- Limit the number of colours used to save energy consumption and costs.
- Avoid dark blues, reds and purples which are difficult to remove for recycling.
- Avoid solid areas of ink to facilitate de-inking. Consider screened tones instead.
- Avoid "bleeds" to the edge of the page which waste ink, paper and energy.

Production

- Avoid glosses, varnishes and coatings, which hinder recycling.
- Use vegetable-based inks in printing; avoid metallic and petroleum-based inks.
- Avoid laser printing where possible. Ink is burned onto paper and is hard to recycle.
- When binding is necessary, use staple or wire bindings that can be easily removed in the recycling process, or cerlox reusable plastic bindings. Avoid all glues in binding.
- Avoid bilingual or multilingual documents. Print separate versions to reduce paper and energy consumption and mailing costs.

Distribution and Packaging

- Ensure that quantity requirements are accurately estimated. Consider producing additional copies later, on demand.
- Keep distribution lists up to date and well targeted.
- Recommend that recipients circulate or share their copies of a document.
- Ensure the packaging specified is environmentally appropriate and minimal.

Information Packages

Sports events often deal with not just one publication but packages of printed materials: registration forms, directions, tourism and accommodation material, media background booklets, etc. For ease of preparation, packages tend to come in one format only—all materials are sent to each recipient. This process can be greatly refined using a two-step process:

1. People responding to initial publicity for the event—brochures, posters and announcements via print and electronic media—are asked to complete a registration form or to phone a dedicated number. On the form or by the phone receptionist, they are asked what additional information they would like sent with their registration package.
2. Packages are prepared and mailed containing only those documents requested.

Such a system avoids needless printing and mailing costs. Tourism information is a principal example. Out-of-town registrants, and sometimes even local ones, are often automatically sent accommodation and tourism brochures. Most are promptly thrown out by recipients. This cost and waste can be avoided by having people specifically request such information. Best of all, by providing them with the telephone number of the local tourism authority (often toll free), organizers can avoid having to handle such material entirely.

Green Publications guidelines should be applied to internal reports as well as documents for public distribution. They should also be implemented during the course of an event. Daily press releases and results should be distributed in electronic form wherever possible and otherwise follow the appropriate steps for printing and minimizing hard copies.

Marketing

The principles of the Green Office apply fully to a sports organization's marketing efforts. Attempts to attract sponsors, sell tickets to an event, attract members to a club or users to a facility are an important function of the administration. They are also highly visible. Whatever form these marketing efforts take, they must be consistent with the organization's environmental commitment. This can pose a challenge to the marketing mindset which tends to eschew restrictions. Marketing people must recognize that not all means of selling a message are equally appropriate. Lavish and wasteful techniques should make way for ones which, though less glossy, are perhaps even more effective. This approach need in no way impinge on creativity. In fact, with a general public that has grown tired of, and unresponsive to, the loud and brash approach, there is a golden opportunity for innovative marketing. Marketing can be greened in various ways: these will be explored in later chapters.

Merchandise

The phenomenon of sports merchandising—selling peripheral products adorned with team logos, event names or the marks of corporate sponsors—became a major part of the sports scene in the eighties and nineties. Merchandising is now a large source of income for everyone from universities and professional franchises to the Olympic Games. With the highs there have also been lows. When people's names began to appear on material of poor quality and dubious taste,

organizations were forced to crack down. The IOC, realizing that its name and symbols would in fact lose their value if they were not better controlled, has become very careful about their use.

Many sports organizations have now developed criteria for deciding where and on what their trademarks should appear. The primary criteria tend to be the quality and appropriateness of the product. Added to this list should be "environmental impact." Only those products which are durable should be considered, as should the materials of which merchandise is made. This should apply to everything from clothing to souvenirs. Cheap or disposable products should be avoided. Many of the products being sold at Albertville in 1992 were criticized for their tackiness and inferior quality. Learning from this example, Lillehammer decided to stick to a small range of well-made merchandise. A record $20 million U.S. of these products were sold before, during and after the Games.

Summary of Recommendations for the Sustainable Sports Organization

1. Adopt Green Office practices in all parts of the organization.
2. Minimize the cost and impact of printing and distributing materials.
3. Apply sustainable practices to marketing functions.
4. Produce and sell only merchandise which meets criteria of quality, durability and minimal environmental impact.

8 Promotion and Public Relations: The Public Won't Be "Greenwashed"

With the commitment to sustainable sport comes an opportunity, perhaps even a duty, to show that you are doing things in a new way. The opportunity is not just for the organization, which stands to receive positive publicity for its efforts, but for the promotion of the broader goals of sustainable sport, and environmental and community health.

Of course your initiatives will be closely scrutinized by the media, the public and environmental groups. This is only natural. In the early days of popular environmentalism everyone was trying to pass themselves off as green. Remember George Bush, the self-proclaimed "environmental president" whose administration did its utmost to sabotage the 1992 Earth Summit? Similar superficial attempts by companies to paint themselves or their products green without any genuine commitment have put the public on guard against "greenwashing." If you want to get good publicity you had better be open, honest and demonstrably committed.

Fear of criticism has, unfortunately, led some organizations to shy away from drawing attention to their environmental initiatives. This is both good and bad. It's good that those whose efforts may be little more than a marketing ploy are less and less able to get away with it. It's bad if fear of criticism is preventing some groups from even trying. You only have something to fear if you have something to hide. A genuine commitment speaks for itself through action. The organization dedicated to improving its environmental performance will ultimately be recognized as such, even if its current practices have some way to go.

Regrettably, the media tends to focus excessively on the negative. People who are working hard to make their practices more sustainable may receive unduly harsh criticism for things they have not yet been able to address or for which a workable solution has not yet been found. This should not discourage anyone from trying, however.

There are two overriding principles to follow when publicizing your Green Games efforts: (1) actions must be consistent with the message; and (2) be open and honest about your level of commitment, your successes and your failures.

The Body Shop and its founder Anita Roddick have received an enormous amount of publicity for their commitment to promoting social and environmental change. From the beginning they have been forthright about their goals and open to public scrutiny. Any mistakes they have made seem to have been ignored or forgiven, when weighed against their accomplishments and unwavering commitment.

The LOOC, despite its many environmental initiatives, did not have a perfect environmental record, and took this into account when developing its publicity strategy. But it did not shy away from publicity. The LOOC decided to highlight all that was done right about the Games. Rather than call itself "the Green Games," implying perfection, it opted to call itself "the Games with an environmental profile." Noting that this was but a first step, they focused on their accomplishments while being open about their mistakes. As a result, out of thousands of media reports, the vast majority chose to highlight the positive aspects of the initiative. Ironically, Lillehammer came to be referred to, and will ultimately be remembered as, the first-ever "Green Games."

When you have nothing to hide, it is relatively easy to promote and publicize your commitment and your objectives. Any publicity, as has been noted, will ultimately benefit both your organization and the broader goals of sustainable sport. Any media or publicity strategy should therefore be designed to emphasize: (a) your commitment to reducing the environmental impact of your event/facility/organization, and its benefits to the community; and (b) your dedication to sustainable sport and its attendant environmental and social benefits.

Setting an Example for the Community

By publicizing your Green Games initiative, you are making an important statement: that the environment matters. You are going on record with your belief that your sports organization can and must become more sustainable. When such a strong statement comes from sport, it has the potential to reach a very wide audience. It can also reach people who may not be getting or absorbing messages about the importance of environmental stewardship from traditional sources of information and education. During the opening ceremonies at Lillehammer, the importance of the environment was mentioned no less than six times. Television viewers learned of its importance to Lillehammer, to Norway, to the IOC and to sport. This may have been the first time that many viewers were ever confronted with the thought that there is a connection between sport and the environment. This high-profile occasion was used successfully to spread the message of sustainable sport to millions.

Not many organizations will ever reach a billion television viewers. What they will have that may put them ahead even of the Olympics, however, is personal contact. The vast majority of sports organizations are small, community-oriented groups which deal face to face with the people whose lives are directly affected by their choices. This means that messages can be delivered far more directly. A young soccer player may not read in the local paper that community fields will no longer be sprayed with certain chemicals. She will notice, however, the sign on the field announcing that this step has been taken and explaining why the turf has changed slightly. This may lead her to learn more about the effects of spraying and, with her new awareness, to question why her parents and neighbours are spraying their lawn. Sport is the catalyst.

The organization which has embraced environmental change has a unique opportunity to share its concern and its knowledge through educational programmes and community ventures. These programmes can be aimed at any number of audiences: youth, industry, the general public, etc. Lillehammer encouraged schools to learn from its experiences, through a series of projects, special seminars and activities. They have encouraged the study of how environmental issues relate to sport, play, outdoor life and natural resource management. The general public was informed of the LOOC's environmental initiatives and involved through the training of advisers in the municipalities, volunteers and even army personnel. The public has also been involved in a major "Olympic Forests" tree-planting programme.

By getting the community closely involved in environmental projects and showing people how they have a stake in this process, the effects of an organization or an event can be further-reaching and longer lasting than one might ever expect. The local community should be invited to participate in the planning and running of Green Games initiatives. Furthermore, all steps initiated as part of an event should include plans for the development of infrastructure and the continuation of programmes long after the event is over. By training and educating employees and volunteers from the community and from various walks of life, including private industry, a sporting event can leave a profound legacy for the community.

Partnerships with the Private Sector

One particularly effective way to spread the sustainable sport message is to involve the private sector in different types of partnerships. Contractors, sponsors and suppliers can be brought on board through various means of "greening" the services and materials which they supply. It is a win-win situation: the event/facility benefits from increased sustainability, while the private-sector partner benefits from the publicity and the knowledge it gains in the process. This knowledge and experience might give the company an edge over its competitors in other markets or at similar sports events/facilities. The issue of working with sponsors and suppliers is the topic of Chapter Ten.

As was touched on in the earlier discussion of marketing, promotion strategies have as much to do with the medium as with the message. Novel ways of delivering a message can be as valuable in making a point as the message itself. For example, instead of a soft-drink sponsor announcing that it encourages the recycling of its disposable cups, that same company might work with organizers to reduce or eliminate the need for disposables by supplying and promoting the use of a reusable mug.

Summary of Recommendations for Promotion and Public Relations

1. Develop a strategy for promoting your environmental commitment and initiative.
2. Ensure that your actions are consistent with your message.
3. Be open and honest about your level of commitment.
4. Set an example for the local community and other stakeholders.
5. Involve as many stakeholders as possible in planning and implementation.
6. Plan your initiative with the long-term legacy in mind.
7. Involve the private sector in partnerships of benefit to all.
8. Promote and publicize all the great things you are doing.
9. Be ready to defend what you're not doing as well as what you are doing.

9 The Media: More than Passive Observers

One of the underlying tenets of journalism is a commitment to objectivity and balance. Objectivity in the media, like amateurism in athletics, is more myth than reality, however. Leone Pippard states: "In theory, the media mirror the world. But, by what the media choose to write about most, and comment on, the media also influence the public agenda."[1] The truth is that the majority of reporters, editors, publishers and producers bring several biases to their roles. They may bring their personal assumptions and preconceptions, and/or they may be influenced by what they believe their editors, readers and the organization's owners will want to read, hear or see. Though many in the industry do their utmost to approach each story with an open mind, this is difficult to achieve. Others, whether intentionally or subconsciously, use the influence of the media to pursue a personal agenda, typically to promote their own vision of how the world ought to be. To paraphrase Noam Chomsky, the media is often a "manufacturer of consent," promoting what is thought to be the dominant world view of that particular time and society.

Modern sport has always been profoundly influenced by the media. Indeed, sport, like other forms of entertainment, is in many ways dependent on the media for the attention and coverage which helps to generate public interest. This dependence can evolve into a relationship that is anything but objective. The most common critique of sports journalism, however, is that it can be dangerously close to boosterism. Knowing the passions of the fans, who are after all the same audience for both the media outlet and the sports organization, the journalist must be careful in his/her coverage. Criticism of an athlete, a team or an event can be viewed by some as one step short of treason. Journalists who oppose bids for the Olympics, who criticize public bail-outs for foundering franchises or who question the need for a new stadium frequently feel the heat of blistering attacks. The fan, after all, is biased by definition. It is not surprising, therefore, that

[1] Leone Pippard and Michael Keating, *Covering the Environment,* National Roundtable on the Environment and the Economy, Ottawa, 1993, p. ix.

sports journalism in many cultures is known for its soft coverage and uncritical approach to the *status quo* of sport.

At the same time, because sport is dependent on the media, it is ready to hand over an extraordinary amount of control to the media industry. This is especially true for professional and elite events, which have come to rely heavily on coverage, primarily television, to generate interest and revenues. Often events are scheduled, facilities built or renovated, venues selected or changed and even the rules of a sport modified to meet the demands of the media.

The influence of the media is especially visible in its ability to fashion what is seen, read or heard. Acting as the "gatekeeper" which decides how much coverage, if any, is given to a sport, an event or a particular team, the editor can exercise a profound influence over what we expect from sport. By emphasizing male, elite sport, most media organizations are actually "defining" sport as something relatively narrow and exclusive. By implication, what is not covered—women's sport, youth events, disabled games and "minor" sports—is not really sport. Issues like gender equity, equal access, participatory recreation and the environment, by virtue of their not being explored, do not appear to matter to sport.

To propose that the media should accept and even embrace environmental stewardship and take its responsibility for promoting sustainable sport is therefore running head-on against both the myths and the hard reality of sports journalism. If the media is to elevate social responsibility to the point of actually promoting sustainable sport, is this not abandoning its sacred trust of objectivity and non-intervention? If the media is to approach its task with a more critical eye, might this not jeopardize the sports institutions which its readers covet most? The answer to both questions is simple: like any institution with power, the media has an overarching ethical responsibility to the constituents which give it that power—all of the constituents, not just the sports industry. Ironically, by playing the role of environmental steward, the media will ultimately help rather than hinder the sports community as a whole.

There are a number of ways in which the media can promote sustainable sport: (1) by "greening" its own activities and reducing its own impact; (2) by providing better coverage of the environmental issues relevant to sport; and (3) by promoting the idea of sustainable sport as an apolitical social objective.

Limiting the Negative Impact of the Media

Media organizations and individuals must, like those in any other industry, commit themselves to sustainable practices. These include management practices, Green Office principles and other initiatives particular to their tasks. Though such a genuine commitment can only be made voluntarily, sports organizations which are themselves committed can take several steps to help

the process along by ensuring that the media is not exempt from the rules and guidelines which govern an event or a facility.

All Green Office-type practices must apply equally to the media:

- Media kits should be kept to a minimum in frequency, quantity and size, and should follow Green Publishing guidelines.
- Electronic means of communication should be used wherever possible.
- Ways to reduce, reuse and recycle should be explored and implemented.
- Equipment provided should follow guidelines for energy-efficiency, etc.
- No-smoking policies should apply equally to media centres and press boxes.
- Media transportation planning should attempt to limit the number of vehicles required and the emissions of those vehicles.
- Private media vehicles should conform to the same standards and rules as others.

Journalists or organizations interested in sustainable sport should consider themselves "partners" of the organizers/managers and work with them to explore ways to fashion a new approach to sports journalism and a code of practice which is consistent. What this may require from the media is a conscious attempt to reduce its demands for certain services, resources and special infrastructure, for example: fewer vehicles; a willingness to share transportation; background information to be provided on demand rather than automatically; a willingess to work with existing facilities rather than demand new construction or renovations; fewer demands for special treatment of the press, who are often accorded better facilities than athletes; an acknowledgement of the environmental and cost pressures of media demands and a commitment to keeping these in check.

The media can equally demand many of these things when they find themselves ahead of event organizers/facility managers. Opportunities for playing a positive and constructive role are many: e.g., demanding recycling facilities, asking that smoking be forbidden or requesting state-of-the-art photo chemical recovery equipment. There is nothing to say that the media cannot be the agitator rather than the dinosaur. The media has been known to agitate for plenty of other changes, why not environmental ones?

Improved Coverage of the Environmental Issues Relevant to Sport

One of the most effective roles for the media is in committing itself to pursue stories which explore the issues relevant to sustainable sport. Lillehammer helped to splash the "green games" issue onto front pages all over the world. Can the media rise to the task of pursuing related stories

The Golden Eagle Awards Program

In 1993, The Skiing Company launched its Golden Eagle Awards Program to "recognize exceptional environmental efforts by North America's ski areas." The awards honour resorts that best incorporate environmental principles in their planning, design and operation. Times Mirror Magazines, owner of The Skiing Company, uses a panel of experts from the ski industry and environmental leaders to select the winners. President of Times Mirror Magazines Francis Pandolfi stated at the 1994 awards ceremony that: "One of the problems the sport of skiing faces is that its environmental story is not being well told. There are many examples of ski areas impacting the environment in positive ways." The Golden Eagle Award Program, according to Pandolfi, "was created to showcase these success stories—not only to recognize exceptional examples of environmental initiative in skiing but to hold these examples up for other ski areas to model their own programs by."[4]

in its own region? Will other sports organizations be pressured to become more sustainable, and will unsustainable practices get the investigative coverage they deserve? The media has begun to play a critical role in shaping public opinion about the state of the planet's health. In so doing, according to Pippard, "it has influenced millions of citizens to be more concerned about the environment, plus to demand more action to restore and sustain it."[2] This power to influence the masses confers a special responsibility on the media. Will sports journalists, or the media in general, rise to meet this responsibility?

To do so will require either greater environmental literacy on the part of the sports media, or greater interest in the sports industry on the part of journalists who cover economic, political and social issues. In his 1993 book *Covering the Environment*, a useful tool for the media published by the National Roundtable on the Environment and the Economy, Michael Keating calls on journalists to try to understand the issues, seeking a balance between underplaying and overplaying risks. Keating argues: "The media have a heavy responsibility, because they are the primary source of environmental information for most people. Environment stories influence government policies, corporate investments, educational programs and the shopping choices of millions of individuals."[3]

Promoting the Idea of Sustainable Sport as an Apolitical Social Objective

To argue that the media has no place as an advocate for safeguarding the planet is akin to saying the media has no responsibility for helping to maintain law and order. Media institutions evolve along with the demands of society, and society as a whole is crying out for steps to be taken to save the natural environment. There should be no fear of appearing to side with one political view or another; environmental sustainability is an apolitical objective. When the issue gets political is when the

[2] Pippard, ibid., p. ix.
[3] Keating, op. cit., p. 1.
[4] Times Mirror Magazines press release, May 23, 1994.

media begins advocating means of achieving sustainability which favour vested interests. That is where the media should exercise its much vaunted balance and objectivity. *Whether* to save the planet is not a choice, it is an imperative. *How* to do it involves weighing options and exploring strategies.

Media organizations should themselves become active as partners with industry, government and community and environmental groups in developing means to make sustainable sport possible: sponsoring workshops, publishing books, contributing research, funding community activities, etc. If a newspaper can bill itself as the "official" paper of a professional sports team, surely it can be the official supporter of sustainable sport!

Summary of Recommendations for Making Sports Media More Sustainable

1. Media organizations must become environmental stewards.
2. Media organizations should develop their own Green Games Code of Conduct.
3. Alone or in partnership with sports organizations, the media should develop and implement alternative practices with less environmental impact.
4. Media must eliminate unsustainable demands on events and facilities.
5. Improve coverage of the environmental issues relevant to sport.
6. Promote the idea of sustainable sport as an apolitical social objective.
7. Foster debate on the best means of achieving sustainable sport.

10 Working with Sponsors, Donors and Suppliers

Even at the best of times, finding corporate sponsors can be a challenge. When someone comes along who wants to give you money or in-kind products and services, it is hard to say "no." But there are plenty of reasons for not being too hasty to accept sponsorship, or at least not without asking some fundamental questions. For an organization which has worked hard to demonstrate its commitment to environmental stewardship, accepting a renowned corporate polluter as your major sponsor could spell the death of that image in the eyes of the public.

Fortunately, there is a more positive side to this issue. Sports organizations can actually work with potential sponsors, encouraging them to embrace environmental stewardship, assisting them in adopting more sustainable practices, and helping them to develop a legitimate green profile. As we will see below, "legitimate" is the operative word.

Choosing Appropriate Sponsors

As difficult as it may be to turn down an offer of sponsorship, there are times when a sports organization must do so. Sponsorship is intended to be a mutually beneficial relationship: the sponsor makes a financial or in-kind contribution which benefits the recipient (be it an event, team, facility or athlete); in return, the sponsor benefits by having its name attached to that of the recipient. What is being "bought" is the reputation of, let's say, a particular event. The sponsor is counting on improving its profile and sales as a result of this name association. The event hopes to benefit materially from the deal as opposed to from the reputation of the sponsor. While a sponsor will therefore go to great lengths to choose the "right" event, that event rarely has any comparable screening process for selecting sponsors.

The danger here is that the recipient, if it fails to properly consider the implications of having a particular sponsor attached to its own name, may in some cases actually have its reputation tarnished well beyond the value of the sponsorship. Dr. Andrew Pipe contends that "many people in sport are oblivious to the damage an inappropriate sponsorship does to the image of sport in general and an event in particular." Should a sports event be sponsored by a tobacco company? Should an organization committed to sustainability accept money from a Union Carbide or an Exxon? While some might argue that polluting industries like petrochemicals, mining and auto manufacturers should be excluded outright, the matter is not so black and white. In fact sponsorship, like most environmental issues, should be seen in shades of grey. What shade of grey, then, is acceptable?

Each organization may have to develop its own criteria for judging who is acceptable and who is not. Those criteria are likely to reflect the values and commitment of the organization itself. As a starting point, you may want to ask potential sponsors some of the following questions:

- What environmental policies have you adopted?
- How are you going about implementing these policies?
- Have you conducted an environmental audit?
- If not, why not? If so, what did the audit conclude?
- Have you acted on the recommendations of the audit?
- Have you ever been found guilty of breaking environmental laws?
- If so, what measures have you taken to prevent a similar recurrence?

Companies that refuse to provide a satisfactory answer to these or similar questions and that are unable or unwilling to verify their responses should be ruled out. Even if satisfactory answers are provided, some independent verification should be sought. Fortunately, since few sports organizations have the financial or human resources or expertise, there are two relatively easy ways of doing this. The first is to ask environmental and community groups in the region of the company's head office or national office for their views on the firm in question. If the company has earned itself a bad reputation, these groups would be aware of it. Secondly, in many countries organizations exist which monitor the ethical performance of most major firms. These include businesses like EthicScan Canada or non-profit consumer, labour and church groups. Ask not only for their assessment of the company in question, but for the criteria by which the firm was judged.

Companies can be evaluated on more than their environmental records. Some groups screen for such factors as labour relations, gender and racial equality, community involvement and ties to weapons manufacturers or repressive regimes. What is useful about getting such a full evaluation is that you can decide which criteria are most important to you. It is up to the sponsor-seeker to decide on what grounds a prospective sponsor should be ruled out.

Getting Tobacco Money Off the Slopes

In the early 1980s, downhill skiers in Canada were receiving a great deal of support from a cigarette company. Though some in the skiing community had expressed concern over the impropriety of such a relationship, others felt the money was worth any criticism that might arise. It was only when top athletes spoke out publicly that officials were forced to address the whole issue of receiving money from vendors of cancer. Steve Podborski and Jim Read, by refusing to accept the trophy provided by a cigarette company, sparked a monumental row that spread throughout the entire Canadian sporting community. As a result of this stand, and the behind-the-scenes lobbying of other athletes and health professionals, most amateur sports organizations adopted a policy forbidding sponsorship from tobacco companies. This in turn led to the Calgary Olympic Games being smoke free, and helped to fuel the international movement toward Clean Air Games spearheaded by Dr. John Read of the University of Calgary.

As a minimum standard, the company should be: (a) publicly committed to improving its environmental management and performance; (b) willing to work with the sports organization to limit the environmental impact of its products and services; (c) willing to meet all of the environmental standards established by the particular sports event, facility or organization; and (d) able to demonstrate that it is working to improve its environmental performance. In addition, the sponsor must demonstrate openness and candour on environmental issues. If a company is unable to meet this minimum standard but is still accepted as a sponsor, the recipient sports organization had better be prepared to defend its decision. The public, after all, dislikes being "greenwashed."

Will adhering to standards such as these rule out some traditional supporters of sport? Likely yes. Organizers who have gone to great lengths to run as green an event as possible would jeopardize their profile by accepting sponsorship from a chemical company which is polluting the local river. But this gets right to the heart of the matter: some of the planet's major polluters go to great lengths to legitimize themselves by building a good corporate image. Oddly enough, the biggest polluters seem to have ample treasure chests when it comes to public relations. Is it not time to reveal some of the skeletons in the closet, or at least to get these firms to put their closets in order?

Should the sports community be afraid to take on such a role for fear of losing supporters, they would do well to remember that many of the traditional corporate powerhouse industries which were key supporters in the past will not be the supporters of the future. Structural changes around the globe are taking money out of the hands of resource extraction companies, heavy industry and manufacturers. The baton is being passed to high technology firms, information and service vendors and even environmental industries. This is where the sports community should be looking for its sponsors.

There is also an opportunity for sport groups to lead companies to better practices which could, conveniently, save them big money.

Developing Innovative and Alternative Methods of Sponsorship

Sport should look to an ever-widening field of new and greener potential sponsors: software developers, renewable energy equipment makers, pollution and waste treatment firms and electric vehicle makers. In some cases this is starting to happen already; the telecommunications, office equipment and financial service sectors now provide a significant portion of sponsorship money for major events. Where the real opportunity lies, though, is in attracting those new and growing sectors which not only need the exposure but have something to offer.

Power Smart

At the 1994 Victoria Commonwealth Games, BC Hydro chose to publicize its Power Smart conservation services and programs by making Power Smart a leading sponsor. The benefits to the event and the community included more efficient facilities, lower energy costs and a valuable legacy. By sponsoring the cross-province Queen's Baton Relay and a simultaneous Power Smart Sports & Culture Tour, BC Hydro gained wide exposure in front of new audiences for its programs and its "Power Smart ethic" of saving electricity, money and the environment.

Never has there been a better time for innovative and alternative forms of sponsorship. In-kind sponsorship and donations programmes have the potential to raise the profile of the sponsor while actually reinforcing the environmental objectives of the event or facility. The more obvious examples include: vehicles which use cleaner, alternative fuels; passive solar design features for new buildings and retrofitted buildings; water conservation fixtures, energy-efficient office and maintenance equipment; photovoltaic systems and wind generators for powering remote sites; non-chlorine pool treatment processes; greywater recycling systems and water purification technology. These are but a few of the types of mutually-beneficial partnerships which should be explored. The sports event or facility is precisely the type of high-profile demonstration site that a company with a new product or process needs to gain exposure.

Helping Sponsors Develop a Legitimate Green Profile

Once the sponsor has demonstrated a legitimate environmental commitment, the sports organization can begin working with that sponsor to help it develop its green profile. Many sponsors are accustomed to thinking that a statement of good intentions is sufficient to make them "environmentally-friendly" in the eyes of the public. These firms will need to be led through the process of evaluating all of their activities and/or products and developing alternative products and processes which meet the standards set by the sports organization.

Checklist for sponsors, donors and suppliers

- respect all local and national environmental legislation
- meet or exceed best current practices
- seek innovative means of supporting sustainable sport
- take responsibility for retrieving and safely disposing of non-recyclables
- leave behind a positive legacy for the community

Picture Perfect Photo Finishing

Kodak made a commitment at the Victoria Commonwealth Games to "zero photographic effluent," according to Tom Gorham, director of customer environmental support services and manager of the on-site processing lab for journalists, which developed up to 300 rolls per hour. Knowing that Victoria had no sewage treatment facilities, Kodak felt it would not be responsible to send its effluent untreated into the ocean. The result was a world premiere for its cutting-edge equipment, which Gorham claimed sends water out cleaner than it comes in. In addition, Kodak recovered and recycled its chemical containers, film cassettes, spools, canisters and boxes.

As soon as a sponsor has taken credible steps to promote more sustainable practices, it deserves to be recognized. The sports organization should develop as part of its publicity and public relations strategy, a system for giving recognition to those firms or groups which have been supportive of its environmental programmes. This could take the form of press releases that elaborate on the type of contribution made, a "green honour roll" to congratulate those who have played a significant part, and a press conference or reception in honour of "green sponsors."

Though it may seem a bit excessive to be heaping praise on companies, especially when some of them will likely have been coerced into going green, it is important to do so for two reasons. First, a pat on the back and a bit of good press will go a long way to encouraging these companies to carry on with what they have learned in all aspects of their work, as well as inspiring others to take a similar approach. Second, a green profile for sponsors goes hand in hand with promoting the green profile of the event/facility/organization itself. In this way the message of sustainable sport will be effectively disseminated to the public.

Working with Suppliers and Donors

As with sponsors, it is important to work closely with donors and suppliers to ensure that their products and services are supportive of the green cause, by establishing a standard contracting process. Though the process will differ slightly for donors, who do not typically go through the sort of tendering and bidding process that a supplier will, both should be encouraged, or even forced, to follow a hierarchy of preferences. Such a hierarchy can be spelled out through the criteria which the sports organization uses to select a supplier or product. The buyer/recipient can use criteria such as reduced packaging, reusability, non-toxicity or a high recycled-material content, to pursue its goal of sustainability.

Organizations which have green purchasing policies have discovered that a learning period is generally required by both their purchasing managers and their suppliers. Purchasers need time to settle on an initial list of criteria, to determine which products they might easily phase out entirely and to judge the quality and performance of some of the greener alternatives. Suppliers will need advance notice to locate and develop greener alternatives as well as modify existing products, processes and packaging.

The first step should be to establish and communicate a philosophy or statement of principle in order that your staff, suppliers and donors have a full understanding of what you are trying to achieve. A typical statement might read:

> **Statement of Environmental Preference**
>
> To reduce waste and to promote environmentally preferred purchasing, our organization will amend specifications for the acquisition of goods and services to encourage: reduced need for a product, the use of durable and reusable products, and products which contain the maximum level of recycled and recyclable content, without significantly affecting safety, performance or price.

A product might be considered "environmentally preferred" (EP) if it is demonstrably less harmful to the environment than other products with the same end use, when its life-cycle (e.g. storage, use and disposal) is taken into account.

By communicating your intentions as clearly as possible to suppliers and donors and by seeking their input on the criteria by which you will evaluate bids and select products, you will help to develop a constructive partnership and thereby increase the likelihood of getting the products and services you want at the price you want. A good supplier who fully understands what the buyer needs will go out of its way to provide it. This gives the sports organization, particularly a large one, extraordinary leverage: once a supplier has gone to the trouble and expense of developing a "greener" product or process, that supplier will go out of its way to sell it to other markets. Sport can thus play a role in speeding up the availability of environmentally preferred alternatives.

> **Greening the Inventory**
>
> The Canadian House of Commons launched in August 1990 an initiative to ensure that only environmentally preferred products are kept in supply. By 1993, the House had saved $570,000 and was projecting annual savings of $340,000. In addition, the range of products kept in supply was reduced, thereby cutting inventory carrying costs and streamlining administration.[1]

[1] House of Commons, *Greening the Hill—An Economic Analysis*, September 1993, pp. 24-25.

Environmentally Preferred Purchasing Criteria

The 3Rs hierarchy

Reduction is the most absolute form of pollution prevention and cost cutting.
Prior to making a purchase of any sort, ask yourself:

- Is the purchase really necessary, or are there other options?
- Can it be leased, borrowed or shared?

Assuming the purchase is necessary:

- Is the product size/magnitude necessary?
- Can any non-essential features be eliminated?

Reuse of a product defers demand for a new purchase and delays its disposal.

- How long will the product last?
- Will it be used until obsolescence, and how soon is it likely to become obsolete?
- Can the product be easily and cost-effectively repaired or upgraded?
- Can the product or components be sold or donated for use by others?

Recycling is the final stage of a product's life-cycle. It can reduce waste and create revenue.

- Can the product be recycled locally?
- If made of several components, can it be dismantled so as to recycle parts?
- Will the supplier take the product back or are there brokers for the product?

Packaging

A major percentage of the waste stream consists of packaging.

- Is the packaging designed to reduce waste (i.e. available in bulk form)?
- Is the packaging reusable by the end user?
- Is it collected by the supplier for reuse or recycling?
- Is it made from recycled materials and is it recyclable locally?
- Does it contain any hazardous or non-recyclable components?

Operation

- Is the product energy-efficient, water-efficient or less polluting in operation?
- Are any products required to repair or maintain it wasteful or hazardous?
- Are replacement parts recycled, recyclable or reconditionable?

Safe disposal

- Does the product require special steps for safe disposal?
- What is the cost of disposing safely of the product or its component parts?

Criteria for Donors, Suppliers and Service Vendors

Clear and concise criteria by which EP quality will be judged are essential. These will need to cover a number of functions (e.g. packaging and cleaning) as well as several different environmental issues (e.g. waste reduction and energy efficiency). This means that in some cases EP qualities could come into conflict. Where this occurs, the following hierarchy should be followed[2]:

Hierarchy of Environmental Preference

High priority	hazardousness, recycled content, toxicity, biodegradability
Medium priority	durability, reusability, upgradability, conservation of fuel, energy or other resources
Low priority	recyclability, packaging qualities.

Using this hierarchy to judge priority, a wide range of EP criteria should be considered.[3] The table on the preceding page, though not exhaustive, lists the most important of these.

A sports organization should use these and any relevant additional criteria to develop its own purchasing specifications. These specifications must then be clearly communicated to donors and suppliers, at the earliest stage possible. Appropriate weight should be given to EP considerations, in addition to factors such as cost and performance. Suppliers who are selected should be held contractually to the agreed specifications. Bidders who are not selected should be informed if environmental factors played a part in the decision, so as to encourage them to raise their standards.

Summary of Recommendations for Dealing with Sponsors and Suppliers

1. Encourage potential sponsors to embrace environmental stewardship.
2. Decline offers from organizations which could tarnish your image.
3. Seek innovative and alternative forms of sponsorship.
4. Work with supporters and suppliers to develop a legitimate green profile.
5. Encourage and assist suppliers to provide greener products and services.
6. Adopt and enforce environmentally-preferred purchasing practices.
7. Recognize publicly those sponsors/suppliers who are committed to environmental stewardship.

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[2] Taken from Transport Canada's "Choose Green Procurement Guide," March 1993, p. 10.

[3] Verification of suppliers and manufacturers' claims can be difficult. In some countries nationally-recognized programmes exist to provide independent verification: e.g. the Green Seal in the U.S., Environmental Choice in Canada, and Germany's Blue Angel and Green Dot programs.

11 Materials and Waste Management: Cleaner is Cheaper

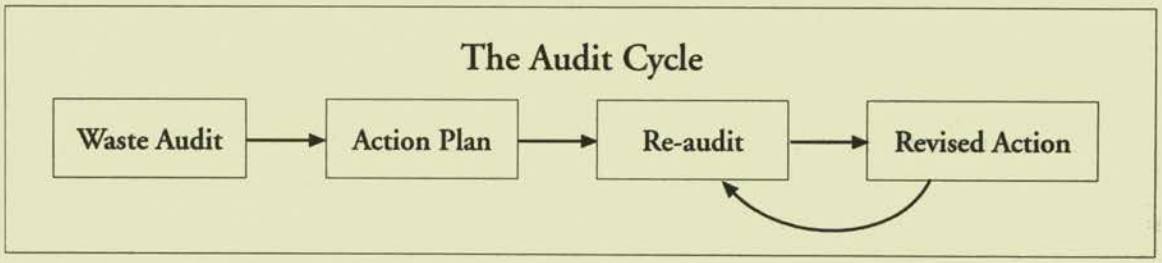
Previous chapters have introduced practices, such as greener procurement and printing, which enable an organization to reduce its material needs and its production of waste. This chapter offers a comprehensive strategy for material and waste management.

The Materials and Waste Management Strategy

The goals of such a strategy are to:

1. reduce the amount of materials handled;
2. minimize the need for waste disposal by making optimum use of all materials;
3. deal with all waste in a safe and cost-effective manner; and
4. save money and generate income wherever possible.

To achieve these goals, a relatively straightforward method should be employed. This method is actually a continuous cycle. It consists of three stages: performing a Waste Audit, developing and implementing an Action Plan, and then performing a Re-audit at regular intervals to determine the strong and weak points of the strategy—information which will in turn allow you to develop a more refined Action Plan.



1. Waste Audit

The purpose of the waste audit is to determine what types and quantities of waste are currently being produced, how they are being disposed of and what the costs of existing waste management systems are to the organization.[1] A comprehensive waste audit allows you to establish "baseline" information and statistics, against which the effectiveness of subsequent initiatives can be measured. It also allows you to identify those areas where effort can best be directed to achieve the most substantial environmental and economic gains. Ultimately, the audit serves as the foundation for developing an Action Plan.

2. Action Plan

The Action Plan is a strategy and a series of concrete steps that will enable the organization to carry out its materials and waste management goals. The principal steps include:

a. Reduce

Limit waste generation by curtailing the amount of resources and materials entering the organization, through purchasing practices, working with suppliers to limit packaging, avoiding unnecessary services and production of materials, greening printing practices and building to meet real needs only. A critical aspect of reducing is elimination: not buying or accepting materials, supplies or equipment which are either hazardous, wasteful, non-recyclable, or difficult or expensive to recycle or dispose of. These might include styrofoam, mixed plastics, juice boxes, etc.

b. Reuse

As discussed in previous chapters, seek to purchase products and supplies which are durable, easily maintained or repaired, upgradable and which do not quickly become obsolete. Avoid gimmicks and cheaply-made items, even if they cost less. It is also critical to develop systems which encourage and facilitate reuse: two-sided printing policies, exchange store-rooms, price incentives/penalties, collection days, etc.

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[1] Several publications referred to in Appendix C provide a good introduction to waste audits and environmental audits. These include: *FOCUS 2000 - A Small Business Guide to Environmental Management* and *Decision-Making Practices for Sustainable Development,* both distributed by Canada's National Roundtable on the Environment and the Economy; and *Workplace Guide: Practical Action for the Environment,* published by The Harmony Foundation.

Recycling at Ski Resorts

Ski resorts such as Hunter Mountain in New York and Aspen, Colorado recognized in the late eighties that the growing cost of handling waste could soon outstrip revenues. To deal with this threat, they instituted comprehensive waste management programmes to reduce, reuse, recycle and minimize the dangers and costs of handling hazardous wastes. The Aspen Skiing Company banned polystyrene foam at its hotels and offices and asked its on-mountain restaurant operators to avoid tin and plastics. The restaurants instituted sorting and recycling schemes which involve customers in the process. Reaction among staff and customers has been very positive.

c. Recycle

Although it should always be portrayed as the "last resort", recycling is a critical part of waste management. It is also becoming a generator of income, especially for fine paper and valuable metals. The goal of any organization is to attempt to recycle in some form whatever equipment or materials are no longer usable in any way. This generally consists of identifying "brokers" for recyclables, ideally ones that pay for the materials you supply them with, as opposed to charging for their service. How much you will receive for material, if anything, will depend on whether recycling facilities exist in the region and on the strength of the market for that particular item. For example, in some regions there is a glut of glass, whereas fine paper is usually in heavy demand. Plastics in particular are notoriously difficult to sell, owing to the ubiquitous supply, the many different types and the relatively undeveloped state of recycling technology. In general, there should be a market for fine paper, newsprint, glass, metal cans and cardboard. As the technology improves, the demand for plastics is expected to increase.

d. Compost

Food waste from cafeterias, restaurants and even individual meals is generally compostable and represents a significant opportunity for waste reduction. Compostable food represents the second highest percentage of waste by weight in most institutional settings, after paper. Compostables are also a valuable organic resource which should not be sent to landfill or incinerated. Food waste can be composted on site, for use in landscaping or, where facilities exist, sent to municipal composters. Some food scraps, such as meat and dairy products will be regulated for health reasons. Selling left-overs for animal feed should be explored, as should the possibility of donating untouched extra food from cafeterias and restaurants to local "soup kitchens."

e. Remove

As an incentive to waste reduction and recycling, waste baskets should be removed from individual desks in offices and at other applicable locations. They should be replaced by clearly marked recycling containers/stations, which should be regularly emptied. Such a move *must* be preceded by sufficient notice and explanation.

Aluminum Can Recycling Proves (too) Popular in Kamloops

At the 1993 Canada Games in Kamloops, the recycling programme was so well publicized and prominent, it nearly backfired. Children (among others) frequently raided the bins where aluminum cans had been deposited, in order to cash in on the 5 cent per can deposit refund. Though waste was still diverted, the programme operators lost some potential revenue and were unable to accurately record the rate of participation.

f. Install

In tandem with removing waste baskets, each area should receive individual, clearly marked recycling containers. In central areas, clearly marked bins for true garbage should be installed. In public areas, garbage and recycling systems should be placed side by side, so as to limit the likelihood of contamination by people unwilling to walk as far as the appropriate container. Again, clear marking is absolutely essential.

g. Dispose safely

Even with the best efforts to reduce the amount of hazardous materials in use, there will inevitably be some products, liquid and solid, which should not be disposed of with the ordinary garbage. These will require special attention in order to be safely disposed of, in keeping with local regulations. All efforts should be made to encourage the supplier to take responsibility for their collection. If this is not feasible, the sports organization must ensure that hazardous substances are properly stored and disposed of.

h. Sell or donate

Materials, supplies and equipment which can still be used, but are no longer of use to the sports organization, can usually be sold or donated to another organization to whom they are of value. Obsolete equipment which has been replaced, such as computers, ice-resurfacing machines, or golf carts, can generally be put to good use by other groups with different needs or lower demands. Charitable groups, schools and community centres, for example, are often in need of computers and office equipment. Construction left-overs and materials removed during renovation can often be sent to vendors of used building supplies.

i. Education and communication

Education and communication are essential to the success of material and waste management programmes. Cooperative and enthusiastic staff and volunteers are critical to designing a good Action Plan and to implementing it fully. It is essential that they be fully involved at all stages. Changes should only be introduced after people have been advised and offered a chance to comment. Many of these same points hold true for the general public—facility users, spectators, etc. To encourage cooperation and

participation in waste reduction and management, clear and innovative communication is indispensable.

3. Re-audit and Revise Action Plan

One of the greatest failings of change-oriented Action Plans of any type is the absence of follow-up. How successful was the Action Plan? Which initiatives worked and which didn't? How can the failures be turned into successes? How can successes be improved upon further? These are the questions that should be asked in a follow-up or "Re-audit." For example, six months after the launch of the Action Plan, a smaller audit should be carried out to determine whether specific objectives were met, and a revised Action Plan should be developed. Though subsequent audits and Action Plans will not be as extensive as the initial one, they are crucial to targeting both problem areas and areas of high priority. An audit should be carried out annually to judge where progress is being made and whether or not there has been any slippage. The annual audit might focus on a particular area of concern, with that year's Action Plan setting out "fine-tuned" steps to address it.

Looking for Innovative Ideas

Most of the components of a Material and Waste Management Strategy are fairly basic, allowing an organization to address the majority of concerns. Each sport organization will also want to develop some innovative ideas and approaches to take into account its unique challenges.

Major sporting events, as a result of both their scale and their temporary nature, create some very specific demands. Apart from the general office and administrative waste, the generation of printed materials and waste associated with food can be staggering.

- The 1992 Barcelona Olympics produced 124,000 kilogrammes of paper and 3 million tickets, none of which was recycled or printed on recycled paper. Similarly, all Athletes' Village and Olympic site restaurants used disposable cutlery, plates, etc.
- Lillehammer implemented strict green printing standards, as well as recovering and recycling as much paper as possible. Wherever possible, washable tableware was used, and where this was not possible food was served on compostable potato starch-based plates. Overall, 900,000 of these plates were used. When the supply ran out, recycled and compostable paper plates were substituted.
- At Albertville, an estimated 60% of the waste generated in the stadiums was Coca-Cola's non-recyclable paper cups. The major drink sponsor again at Lillehammer, Coca-Cola resisted efforts to get them to design their cups to meet Norwegian standards, insisting on ones that could be shredded and turned into egg cartons, according to Olav Myrholt of PEFO.

Novel solutions are clearly required to reduce, not just recycle, the amount of food-related packaging waste at any event or facility. The use of a durable mug by athletes and spectators has been successfully encouraged at smaller community events, but major suppliers and event organizers have been slow to develop the idea. Drink sponsors have a golden opportunity to sell or distribute reusable mugs, made of recycled plastic, emblazoned with their logo and/or that of a particular event or home team.

The whole area of refreshment containers and packaging is ripe with opportunity for inventive waste reduction solutions. Although there is no money to be made in recycling most materials, excepting metal cans, there are savings to be had: Concession operators can reduce the cost of buying and storing disposable containers if reusable ones become common; event and facility operators can cut their clean-up and disposal costs if packaging is reduced, reused, recycled and deposited in the appropriate containers; and municipalities can delay the development of new landfill sites by keeping out sports-related waste.

Sports events frequently over-produce souvenir items such as t-shirts and programmes, which can quickly become obsolete and unmarketable. In addition to fine-tuning their demand forecasts, these organizations should design material to be reusable at subsequent events, wherever applicable. Otherwise, they should seek worthy recipients of these and other unused materials, such as charities.

Tips for reducing t-shirts

Participatory events such as marathons and other races frequently include t-shirts as part of the race package. While some participants covet these souvenirs, others could do well without their fiftieth t-shirt. It should be common practice to request on entry forms if items such as a t-shirt are desired. If not, the price of entry should be discounted.

A common form of promotion for sponsors is to hand out "freebies" to athletes and spectators: cheap visors, t-shirts, pens, bags, etc. These disposable, non-durable items soon find their way into landfills. From the sponsors' point of view, they are generally a waste of money, gaining only short-lived exposure, itself minimized by the "clutter" of items competing for public attention. The opportunity for sponsors and companies that specialize in these marketing gimmicks is to reduce the amount of freebies and create less wasteful ways of promotion. Organizers should work with sponsors to help develop ways of recognizing their contributions without adding to the waste problem. Where freebies remain the gimmick of choice, these should be as useful and durable as possible, and ultimately recyclable.

Signs are an item which, although indispensable for getting people to the right places, are a significant source of waste by volume at a sports event. Like cups, the question of signs is crying

out for innovative solutions. Though Lillehammer did recycle close to 20,000 signs into making cardboard boxes, there are surely ways to reduce and reuse signs. They can be made as generic as possible, and used over and over again, either at the same event or by selling or donating them to other events/facilities. Sturdy plasticized signboards with removable printed markings can be reused and the lettering and symbols updated several times over.

Summary of Waste Management Recommendations

1. Implement a comprehensive strategy for material and waste management.
2. Conduct a waste audit and regular follow-up audits.
3. Focus your Action Plan on the hierarchy of reduce, reuse and recycle.
4. Use refined subsequent Action Plans to address priority areas.
5. Stress communication with and education of staff, volunteers and the public.
6. Look for innovative ideas relevant to your particular needs.
7. Choose products according to cost/performance over the length of their life.

12 Transportation: Cut the Traffic. Breathe Easier

Nowhere do economic, environmental and social goals intersect more closely than with matters of transportation. The goal of the sustainable sports organization is to reduce the contribution of its activities to environmental threats such as air pollution and carbon dioxide emissions, water and soil pollution, traffic congestion, and noise disturbances. At the same time, it should be aiming to protect its members/users/facilities from these threats and to reduce the financial cost to itself and to society at large. That being said, the organization must continue to meet its primary transportation obligation: to provide relatively easy access to its events/facilities for all users.

Can all of these goals be met without compromises? Not likely, but none of those compromises need create losers. In fact, the majority of solutions create only winners: pollution and energy consumption are reduced, communities are disturbed less and the overall costs to sports organizations, communities and governments are cut.

The principal objectives by which transportation goals can be realized are several:

1. Reduce consumption of non-renewable energy.
2. Reduce emissions of air pollutants and greenhouse gases.
3. Reduce air, water and soil pollution from chemicals used in vehicle operation and maintenance.
4. Limit traffic congestion and demands on infrastructure.

These general objectives can be met by addressing the following issues, some of which are relevant only to major or minor events or to particular types of facilities; others to the sports industry in general.

Protecting Athletes and Spectators

A critical reason for addressing transportation issues is that air pollution from vehicles is one of the primary threats to the health of all sports participants. By keeping vehicles away from sports venues, limiting the numbers and the emissions of those which must operate near such venues and establishing strict guidlines for operation—such as a no-idling policy—events and facilities managers can go a long way toward protecting athletes and spectators.

Transportation for the Green Organization

The steps outlined for the Green Office here are designed to address those issues which arise in the daily operation of an office or a sports organization of any size: commuting, choice and maintenance of "company" vehicles, etc. The "Green Transportation Checklist" on the following page provides a more detailed list of steps that can be taken in most sports organizations.

The general point to remember about transportation is that there is a hierarchy of energy-efficiency and environmental impact. The "ideal" mode of transportation is non-motorized—walking, bicycling, skiing, etc. It is followed by various forms of mass transit, such as trains and buses, for transporting both people and goods. At the lowest end of the hierarchy is the individual passenger vehicle: cars, vans, trucks, etc., which are making a special trip to move only one or two people or a small amount of goods.

Fleet Vehicles: What Kind and How Many?

Any large sports event and virtually every sports facility owns, leases or operates vehicles of some kind. Ownership of vehicles should always be kept to a minimum, to reduce financing and maintenance costs, and leasing arrangements should be explored prior to purchase. Vehicle rental is often an option where most of the demand occurs at a peak period and vehicles sit idle the remainder of the time. Through good scheduling and sharing arrangements, fleet vehicles can be used as fully as possible.

For those vehicles that are considered essential, the key is to buy the right kind for the job, to seek the most fuel-efficient and non-polluting, and to look for the most durable and easily repaired models. No one vehicle will meet all criteria. Choose the one that responds to the most of your needs. Avoid basing your choice on exceptional needs. If a 12-passenger van is required once a month, but generally no more than three people use it at a time, buy an ordinary 4-seat vehicle and rent a van once a month. Too many purchases are based on the rare exceptions.

Green Transportation Checklist[1]

Individual Actions and Policy Changes

1. Use public transit wherever possible, and encourage others to do the same. If bus service is poor, lobby for route changes. Provide the transit company with a list of people who would use the bus if service were better.
2. Start a car pool and encourage others to do the same. Post a map or circulate a questionnaire to find out which employees could car pool. Use electronic mail to create an "electronic ride board" where people can post rides offered and sought on a daily basis.
3. Encourage management to provide an incentive for car pools by providing parking or reducing parking fees for multi-passenger vehicles.
4. If you must use a vehicle, don't let it idle for more than a minute. Idling uses more fuel than restarting the engine and creates needless fuel emissions. Use a fuel-efficient vehicle and keep it well maintained. Use certified re-refined motor oil.
5. Walk to work, if possible, and encourage others to do the same.
6. Bicycle to work and encourage co-workers to follow suit. Post maps of good routes.
7. Use the telephone, fax or mail instead of couriers wherever possible. For short-distance courier deliveries, encourage the use of bicycle courier services.
8. Encourage policies to favour teleconferencing instead of travel.
9. Encourage taxi sharing for business meetings.

Equipment and Building Modifications

1. Encourage facilities management to install secure, covered or indoor bicycle parking. Racks should accommodate bicycles of all sizes and be of good quality.
2. Encourage facilities management to provide showers and lockers.

Vehicle Fleets

1. Ensure that all fleet vehicles are well maintained and that a fleet management information system is in place.
2. Use re-refined oil, recycle batteries and solvents and use retreaded tires (particularly for trucks) if they are not already doing so.
3. Purchase high-efficiency vehicles and use the most fuel-efficient vehicle available for the job.
4. Encourage fuel-efficient driving habits, including a no-idling policy.
5. Convert high-use vehicles to natural gas or propane.
6. Create a no-smoking policy for passengers and drivers.

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[1] Based on Environment Canada's *Working Your Way to a Green Office.*

Conversion of eight of the Canadian House of Commons' fleet of vehicles (five buses, one truck and two automobiles) to natural gas in 1990 paid for itself in just over two years. The annual savings are now $15,500, and the cleaner-burning fuel produces fewer greenhouse gases and generally lowers operating costs.

Fuel efficiency is critical to reducing both costs and emissions of pollutants and greenhouse gases. But fuel efficiency means more than just litres of gasoline per 100 kilometres (or miles per gallon). It also includes the various alternative fuel options, such as propane, natural gas, electric, ethanol and even hydrogen. Buying cars that run on propane or natural gas, or converting older ones, can reduce fuel consumption and costs while reducing emissions.

Electric vehicles, though still in the early stage of development, should be considered for use in service fleets and for tasks requiring limited speed and distance. The price of these vehicles will drop significantly once mainstream production begins, a process that has been accelerated by California's mandated goal of 10 percent alternative-fuel vehicles by the year 1998. The advantage of electric vehicles is their almost silent operation and their lack of emissions. This makes them ideal for use near sporting facilities where clean air and quiet may be valued, and where speed is not essential. The environmental drawback of electric vehicles, however, is that they are only as clean as the source of electricity which they rely on to recharge.

Sports events and facilities offer an ideal venue for manufacturers of alternative fuels and vehicles to get publicity. In many cases, these companies are looking for high visibility and will be willing to offer the use of their vehicles at a substantial discount, if not for free. The use of electric vehicles as pace cars and for television crews during events such as the marathon and bike races should be mandatory to protect the athlete from fumes at close range. Both manufacturers and event organizers might turn this idea to their advantage by prominently publicizing the fact that electric cars are being used for environmental reasons.

Air conditioning is perhaps the hottest topic of debate. The CFCs traditionally used as coolants in car air conditioning are thought to be one of the worst offenders in depleting the ozone layer. It's a strange irony: the cooler you keep your car, the more you'll get burned. The single most effective step you can take is to not buy a vehicle with air conditioning. Or, if your vehicle already has it, don't replenish the CFCs, or any of the moderately less-damaging substitutes, if they leak out. The biggest problem with vehicle air conditioning systems is that they are prone to leak. This makes them a significant contributor to ozone damage. If you can, suffer through the 10-12 truly hot days per year. If climate or preference makes this impossible, ensure that your maintenance garage is collecting and recycling the chemicals that remain, when you bring the vehicle in for servicing. The most effective cooling tip is the simplest. Buy only light-coloured vehicles; they heat up far less in the sun!

Vehicle Maintenance and Refuelling

Regular maintenance will help to extend the life of a vehicle. It will also save the owner money by avoiding expensive repairs and maximizing fuel efficiency. Furthermore, a clean-running engine produces fewer emissions.

Anyone doing maintenance or repairs should take steps to prevent fluids such as oil, anti-freeze and transmission fluid from leaking into the soil. These fluids should be properly be disposed of and never poured down the drain. In the case of oil, it can be sent to recyclers for re-refining. More oil is spilled each year worldwide through poor vehicle maintenance than through oil tanker accidents. Any vehicle maintenance should be done on a leak-proof surface, where accidental spills can be mopped up. This is especially important when servicing must be done on fragile terrain. Refuelling of snow grooming vehicles at the Canadian national cross-country ski team's Haig Glacier training centre is always done on special tarps to capture accidental spills.

Transportation of Spectators, Competitors and Media

One of the most critical jobs for any event coordinator is to organize transportation for competitors, officials, media and often for spectators as well. The sheer numbers of people who must be moved into and out of a confined area, or between a number of widely-spaced areas in the case of a multi-site event, present a significant logistical challenge. How do you get everybody to the right place on time while also reducing pollution, noise and congestion? Fortunately, the solutions are one and the same: reduce the number of vehicles on the roads. There are a variety of means for doing this.

Alternative Vehicles in Victoria

Canada Post and Ballard Power Systems Inc. chose the Commonwealth Games to show off their alternative vehicles. Canada Post used two Conceptor battery-powered Electric G-vans to transport mail between venues. Ballard took advantage of the event's visibility to showcase its ZEV (Zero-Emission Vehicle) Bus, which performed public transit duties over several days. The ZEV Bus is powered by a fuel cell: a zero emission "engine" which converts hydrogen fuel into electricity without creating pollutants.

Selection of sites

Sites should be selected with transportation in mind. How will the users get there? Are public transport or non-motorized modes of transport an option? It is amazing how many sports facilities can be reached only by private vehicle. There is something fundamentally contradictory about driving to a place where you can get some exercise or watch others who are doing sports. Sydney's "Environmental Guidelines" note that non-polluting and user-friendly public transport is an integral part of sustainable urban planning. Olympic host cities should commit themselves to locating Games facilities near public transport systems, providing satellite car-parking to facilitate use of public transport, and providing cycleways and walkways at Olympic sites.

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[2] *Environmental Guidelines for the Summer Olympic Games*, op. cit., p. 4.

Reduce the number of private automobiles

Offer incentives to taking public transportation, walking or cycling, while at the same time banning private cars from the immediate vicinity of an event and not providing parking on site. It is critical to take such a comprehensive approach to these problems—simply making parking prohibitively expensive, as some events and facilities do, will only transfer the problem. Those who can afford the high rates will continue to park on site, while those who cannot will try to find alternative parking nearby. Everyone will still be driving.

Provide alternative mass transportation

The use of shuttle buses for spectators and competitors can effectively minimize traffic near an event. These might be shuttles paid for by organizers or special additional service provided by the local public transit authority. By working closely with these authorities it may be possible to agree on a cost-sharing arrangement whereby the sports organization contributes to this improved service. Shuttles should run from main public transit transfer stations and from outlying parking areas. Many professional clubs have arrangements of this type for greatly augmented service on game days.

Offer people incentives to use public transit

For example, make tickets to an event valid for free public transit rides on the day of the event, or offer special prices on public transit tickets for the duration of an event to anyone travelling to one of the event's sites. The many possibilities for encouraging use of public transit should be explored by all event organizers.

Transporting competitors, officials and media offers special challenges, since it is critical that they arrive on time. For multi-sport and multi-site events, good scheduling is one of the keys to improving transportation efficiency and reducing congestion and delays. Events may need to be carefully timed so as to allow traffic to clear before another event starts at the same site or one nearby.

The standard procedure is to provide dedicated shuttle buses or cars which have special access to roads and parking areas that have been closed off to the general public. Assuming that the principal routes are not overly congested, this type of system tends to work reasonably well. Unfortunately, routes are all too often blocked as a result of ineffective measures to limit non-official traffic. Frequently, however, the number of official vehicles alone is enough to cause congestion. Several steps can be taken to alleviate this latter problem, but neither will be popular.

Athletes and media should always be transported in multi-passenger vehicles. By limiting the number of these vehicles, but ensuring that they leave punctually, it is possible to avoid running

Tackling Traffic Congestion

• At the 1993 Canada Games, the City of Kamloops arranged for more frequent bus service to the key event sites and offered special passes for the two weeks of the Games. Ridership increased significantly during this period.

• To deal with traffic congestion and disturbance of residents in adjacent communities, the Kaiserslautern professional soccer team in Germany subsidizes a park-and-ride programme, whereby spectators leave their cars in outlying parking lots and take special shuttle buses to the stadium.

• At the 1994 Commonwealth Games in Victoria, a combination of free admission onto city buses for ticket holders and a well-publicized ban on private vehicles and private parking in the vicinity of the main sites significantly cut traffic congestion, noise and air pollution. Of the 34,000 attendees at opening and closing ceremonies, 50 percent came by bus.

a large number of half-empty vehicles. Media in Lillehammer found that bus service was less frequent than at similar events, but that it was always punctual. Most journalists, according to one reporter, became accustomed to having limited options but were grateful that buses left and arrived on time. Some media and a number of the more elite athletes have been known to object to being forced into buses whose schedule they do not control. Should such a situation arise, it may be politic to mention the public Green Games commitment to which organizers are bound and—should a voluntary code of conduct be in place for athletes, media, coaches, and others—which all other participants have been asked to support.

Transporting officials, however, can be an even thornier problem. The combination of protocol and egos presents significant limitations to organizers who are seeking ways to reduce the number of private vehicles. If everyone from sports federation officials to politicians demands his/her own vehicle, as is common at major events, organizers will have little choice but to provide a large fleet of private cars. If, on the other hand, an efficient system for encouraging car pooling among officials can be arranged and publicized beforehand as part of the Green Games effort, it may well be possible to get most "VIPs" to agree to depart from the standard and extremely wasteful procedure.

The official vehicle fleet and shuttlebus service are areas where the use of alternative vehicles should be explored. This may be a tremendous opportunity to test—and to publicize—the use of cleaner fuels, electric vehicles, etc. Organizers should seek sponsors from these sectors.

Alternatives to Motorized Vehicles

The option to which far too little thought is devoted is the use of non-motorized vehicles and the encouragement of self-propulsion. Put simply, how can people be encouraged to cycle, walk or rollerblade to an event or a site? We have already looked at one of the primary solutions: better siting. The other is intimately connected with the Active Living philosophy—the idea that by taking the active approach to whatever you do, not only will you be fitter for it, your health and

The Swiss Ministry of the Environment estimates that if the country's 7500 amateur soccer teams play an average of 20 games per season, and if an average of 10 spectators drive 2.5 kilometres to attend, amateur soccer fans will account for 75 million kilometres in car travel per year.

that of your environment will also benefit. This type of approach must be encouraged as part of greening sport, and there is no better starting block than transportation.

It is striking how few people ride bicycles to watch, for example, a soccer match. Why not? In addition to a host of sociological reasons which we can't even begin to discuss here, there are several purely logistical obstacles, namely, too much car traffic, dangerous access roads and a lack of secure parking. Steps to address the traffic problems have been explored, but what about better facilities for cyclists? For spectators at a major stadium, better bicycle routes should be designated and ample and secure parking areas provided. Cyclists should be able to park much closer to the stadium, as they take up little space and contribute little to congestion. In the case of more participatory sports clubs and facilities, providing safe parking and good locker rooms are the principal ways to encourage cycling.

Games organizers and facilities managers must make a conscious effort to encourage non-motorized travel. They will benefit from fewer traffic and parking-related expenses and problems; in fact, they might argue that fewer car parking spaces need to be provided if more people are coming by a more active means. For those who are unable to walk or propel their own vehicles, rickshaws and tri-shaws—until recently thought of as quaint artefacts of poor countries—are being seen more and more in modern urban areas. Among their advantages: they are quiet, smogless and require less space than cars.

Athletes, spectators and journalists in a relatively small town like Kamloops could easily have cycled to many of the venues had bicycles been provided by organizers or been available for rental. Though a superb shuttle bus service was available, the weather, distances and good routes would have been ideal for cycling. There is a tremendous opportunity here for the entrepreneurial bicycle rental business.

Summary of Transportation Recommendations

1. Limit the number of vehicles in your fleet and the frequency of use.
2. Explore options for alternative fuels and vehicles.
3. Choose vehicles for durability, reparability, emissions and efficiency.
4. Limit pollution from operation, maintenance and repairs.
5. Encourage use of public transport and non-motorized vehicles.
6. Work with municipal and transit officials to limit congestion and noise around sporting venues and during events.
7. Protect participants from adverse effects of vehicle pollution.
8. Prohibit smoking in transport vehicles.

13 Facilities Construction and Operation

The most visible and substantial environmental impact of any sports event or organization is determined by its facilities—what facilities are used, where they are located and how they are run. No event or activity can take place without a venue. That venue may be anything from an untouched mountainside to a state-of-the-art dome stadium; what were categorized in Chapter One as the genuine natural environment, the developed natural environment and the built environment. This chapter will focus on the latter two venues for sport—those we term "facilities"—in an attempt to identify opportunities to reduce the environmental and economic costs of building and running a sports facility.

Facilities Construction: When to Build and How

Planning, Consultation and Awareness-raising

Before even beginning to contemplate the actual shape or location of a sports facility, it is critical that we ask ourselves some fundamental questions. Is a facility needed? What kind will best serve all potential users? What will the long-term costs be (financial, social and environmental) and who will pay them? This is a critical juncture, for it is here that the savings can be most easily found, needs met, clashes averted and financial and ecological disasters avoided.

As important as asking the right questions, is asking the right people. The planning process must do more than ask easy questions of supportive experts. A meaningful planning process—one which is most likely to yield the most helpful information—is open and inclusive. That means posing questions whose answers are not predictable, to stakeholders whose interests do not necessarily coincide with those of the project initiator. It also means disclosing as much information as possible to the people who will be affected. Such an open process, perhaps

surprisingly, tends to elicit the most useful results. Though far more difficult to achieve, the truly inclusive process gets people working together to seek common ground and, ultimately, an end result which they all can live with. The additional up-front effort put into good planning and consultation will pay off, metaphorically and tangibly, many times over down the road.

Pre-Design Questions

- Is this facility needed? Consider the existing alternatives, the purpose to which it will be put both immediately and in the future, and other types of facilities which might be more appropriate.
- What will the true financial costs of the facility be and who will pay them? This requires an honest attempt to estimate not only likely cost over-runs, but maintenance and operational costs over the life of the building.
- What might the environmental and social costs be? A study should look at what the potential impact of the facility—both its construction and operation—will be on the local community, the local ecosystem and the regional and global environment.

Greener Financing for Technologies and Retrofits

In addition to subsidies from utilities, government grants are often available to assist major facility operators with installing or converting to energy-efficient equipment and systems and innovative technologies, especially if they are locally or domestically produced. All such grant and subsidy programmes should be explored. In addition, preferential rates can be negotiated on loans and mortgages with some financial institutions who recognize the long-term savings that will be achieved by a facility and therefore perceive their loan/mortgage as a lower risk.[1]

Assuming that a relatively unbiased summary of these and other questions and concerns has been prepared and made public—one which does more than dismiss the arguments of "non-boosters"—the planning process should culminate with a decision: to build or not to build?

The Building Decision: Renovate or Build? Temporary or Permanent?

When a "new" facility is thought to be required, the question to ask first is: can an existing facility be suitably renovated at a comparable cost? Though it often appears cheaper to build from scratch than to renovate, there are hidden costs which may not have been calculated. These may be tangible (land purchases, demolition expenses, dumping costs for demolition waste[2]) or intangible (dumping of non-renewable resources in the case of a demolition, appropriation of green space where a new site is selected,

[1] A good reference on financing energy efficiency initiatives is ICLEI's *Profiting from Energy Efficiency!: A Financing Handbook for Municipalities.* See Appendix C - Resources.

[2] The composition of a typical North American landfill is 30% construction waste.

energy and water consumed in the building process and pollution generated by building and transportation). The vast majority of renovations consume far less resources and therefore create less waste than building a new facility.

The renovate vs. build decision should take full account of lifetime costing and pay-back periods. Will the building last as long as forecast? How long will it be before significant new capital costs are incurred for repairs or upgrading? Can the building be easily adapted to changing fashions and demographic trends?

Where renovation is the option of choice, the environmental impact of the renovation process can be minimized. Workers should be fully protected from dust, asbestos, lead paints and other hazardous materials; nearby communities should be protected against unnecessary dust, noise and fumes; dangerous materials should be sent to appropriate disposal sites, not ordinary landfills; and any recyclable or reusable materials should be diverted from the waste stream. Where the decision is to build on the old site, similar steps should be taken: notably, a "greener" demolition should be requested, whereby contractors divert all reusable and recyclable materials. Copper, brass and other valuable metals and non-metals can often be sold to brokers. Part of the cost of demolition can be covered in this way. Reducing the amount sent to landfill will also save thousands of dollars in trucking and dumping fees.

The Trend Toward Multiple-Use Facilities

An aging but active baby-boom generation has joined with ever-changing fashions to place enormous stress on tight recreational budgets and heavily-used facilities. Many facilities built in the sixties and seventies have aged faster than anticipated as a result of heavy use and are unable to accommodate new demands. The ideal facility for the nineties and beyond is one which is designed to be adaptable to shifting demands. The most economically sensible direction for planners and architects to take is to design facilities which are appropriate for multiple use and able to weather the heavy demand. Coincidentally, a single, well-built, multi-use facility is far greener than several initially inexpensive, single-use ones.

If a new building is required, one option might be to use a temporary structure. This is a common choice faced by event organizers. A temporary structure might suffice for registration areas, change rooms, toilets, media centres, broadcast booths, spectator seating, ticket and refreshment kiosks. By leasing tents, awnings or pre-fabricated huts wherever use and climate permit, building costs can be slashed. With foresight, even purchased temporary structures can be sold or donated, intact or in part following an event. Furthermore, impact on the site can be minimized if a non-permanent building is used. The temporary media village for the Lillehammer Winter Games was erected on posts over agricultural land following the autumn harvest. By spring, those same fields were again being cultivated.

Smaller events have almost always been forced by low budgets to use rented, temporary structures. Many major events are "rediscovering" this option.

Three Cases of Facilities Choices

Victoria Commonwealth Games

For Victoria organizers, a tight budget meant making the best use of construction money. Most events were held in existing facilities, renovated where necessary. The use of tents for a variety of functions was aided by Victoria's moderate climate. Those new facilities that were built were designed with accessibility and multiple use in mind. The Juan de Fuca cycling track is designed to accommodate not only competitive and recreational cycling but rollerblading, skateboarding and, in the infield circumscribed by the track, various field sports.

Lillehammer Winter Games

Although Lillehammer constructed several permanent facilities that had been listed as temporary in their original bid, and several more which they had not planned to build at all, extensive use was made of temporary buildings for everything from athletes and media accommodation to broadcast booths and ticket kiosks. The majority of these had already been assigned post-Games destinations prior to the event. Pre-fabricated modular units were assembled to create larger structures at many sites. It was thus relatively easy to disassemble the modules and send them to other towns to be used as school classrooms and community centres. Collapsible A-frame kiosks were donated to the Red Cross as emergency shelters. In this way, Lillehammer was left with very little construction material to dispose of.

Albertville Winter Games

In contrast to Lillehammer, many of Albertville's temporary structures and permanent facilities are suffering from a lack of foresight. Just two years after the Games, several temporary structures, though disassembled, were lying in pieces on the ground. The press centre at La Lechere is one of several permanent structures not being used as planned. A number of offices and hotels, constructed in the flurry of pre-Games building activity, lie empty. Some hotels have gone bankrupt. The recession can be partially blamed, but the more probable culprit is inaccurate forecasting, over-zealous "economic development" plans and failed get-rich-quick schemes.

The decision to build a permanent site should never be taken lightly. Too many sports mega-projects went ahead based on overly optimistic scenarios prepared by consultants who knew what favourable recommendation was expected of them. All too frequently politics plays a deciding role. The belief that a shiny new facility will provide employment, economic development, boost tourism and "put the city/region/country on the map" tends to hamper rational decision making. Hence the frequent need for taxpayer's money to be used to prop up "white elephant" facilities like Montreal's Olympic Stadium.

Location is Everything

As any real estate agent knows, location is a critical determinant of business success. It is also an example of where economic and environmental sustainability coincide. The right location for a successful sports facility is often the greener choice as well. The best site for a stadium tends to be as close as possible to where potential users live. But as important as proximity is accessibility. Some of the most central locations are poorly

served by roads and public transportation, a recipe for traffic congestion. From the perspective of access, as we explored in the transportation chapter, the optimal site is one which is centrally placed within its community of users but is well served by a network of public and private transportation routes. At the same time, however, it should not disrupt regular traffic flow or disturb neighbouring communities; this is often as much a question of scheduling as it is location.

The recent tendency in North America has been to abandon downtown locations in favour of suburban or even rural ones, taking advantage of lower land prices and plenty of parking space. Because car access is so easy and so many people own cars, access by public transportation is rarely considered. This is a prime example of how full environmental costs are not factored into our economic system. Although there is an enormous long-term cost to turning farmland into a hockey arena and parking lot, that cost is not reflected in the price of a ticket for the spectator because it is not borne by the arena or franchise owner, but by the taxpayer at large, immediately or well into the future. In the case of ecological damage, the only measurable harm is done to the voteless flora and fauna. Harm to humans is so hard to quantify that it is generally dismissed.

Hockey Before Agriculture

The Ontario Municipal Board allowed the owners of the Ottawa Senators hockey team to build its Palladium on protected agricultural land, under enormous pressure from local politicians and business interests who used a combination of high-priced lawyers, community sports fever and optimistic employment scenarios to overpower a small agricultural protest group. Dwindling farmland has been lost and a sports facility will be built on a remote suburban/rural site, which users will get to primarily by car. It is not in walking or even cycling distance of the majority of the market. Furthermore, if the Palladium proves successful in attracting additional business development, as the owners hope, still more pressure will be placed on the adjoining farmland.

It is here that elected governments have a critical role to play. As supposed protectors of the public interest, including that of future generations, politicians should give as much weight to the interests of the electorate at large, and of their descendants, as they do to short-term business interests. But politics, like much of business, tends to place short-term results above all else. Temporary construction jobs for a thousand people rate higher than productive farmland, migrating waterfowl or greenhouse gas emissions. Though such an approach may appear economically rational, it is not sustainable. Potatoes won't grow on artificial turf, nor ducks breed in a parking lot.

Elected officials must ensure that the perceived needs of recreation do not override the prerequisite conditions for ecological survival. Setting strict policies to protect wildlife habitat, wetlands, sensitive ecosystems and viable farmland from development of any kind is essential. So is standing behind those policies when they are under siege by specific interest groups, from sport or elsewhere.

The most attractive sites for building new facilities tend to be on farmland, park land and in wilderness areas. The land is not only aesthetically appealing to users, it is also cheap.

Keeping Games out of Protected Spaces

The question of using parks for sports facility development has been an issue for a number of major games, such as Olympic proposals for Denver, Calgary, Nagano and Atlanta. In each case local opposition groups have succeeded in halting or limiting the use of protected wilderness. The fact that these battles have had to be fought, however, demonstrates just how fragile the concept of "protected" is in most parts of the world. Is something protected only until a "better" use is proposed for it? To reinforce the protected status of park land, the IOC and other governing bodies must refuse to consider bids which include facilities located in park land. Sydney has expressly stated that none of its facilities will encroach on significant natural or cultural environments.

Of course the objective of the sports facility developer is to develop, that is, to alter the land so as to meet the requirements of its proposed use. As ideal as it might seem to protect all such land from development of any sort, this is not currently a viable option. This being so, we can only hope that future sport development will go to whatever lengths are necessary to minimize environmental damage. Sustainable site development and facilities construction should be the new goal.

Park land and wilderness areas are endangered spaces and must be protected from further sports facilities development. Though a case can be made for allowing careful use of protected wilderness park land for sports purposes, further construction of facilities will only hasten the demise of these remaining global heritage sites. Existing facilities within park lands, such as Canada's Banff and Jasper National Parks, should be allowed to remain, but under one strict proviso: that no expansion or upgrading which increases the degree of impact be allowed; and that every attempt be made to reduce the environmental impact of existing facilities and services. So little wilderness has been preserved worldwide—especially in the relatively populated regions under greatest pressure—that any land designated as protected must be strictly off bounds for all recreational use save perhaps non-mechanized, temporary visits.

Environmental Impact Assessments and Audits

An effective tool for keeping facilities out of sites where they might cause significant harm, as well as ensuring that their design and operations have a minimal environmental impact, is the Environmental Impact Assessment. The EIA is a potentially valuable technique which has been much maligned of late, primarily because it has also been badly misused for political ends. The EIA is a process whereby all aspects of a plan to build, renovate or upgrade facilities, or run an activity, are assessed by a neutral body of experts. A resulting EIA report should attempt to determine the best- and worst-case scenarios for all aspects of a proposed project and for the project as a whole. The environmental costs and benefits of the project should be listed both in quantifiable and, wherever possible, non-quantifiable terms.

The Argument for a Balanced Approach to Wilderness Development

Canadian downhill skiing legend Ken Read—now a consultant to the ski industry—believes it is possible to have further development, even within protected wilderness preserves, given adequate guidelines and a clear and respected Environmental Impact Aseessment (EIA) process. Read argues that there will continue to be pressures on parks from potential users and that rather than implement an outright ban or moratorium, governing bodies, concerned citizens and the ski industry can work together to ensure a "balanced approach." Such an approach would include careful adherence to any legislation (such as Canada's National Parks Act) as well as the mandated successful completion of an EIA by any proposed new project. Read believes that the "footprint" of skiing is very real, but it can be contained and controlled. He feels that the ski industry, for its part, could set an example of sustainable tourism, and that operators within protected areas "should be encouraged to use their priviliged position to educate." According to Read, a large number of people globally have been introduced to the mountains through skiing, where they have learned to respect them more.

The EIA can be very useful in underlining the likely impact of a project on the local and global environment. The weakness of the EIA is that its results are frequently a mix of tangible and intangible costs and benefits. Unlike its purely economic cousin, the cost/benefit analysis, the EIA must be couched in softer language, often without any dollar figures attached. This makes it easy for anyone with a vested interest in seeing the project proceed to argue that the economic benefits (jobs, tourism, etc.) will outweigh the environmental harm.

This is changing, however. With more and more people recognizing that sustainability requires both a strong economy and a healthy environment, the EIA is taking on a growing importance in its own right. What the sports industry, like any other, must realize is that a negative environmental impact is still a loss to society, no matter how great the potential economic benefit. For an EIA which warns of drastic consequences to be overridden by economic arguments is not sustainable thinking.

Any project of consequence should be subject to an EIA. The size and nature of the project will determine the extent of the EIA. If it is to be more than a public relations exercise, the government or sports organization must decide beforehand that its recommendations will be respected. If the EIA warns of severe environmental harm, the project should be scrapped or a better alternative found. If potential consequences are identified but steps can be taken to prevent or alleviate them, a full commitment must be made to taking those steps.

It is rare for any major project to be launched these days without an EIA. To do so is to invite economic, ecological and public relations trouble. To do an EIA but ignore the results is equally risky. A number of infrastructure and sports facility projects for the Albertville Games either ignored the warnings of geologists or did too little to address the risks. The resulting landslides proved very expensive and embarrassing. Both Victoria and Lillehammer were more scrupulous in their use of the EIA and respect for its findings.

The environmental audit, though different from the EIA, performs a similar service by identifying areas for improvement and proposing steps to achieve the goals of sustainable sport. The management and performance audit were examined in Chapter Six. A specific audit of the potential environmental harm from the construction process and the eventual functioning facility should also be done before the work starts. In fact, three or more audits of this sort would be wise: a pre-construction audit, a mid-point audit to detect where changes might be made while it is still feasible and relatively cheap to do so, and a post-construction audit to determine how well goals have been met and if any further action is required. In Lillehammer, auditors kept a close watch on construction at the four main venues. They examined such concerns as energy consumption, cleaning and maintenance routines, indoor air quality, systems for harmful compounds, waste disposal plans and treatment of soil and vegetation.

Design, Equipment and Material Selection

In the design of any facility, there are many opportunities to pursue greater sustainability. A building can be designed to take advantage of sunlight, for natural lighting and passive solar heating. It can be partially buried or sheltered by a hill or trees to reduce heat loss or, in hot climates, to remain as cool as possible. Similarly, a facility's systems, machinery and construction materials are all important economic and environmental considerations. In many cases, the choice of the "greener" option will actually lower operating costs, even if initial capital construction costs are higher. Certain energy- or water-conservation devices or better insulation may begin to save money less than two years after construction. In other cases, the greener choice may never be as inexpensive as a traditional item/material. The benefit may lie in cleaner and healthier air or a reduced contribution to local environmental problems.

The types of equipment, fixtures and materials selected by any sports facility will be the biggest determinant of its environmental impact and its eventual operating costs. Categories to consider include: energy-conserving systems and devices, water conserving systems and fixtures, the composition, flexibility and durability of building materials, the ease of assembly and disassembly of components and the presence of harmful compounds in any of these materials.

Building materials have come a long way. Shortages of certain resources and rising prices have acted as a powerful incentive to innovation in the industry. Traditional wood framing products have been supplemented by ones using a fraction of the amount of wood and by completely different materials, such as recycled steel studs. Some of these cost less, are more durable or offer specific advantages. Others simply perform the same task using fewer materials and/or creating less waste.

Greener construction materials include those which use byproducts which would previously have been wasted, such as laminated woods and particle boards. Others have a high recycled content.

Steps for selecting building materials

- seek maximum recycled content;
- choose durable, easily reparable or interchangeable items;
- select materials which do not require hazardous or toxic products to apply or remove;
- choose products which will not need to be disposed of as hazardous waste.

Look for building materials which do not off-gas potentially noxious glues and solvents, particularly composite woods, carpets, paints and other finishing products. More healthful indoor conditions begin with better air. More and more products of this type are reaching the market as the risk of indoor chemical and biological pollutants becomes increasingly recognized and better understood.

Lillehammer's "Environmental MOM"

To promote green construction and operations, Lillehammer organizers developed a system called the "Environmental MOM" (Management, Operations and Maintenance)—a cradle-to-grave process covering every step from planning to construction, operations and future maintenance. Since the majority of building materials are not labeled for environmental impact, it was necessary to require builders to state that their materials were satisfactory in their production, installation and dismantling. A guide was provided to suppliers along with forms outlining a range of demands. Environmental specifications were an integral part of the bidding process for suppliers and contractors.

Tendering Criteria for Purchasing and Contractors

The most effective means to promote more sustainable building practices and the use of greener equipment and materials is to build appropriate criteria into tendering documents for contractors and suppliers. Bidders should be required to answer questions concerning the environmental profile of the materials and processes they will use, their cleaning and maintenance routines, their use and treatment of hazardous chemicals or compounds, and any plans they might have to reduce waste, noise, pollution or habitat damage. Their responses should be carefully considered as part of the bid evaluation process. The firms awarded contracts must then be reminded of their environmental commitments and held responsible for any failures. If necessary, fines should be imposed on contractors who fail to follow environmental guidelines. A fine of $10,000 was threatened for every tree disturbed at the Lillehammer bobsled/luge site—sufficiently daunting that no trees were damaged.

Aesthetic Concerns

Amidst all the worry about cost, technical performance and deadlines, the aesthetic side of facilities construction is often forgotten. Function tends to take precedence over form. Yet there are some aspects of modern society which few can find attractive: highways, neon signs, telephone poles and transformer stations. Most societies have grown to accept these as part of modern civilization. The same can be said for many of the "standard" accoutrements of sport: signs, advertising billboards, parking lots and disposable containers. It is interesting to note that Baron Pierre de Coubertin actually called for aesthetically appropriate Olympic facilities almost a century ago.

Keeping Lillehammer Beautiful

Clearly Norway is one country where appearance has a strong pride of place and the people are not so quick to accept all of sport's trappings. The determination of Lillehammer residents not to allow the Olympics to change the fundamentally modest and historic look of the town began with an attempt to spell out the aesthetic values they did not want altered. From this novel starting point the LOOC developed four main principles for facilities construction: Norwegian character; environmentally-friendly design and construction; unity and coherence; and work by leading Norwegian designers. From these, a number of Guidelines were also spelled out (see Appendix A case study for more detail).

Clean-up, Landscaping, Rehabilitation

Going beyond the purely aesthetic, a number of measures can be taken during and following construction to improve the cleanliness and ecological health of a site.

Steps to preserve the cleanliness of the site:

- Take all possible steps to avoid pollution and contamination.
- Carefully remove and dispose of construction materials and equipment.
- Clean up immediately any spills of compounds that are not benign and readily biodegradable.
- In the case of more severe spills where seepage may have contaminated soil, surface water or ground water, complete remediation is essential. Authorities must be immediately notified and no expense spared to limit the damage.

The final step is to return the appearance and composition of the grounds to as natural a state as possible. Any trees that were transplanted during construction should be replaced. Where trees and other flora may not have existed, consider a naturalization programme to recreate a healthier and more vibrant ecosystem. Only native species should be considered; others run the risk of creating unexpected problems.

Diverting Construction Waste and Materials

Construction waste, unused materials and those from dismantled buildings—as touched on early in this chapter—can often be diverted from landfill. Doing so saves money and extends the life of local landfills, to the benefit of local taxpayers and those areas that might have become new landfills.

Contractors should be encouraged to reduce waste in the building process. This can be achieved by making them contractually and financially responsible for separating reusable and recyclable materials and for finding markets or brokers. Many contractors are already working to limit waste in construction as part of good business management. Materials wasted are materials that were unnecessarily purchased and which cost money to dispose of. The brokering of reusable building materials is an up-and-coming industry in most countries.

Facilities Operation: Going Further with Less

An energy management program at Regina's Taylor Field, home of the Saskatchewan Roughriders, cut energy costs to the facility by $30,000 per year.

Saving Money by Saving Energy

The cost of energy is rising everywhere and will only continue to do so. This, combined with the fact that many of our principal environmental problems are energy-related is a powerful motivation for conservation. In addition to the Green Office measures outlined in Chapter Seven, a large number of cost-effective steps can be taken to reduce the energy consumption of any facility.

Most utility companies have initiated comprehensive energy conservation programmes. These are typically designed to encourage and assist customers by offering consulting services and incentives, such as rebates on the installation of more efficient technology. Sports organizations should take full advantage of this type of assistance. Both the Victoria Commonwealth Games and the Kamloops Canada Games worked with their provincial utility, BC Hydro, to implement the "Power Smart" energy conservation programme. This step saved them money on the purchase and installation of equipment and insulation and will save the facility operators hundreds of thousands of dollars over the lifetime of the buildings.

Heating, Ventilating and Cooling

To improve the efficiency of the heating, ventilation and air conditioning (HVAC) systems—which account for 60 percent of energy consumed in the average building—reduce air leakage. By tightening the "envelope" of the building, less heated/cooled air will escape and occupants will be more comfortable. In an extremely well-sealed building, however, maintaining the quality of indoor air is especially important. This will be dealt with in more detail below.

The envelope of a building is tightened by stopping air leakage and reducing conduction. To plug air loss, all joints between one surface or material and another should be examined for gaps and cracks. These include windows, doors, ventilation systems, foundations, joints between walls and openings for air conditioners, lights and electrical conduits. Gaps and cracks can be sealed with caulking, weather-stripping and other forms of insulation. Dilapidated doors and windows can be replaced with newer, airtight models—though more expensive, they will pay for themselves many times over. New construction should make full use of recent advances in airtight building methods and materials.

Conduction is the transfer of heat from one area to another through a separating material.

Steps to reduce conduction:

- better insulated doors and advanced windows;
- install high levels of insulation or upgrade existing levels in areas such as walls, ceilings/roofs and foundations;
- block off unused/unnecessary doors, windows and other openings;
- shade south-facing windows with awnings or shutters to reduce solar gain in summer;
- plant trees or install other windbreaks against prevailing winter winds;
- design buildings to maximize solar gain or protect against it, depending on the climate

A Decade of Savings in Etobicoke

Since 1983, the City of Etobicoke, Ontario has been designing and implementing comprehensive conservation programmes, resulting in reduced energy consumption and costs. "Etobicoke invested in the future and has realized the benefits of visionary thinking."[3] Steps taken at its pools, arenas and other recreational and non-recreational facilities cost over $2.5 million (with $500,000 covered by grants). The result has been a cost saving of over $5 million: a 35% reduction in energy consumption.[4]

The HVAC system transfers heat or cold throughout a building using air or water. Heat can be generated from almost any type of fuel, whereas cooling is typically achieved through the use of CFC coolants. HVAC systems can use less energy by reducing demand, improving efficiency or upgrading to alternative technologies.

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[3] David Jones, Supervisor of energy and building systems for Etobicoke Parks & Recreation Services, in a speech to the Federation of Canadian Municipalities, March 3, 1994.

[4] A detailed breakdown of the type of steps taken by the City of Etobicoke can be found in Chapter Twenty. A summary of the savings achieved is listed in Appendix B.

Computerized Energy Management

Calgary's Canada Olympic Park (COP) installed a $70,000 computerized energy management system in 1990 which paid for itself in the first year and has helped to lower annual electricity bills by almost 10%. Additional energy cutting measures have included sunshading on the bobsled and luge track, more efficient lighting and improved snow-making equipment.

A study by the Rocky Mountain Institute concluded that if the best electricity-saving innovations already on the market were installed in all U.S. buildings and equipment, three-fourths of the electricity now used would be saved, with an average pay-back period of slightly more than one year, and with equal or better services.[5]

Steps to reduce energy consumption:

- switch from electricity or oil to natural gas, a cleaner-burning, more efficient alternative;
- install automatic set-back thermostats and set them at optimum levels;
- encourage seasonal attire—most buildings are over-heated in winter and over-cooled in summer;
- shut down HVAC as fully as possible at night and over weekends and holidays;
- eliminate heating and cooling from unoccupied areas such as storage, where contents are not temperature sensitive;
- ensure that hot/cool air is properly circulated and eliminate cold/hot spots;
- install ceiling fans and consider portable fans as an alternative to air conditioning;
- discourage the use of electric space heaters;
- keep unnecessary lights and equipment shut down in summer to reduce heat.

Steps to improve the efficiency of the HVAC system:

- replace older systems (50–60 percent efficient) with a new (up to 90 percent) one—the pay-back period may be as little as three years;
- have the system inspected, cleaned and tuned up annually.

New technologies such as heat pumps and heat recovery systems provide good ventilation while minimizing the loss of energy to the outside. For new buildings or during renovations or HVAC upgrading, consider the installation of a heat pump, which uses outside air to heat or cool depending on the season. During extreme cold or heat, the heat pump will supplement the existing primary system. Heat exchangers can capture hot air (from boilers or other heat-generating machinery) which would normally be directly vented to the outside, and use it to pre-heat incoming air or the water supply.

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[5] IISD, *Business Strategies for Sustainable Development*, p. 21.

Lighting

More efficient lighting practices include a reduction in the use of lights, upgrading to energy-efficient alternatives and making better use of daylight. The keys to reducing the amount of lighting are to provide only as much light as necessary for the task and shut off lights entirely whenever and wherever practical.

Steps to improve lighting practices:

- reduce overlighting by lowering brightness to a level appropriate to the task;
- provide as little light as is practical and safe in storage and transit areas;
- install "intelligent" timers and sensors such as motion detectors and daylight sensors which turn lights off, on or up as needed;
- locate switches where employees/users can turn lights on and off on demand;
- install additional switches so that lights can be turned on only where required;
- remove all excessive bulbs, fixtures and ballasts.

Holding Down the Heating Costs at Hamar

At Hamar Hall (the Lillehammer Games speedskating venue), energy-saving measures included heat recycling from ventilation and from shower water, and a heat pump using surplus heat from the ice-making system. Organizers estimate that 2.5 million fewer kilowatt-hours are consumed annually, a savings of approximately $180,000.

Better Lighting = More Business

Merrimack College in Massachusetts installed a metal halide lighting energy management system in its ice arena and gymnasium at a cost of $19,871. The system saves $21,874 annually in reduced energy costs. The improved atmosphere led to increased bookings of the facilities from outside users, giving a total annual monetary benefit of over $41,000.

Advances in energy-efficient lighting alternatives give the sports facility a wide range of choices. Fluorescent and compact-fluorescent bulbs are becoming common in office settings. They and other technologies such as metal halide and high pressure sodium are considerably more energy-efficient than the mercury vapor systems common in most older facilities. As important as energy efficiency, however, is the effectiveness and quality of light. Fortunately, most newer technologies provide better as well as cheaper light. Look for "full-spectrum" or "broad-spectrum" lighting systems, which provide more balanced, natural lighting that is easier on the eyes of facilities users.

Steps to improve lighting systems:

- Carefully consider all lighting needs prior to specifying products for construction or upgrading.
- Choose energy-efficient fluorescent tubes with advanced ballasts where possible, and compact fluorescents if appropriate.
- Consider hiring a specialized lighting engineer for major systems such as arena, gymnasium and field flood-lighting—you will make back any money spent.

Some of the simplest steps to save lighting costs involve maximizing natural light:

- design facilities to make the maximum use of daylight and consider increasing south-facing windows when renovating;
- arrange workspaces to take advantage of daylight;
- use light-coloured paints and fabrics when decorating or renovating to enhance and reflect natural light;
- install curtains or blinds that can be easily opened/closed to reduce harsh glare or excessive heat from strong sunlight.

Hot Water Systems

The energy consumed to heat water can be reduced by using less hot water, turning down the temperature, shutting down the system during periods of non-use, improving the efficiency of the system, and insulating pipes and tanks.

Steps to cut hot water use:

- install low-flow showerheads and faucet aerators;
- promptly repair any leaks in the system;
- install automatic shut-off faucets in sinks and and showers;
- use timers to shut off water heaters and circulation pumps over weekends and holidays;
- turn down water temperatures to recommended settings for the specific purpose—41°C for showers and sinks, 71°C for laundry and 82°C for dishwashing.
- if your water is electrically heated, try to perform tasks during off-peak hours;
- insulate all pipes and hot water tanks;
- when installing new heaters, place them near the main area of use;
- where feasible (i.e. during renovations) consider replacing electrical heaters with more efficient gas-fired ones;
- consider installing heat pumps or recovery systems which pre-heat water;
- consider using passive solar systems to heat water.

Motors and Equipment

Sports facilities, especially larger ones and ones connected with cafeterias and/or hotels, often use motors and machines for everything from cooking, laundry, elevators/escalators and pool filtration to rink cooling systems. For many of these functions, equipment is now available which is cleaner, quieter and far more energy-efficient. When building or renovating, consider spending a little more money on more efficient equipment. The pay-back period is usually short and a more efficient system generates less heat and pollutes less, in addition to saving energy.

Steps to reduce energy consumption by equipment:

- install timers to stop or slow down motors when not in use;
- keep all equipment well-maintained and clean;
- replace inefficient and trouble-prone equipment with energy-efficient models;
- install the right equipment for the job—over- or under-sized motors are not efficient.

Water Conservation and Treatment

Water, like energy, is an increasingly scarce and expensive commodity whose use has enormous environmental repercussions. Unfortunately the prices most users pay for clean water do not come close to covering its real cost. Moves are afoot in a number of countries, however, to develop pricing mechanisms which transfer the real cost of water to the consumer. Since the price can only go up, the sports facility which has taken steps to reduce its water consumption may be only marginally affected.

Sustainable water use involves more than lower consumption, however. The way we handle the water that we do use, and the substances that we do or don't dump into it have a profound effect on not only the downstream quality of water, but also the price that we will someday be paying for it. "By reducing water consumption, you reduce your bills and the need for expanded treatment plants. By reducing the hazardous materials that go down the drain, you help reduce the cost of making it drinkable again—and our waterways liveable for every creature that relies on them."[6]

Large volumes of water are typically consumed by sports facilities for indoor pools, landscaping and turf maintenance. Artificial snowmaking is another major water consumer. Action that specific facilities such as these can take to save water will be suggested in Chapter Twenty. Below are some effective general steps.

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[6] The Harmony Foundation, *Workplace Guide: Practical Action for the Environment*, Ottawa, 1991, p. 72.

Indoor Water Use

The principal areas of indoor water consumption are washrooms, showers, the kitchen/cafeteria and laundry rooms.

Steps to improve water conservation:

- Instruct and remind washroom and shower users to shut off taps fully.
- Repair drips and leaks promptly.
- Instruct cleaning staff to check for and report leaking faucets and toilets.
- For automatic flushing systems, check that timing cycles are appropriate for the frequency of urinal use. Shut them down entirely after hours. Manual flushing is far less wasteful than automatic systems. Consider switching during renovations.
- Install low-flow aerators and automatic shut-off valves on taps.
- Install low-flow showerheads and pressure-activated taps—tests show that people not only take shorter showers but stop to soap before re-starting the shower.
- Retrofit toilets to reduce water consumption or install modern ultra-low-flow models.

Steps to take in the kitchen and laundry room:

- Check and maintain all plumbing systems and attachments.
- Adjust water usage to the size of dish or laundry load, if possible, or run machines only with a full load.
- Purchase dishwashers and washing machines that use less water and that allow you to select load sizes. Many newer machines are also quieter and more energy efficient.

In its Environmental Guidelines for the 2000 Games, Sydney states its commitment to conserving water. Measures will include water recycling, the capture and treatment of storm water and sewage effluent and designing landscape to decrease water requirements in parks, gardens and recreational areas, with an emphasis on climatically appropriate plants.

Outdoor Water Use

Facilities such as golf courses and playing fields spend heavily on keeping their turf healthy and green. In fact, we have come to equate turf health with greenness though the truth is often just the contrary. Watering during dry spells actually works against the health of the ecosystem as a whole by depleting water reserves elsewhere. Sports facilities can reduce demand for irrigation by helping encourage an evolution in the attitudes of users to the point where turf which is less than forest green is acceptable.

Killington Ski Resorts Go Green with Blue Water

A wastewater recycling system at Killington, Vermont, installed in 1987 saves the ski resort up to 30,000 gallons (90,000 litres) of water per day and nearly 3 million gallons per year. The innovative system reclaims water from various non-sewage uses, treats it and reuses is for flushing toilets and urinals. It is completely separate from the water used for drinking and in kitchens and wash basins, so there is no danger of contamination. As an added precaution, a harmless blue dye is added after treatment so that the water can never be confused with fresh supplies. Signs in each toilet stall ask "Why is this water blue?" and go on to explain to users how the novel system works. In this way public education is combined with an environmentally sustainable and economical practice.

Steps to reduce outdoor water consumption:

- Plant only native vegetation or species suited to the climate.
- Limit watering of turf and vegetation to newly planted sod or seeded areas and to playing surfaces which receive heavy use.
- Reduce demand for water through sound turf maintenance: mowing higher and less often during dry spells, aeration, top dressing and fertilizing with organic matter.
- Water only during the evening and overnight to reduce evaporation.
- Use trickle or soaker hoses rather than aerial sprinklers.
- Use brooms rather than water to sweep walkways and driveways.
- Collect and store rainwater for irrigation.
- Use mulch wherever possible to protect trees and shrubs, retain moisture and reduce soil temperature.
- For parking lots and roadways, use permeable asphalt or bricks to allow rainwater to return to the soil, streams and ground water.
- When designing buildings or renovations, consider ways to capture greywater (used water from sinks and showers) for re-use in irrigation.

Treatment of Discharged Water

Any water that has to be discharged must be properly treated to remove all hazardous materials. Not doing so is not only fouling the very water your community relies on, it may also lead to heavy fines or even criminal charges, depending on the seriousness of the offence.

- All employees should be trained not to use sinks, toilets or sewers for disposing of substances banned from drain disposal such as solvents, paints, toxic cleaners and automotive maintenance fluids. Reminder signs should be placed above sinks in all areas where people work with such materials.
- Hazardous materials should be safely stored and a standard procedure implemented for collection and removal to treatment facilities.
- All hazardous products used in a facility should be examined with a view to finding less hazardous alternatives (i.e. paints, cleaners, detergents).

Indoor Air Quality

The quality of the air at sports facilities is often overlooked, to the detriment of athletes, employees and even spectators. Three principal areas should be addressed in facilities operations: tobacco smoke, chemical contaminants and inadequate circulation and venting.

Smoking Rules Need Enforcing

Despite a no-smoking policy at the Lillehammer Games, journalists often found themselves working in "atrocious" conditions, according to Canadian reporter Mel Broitman. Policies were not strictly enforced in some common areas such as the press boxes and media centres, to the detriment of the non-smoking majority.

More and more athletic facilities have instituted outright bans on smoking, both inside and outside. The majority of others have restricted smoking to certain areas. Although a total ban on smoking in all indoor facilities and in the playing and viewing areas of outdoor stadiums should be the minimum standard, it may be necessary to allow smoking in certain designated spaces. These should be physically separate from all non-smoking areas and ventilated directly to the outside.

The benefits of a smoke-free environment are several: A higher quality of air for all; improved athletic performance through lower carboxyhemoglobin levels[7]; and lower air filtration and circulation costs for facilities operators.

Steps to improve air quality at sports facilities:

- Select building materials which "off-gas" as little as possible, including insulation, composite woods, glues, caulking, paints, solvents and non-natural carpets.
- When renovating and redecorating, arrange for glues and paints to be applied on weekends and ensure that ventilation is adequate.
- Avoid furniture and carpets which contain volatile organic compounds (VOCs) such as formaldehyde.
- If possible, avoid carpets entirely. Dust mites, molds and other substances which can trigger allergic reactions often make their homes in carpets.
- Ventilate new buildings for at least several weeks before occupancy.
- Add natural plants such as spider plants, philodendrons, potted mums and ivy, which help to reduce concentrations of many indoor air pollutants.
- Distribute a regular supply of fresh air to all areas of a facility.
- Locate intake pipes away from traffic and other possible pollutants.
- Consider heat exchangers which can improve ventilation while minimizing heat loss.

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[7] Exposure to carbon monoxide from tobacco smoke and car exhaust, among other sources, can significantly increase levels of carboxyhemoglobin in the blood, which in turn decreases the amount of oxygen that an athlete's blood can carry. See Haymes and Wells, pp. 99-115.

The development of better insulation and "sealed" buildings may have been tremendous for saving energy, but they can cause "sick building syndrome" if not matched by improvements in ventilation. Without adequate ventilation, air becomes stale and harmful compounds can be trapped inside.

Hazardous Materials

For those hazardous materials which are already on site or for which there are no alternatives, it is critical to comply strictly with all regulations and legislation governing the use and disposal of hazardous material. Contact your local regulatory agency for assistance.

The most sustainable approach to dealing with hazardous materials is to avoid them. Though this might not be entirely feasible, the safest and cheapest method by far is to seek non-hazardous alternatives to essential products and to look for others which can be eliminated from your facility. The range of less hazardous products is growing: look for alternative paints, stains, furniture stripper, glues, wood preservative, cleaning products, organic fertilizers, herbicides, pesticides and much more. Use your power as a buyer to insist on the least hazardous materials from your suppliers and write them into you purchasing specifications.

Steps for handling essential hazardous materials and maintenance products:

- Obtain and follow local health and safety regulations.
- Clearly label and safely store all unused, partly used or contaminated materials.
- Empty containers completely before disposing of them (i.e. paints, stains) or find a recycler for the contents.
- Arrange for hazardous materials to be transported safely to appropriate municipal hazardous waste depots.
- Do not use private hazardous waste disposal brokers without first carefully checking their credentials with local environmental officials.

Powering Remote Locations with Innovative Technology

Sports facilities are sometimes located in remote areas which are off the electricity grid and not served by natural gas lines. Alpine and cross-country ski lodges are a good example. Portable equipment such as timers and scoreboards also have power needs. The standard way of generating power is to run these facilities or equipment on diesel generators or propane. Of the two, propane is certainly the cleaner and quieter option. Better still, there may be an opportunity to use some innovative "renewable energy" technology such as solar electricity or wind energy. Manufacturers or dealers of these technologies may be interested in lending, leasing, donating or offering a discount on equipment/systems in exchange for publicity.

Responsible Facility Operation in a National Park

Cross-Country Ski Canada's training facility at Haig Glacier inside Banff National Park has gone to great lengths to limit its environmental impact. Forced by public concern and the limitations of operating within a park, the managers at the Haig Glacier centre have put to the test a number of innovative technologies and systems. The centre serves approximately 175 athletes per year. Groups of 10-20 at a time must hike the 18 km to the centre, whose location was selected so as to be as invisible as possible. The skiers train, eat and sleep at the centre. Following are some of the principal initiatives taken to limit environmental impact on the Glacier and park:

- Various toilet systems were tested which would not require transporting raw sewage by helicopter. On-site incinerating toilets are currently in use.
- Solar energy provides the bulk of electricity needs.
- A snow-grooming machine was switched to propane, which burns more cleanly. The sealed tanks eliminate fuel leaks.
- Water is hauled in by bucket from streams.
- A greywater filtration system (sand, chlorine and activated carbon) is used.
- Food leftovers and "black" water are incinerated.

For remote permanent installations, both photovoltaic solar panels and small wind turbines should be considered as sources of electricity. Although the actual wattage they are capable of producing is limited, it may be sufficient for the needs of the facility, especially if the demand is primarily on weekends—batteries can store energy during the week. For example, mountain-top timing equipment can charge in place when not in use.

Facilities can be sited and designed to make optimum use of sunlight both for passive solar heating and for lighting. Although a propane or diesel system may be needed to provide supplementary light or heat, the bulk of energy can be provided by the sun.

Geothermal energy may be an ideal solution for heating water and buildings in areas where it is feasible. Japanese hot spring spas use geothermally heated water for bathing, to pre-heat other water and to heat buildings. Carleton University in Ottawa, Ontario has cut $450,000 off its energy bills by installing a ground-water energy system which complements conventional heating and cooling service to nine buildings on campus.

Noise and Light Disturbances

Like aesthetics, noise and light disturbances receive relatively little attention, perhaps due to a lack of awareness. We tend not to think about the effects of noise and light pollution, perhaps because they are so localized. If we don't live right next to a noisy or floodlit facility we may never notice that a problem exists.

Psychological tests have shown that one of the greatest sources of stress in humans and other animals is noise. Sports facilities generate noise from a number of sources: loudspeakers, cheering crowds, amplified music, generators and traffic. The majority of noise problems can be reduced by taking a few simple (and mostly free) steps:

Steps to reduce noise:

- Think about the noise generated by your facility and consider it whenever planning events. Noise problems are often a question of timing. People are especially bothered by noise in the evenings and on rest days (Sundays, holidays or religious days). Noise curfews should be imposed.
- Facilities should be designed to contain noise. Baffles can be added after the fact to shelter the nearest communities.
- Limitations should be placed on loudspeaker systems and speakers should be placed and directed so as to be audible to those within the facility, not without. Placing more speakers in the right spots allows you to turn down the volume without affecting service. Decibel levels should be monitored to keep noise within the limits of local bylaws.
- Generator use should be limited as much as possible (see alternative technologies) and should be muffled.
- Good traffic flow systems and public transit will limit traffic noise.
- A "No Idling" policy should be applied and enforced for stationary vehicles, especially tour buses and trucks.

Lighting is equally a question of practice and technology.

Steps to limit light pollution:

- For new facilities and when upgrading or retrofitting, seek systems which are better directed toward the playing area. Light which falls outside this area is money wasted. Technical improvements have greatly reduced stray light.
- Place strict curfews on outdoor floodlighting. Develop a lighting policy in consultation with neighbours. Once the policy is determined, stick to it.

In their relations with neighbours, sports facilities often suffer from the "airport syndrome": People move into the neighbourhood knowing that the facility exists and benefit from lower land prices as a result. Once settled, however, they may begin to complain about the facility. While the facility operator can do little about human nature, he/she can listen to the concerns of neighbours and take steps to reduce noise and light pollution.

Equipment Maintenance

For better efficiency and to extend the life of any vehicle or piece of equipment, regular cleaning and maintenance is essential. Maintenance should also be done responsibly. This entails proper handling of all hazardous materials and the choice of less hazardous alternatives.

Steps for greener equipment maintenance:

- Carefully remove fluids and parts, store them safely and dispose of them appropriately (as above).
- Use re-refined motor oils and send used oil for re-refinement.
- Send vehicle batteries to a recycling company.
- For vehicles with air conditioning, ensure that these are carefully serviced, with no CFC coolants allowed to escape to the atmosphere.
- In summer, use water or non-toxic windshield cleaning fluid.
- In winter, refill windshield fluid at bulk dispensers.
- For washing vehicles, use biodegradable soap and limit water use.

Summary of Recommendations for Facilities Construction and Operation

1. Consider all possible alternatives before building a new facility, including renovation, retrofitting and temporary facilities.
2. Involve all stakeholders in the planning and consultations process.
3. Conduct an Environmental Impact Assessment and respect its findings.
4. Conduct pre-, mid-, and post-construction environmental audits.
5. Locate the facility to maximize economic and environmental advantages.
6. Never build new facilities in protected parkland; operate existing parkland facilities with utmost caution.
7. Develop environmental criteria for building-material selection.
8. Use environmental criteria when tendering for materials and services.
9. Use payback studies to determine which energy-saving and water conservation features to install.
10. Take steps to ensure good indoor air quality.
11. Consider renewable energy systems for facilities and equipment.
12. Consider aesthetic, noise and light pollution when building and operating a facility.
13. Divert construction materials for reuse or recycling.
14. Seek alternatives to any hazardous materials.
15. Carefully handle and dispose of all hazardous materials.
16. Treat all discharged water and rehabilitate polluted or altered landscapes.

14 Event and Facility Services

At almost any sporting event or facility some form of services are offered. They may be minimal (public toilets, snack bar) or comprehensive (accommodation, food, transportation, broadcast booths, office equipment, etc.). The range of these services will depend on the size and nature of the facility/event. Within all of these services lie opportunities to achieve sustainability and savings.[1]

Accommodation

It is generally only with a major event that accommodation services are provided. Participants tend to be lodged in hotels, school residences or, on rare occasions, a specially-constructed "athletes' village." In each of these cases, the opportunity for event organizers to exercise some control differs. An athletes' village can be constructed to meet organizers' demands; a university residence will typically allow and even welcome a certain degree of renovation or retrofitting; a hotel might consider only minor special requests.

When accommodation has been commissioned especially for an event, the organizer has a unique opportunity to build housing that meets as many as possible of the objectives for more sustainable facilities covered in Chapter Thirteen: passive solar design, energy and water conservation, aesthetics, natural light, healthy materials, etc.

With a rented residential building, organizers can request that a number of changes be made. Since these changes will generally be paid for by the event organizer, will remain in the building after the event and will almost always save the residence owner additional money down the road, the organizer can demand and will usually receive considerable latitude to renovate and retrofit. Changes might include: better-quality and more efficient lighting, installation of low-flow water

[1] This chapter will explore a range of typical services, touching on several issues already covered. Where this is the case, the reader will be referred to the appropriate chapter.

Holding onto your towel

At the athletes' and press villages in Lillehammer, people were encouraged to help themselves to a fresh towel from a central location as required but were informed that reusing towels would help to save resources. This technique helps to save energy, water and cleaning supplies, as well as reducing demand on the water treatment infrastructure.

fixtures, improved air circulation, upgrading of cafeteria facilities and remodelling—all of which can improve the sustainability of the facility.

With a commercial hotel/motel, organizers can request changes to various services, such as housekeeping, restaurants/cafeterias, and the types of amenities offered. Organizers who bring good business to a hotel will have a surprising amount of leverage, especially if their requests will ultimately benefit the hotel. They should use the opportunity to emphasize that they are trying to run a Green Games, and that any efforts on the part of the hotel to contribute to this goal will be both appreciated and publicly recognized.

The provider of accommodations should address these issues:

- *Purchasing.* Materials and supplies should meet green purchasing guidelines. Suppliers should be invited to join as partners in the Green Games effort by meeting criteria for environmentally-preferred products, including packaging. *(See Chapters Six and Ten)*
- *Energy efficiency.* All possible steps should be taken to reduce the amount of energy consumed by the facility and to encourage users to do the same. *(Chapters Seven and Thirteen)*
- *Water conservation.* Water consumption can be greatly cut by retrofitting and better conservation practices. *(Chapter Thirteen)*
- *Transportation.* Accommodation should be situated as close as possible to the sports venues in order to reduce transportation demands. Where good public transportation is not available or appropriate, bus shuttles should be provided. *(Chapter Twelve)*
- *Hazardous materials.* Staff, accommodation users and the environment will benefit from efforts to reduce or eliminate hazardous materials and products, especially in areas such as housecleaning chemicals, kitchen products, and transportation and equipment maintenance. *(Chapters Twelve and Thirteen)*
- *Waste reduction.* The amount of waste produced should be addressed by a waste reduction and management plan. Though the emphasis should be on reduction and reuse, facilities for recycling should always be provided. *(Chapter Eleven)*

An area of particular opportunity is the standard, but wasteful, practice of changing sheets, towels and amenities such as soap and shampoo on a daily basis. Many hotels are now rethinking their daily housekeeping routines to reduce waste and work and save money. Visitors who stay more than one night are asked to place a sign on their doorhandle indicating if a sheet and towel change is required. Bathroom amenities are in refillable rather than disposable containers.

Medical/First Aid Services

Most sports events are required to provide medical or at least emergency first aid services. While safety and hygiene must take precedence, they are not necessarily incompatible with being green. Medical supplies should be ordered in bulk packs, with as little individual wrapping as is necessary for hygiene. Other practices should be reviewed. In some regions, for example, it is law for an ambulance to be present at a sporting event above a certain size. That ambulance is legally obligated to be kept running at all times, as if the split second required to start the engine might make a difference between life and death. This absurd and anachronistic practice may date from a time when a crank was required to start the engine. Surely it is time to change this law before the idling ambulance actually creates more casualties than it saves lives.

Food Services

The single greatest source of solid waste at a sports event or facility is food-related: the mountains of disposable packaging, dinnerware and utensils, not to mention food itself produced by the snack bars, cafeterias and restaurants. The invention of disposable cups, plates and wrappers was a godsend for fast-food sellers and the events which share their profits. Thanks to the speed of service made possible by these throw-away containers, huge numbers of people could be served in a short period of time.

Sydney's Ecologically Sustainable Olympic Village

The Olympic Village for the 2000 Summer Games will have a number of features which collectively reduce the environmental impact of accommodations for participants. These include: passive solar design principles, solar-thermal power generation, water recycling and on-site waste treatment, energy- and water-efficient appliances and fixtures, and indigenous landscaping. Organizers are touting the village as "a major step towards building ecologically sustainable healthy cities."

But there's no free lunch—in most cases facilities operators are now required to pay the waste handling costs of the concessionaires who have been contracted to provide food services.

Clearly the fastest and cheapest solution is through reduction. By generating less disposable garbage, food service operations can save a lot of money in packaging never purchased, clean-up costs reduced and waste dis-

Rooms with a View and a Blue Box too

At the Skydome Hotel in Toronto, blue boxes (recycling bins) were placed in all suites, stadium-view rooms and skyboxes in 1990, accompanied by a letter from the General Manager encouraging guests to use them. The response to this trial was very positive and participation high: In 1991, total diverted waste included 12,120 beer bottles, 36,564 beer cans and 21,040 soft-drink cans from just 70 rooms and suites. The programme was expanded to include all rooms and suites in 1992.

posal fees slashed. Although the solutions will differ for each type of facility—restaurant, cafeteria or snack bar—they share the similar goal of finding appropriate, and not prohibitively expensive, ways of reducing, reusing and recycling.

The first step a facility/event can take is to make the concessionaire responsible for the amount of waste generated by having them share the expense of waste management. There is no quicker way to get a snack bar operator looking for solutions than to contractually oblige them to pay for their garbage. The first place they will look is to their own suppliers—soft drink companies, cup, utensil and condiment sellers, etc.—for assistance. In this way, the effect of raising the cost of generating waste can be to send an incentive right up the entire production process. Producers, wholesalers, retailers, marketers and facilities owners will benefit from working together to find solutions.

Key Waste Reduction Targets for Food Service Operators

- Eliminate the use of disposable items. For those items that cannot be eliminated entirely, use reusable, washable alternatives.
- Consider waxed paper instead of plates for fast food (hot dogs, etc.).
- Eliminate single-serving condiments. Items such as sugar, creamers, ketchup and salad dressing are more expensive to buy in this wasteful form of packaging. Serve them in jugs, bowls or bulk dispensers.
- Serve drinks in reusable cups/mugs. Work with suppliers and sponsors to develop and promote the use of a practical and durable cup or mug.
- Order food and supplies in bulk wherever possible.
- Follow green purchasing guidelines to work with suppliers to reduce packaging and develop environmentally-preferred products (Chapters Ten and Eleven).
- Refuse excess packaging on all supplies and produce.
- Serve sealed drinks in recyclable bottles or cans.
- Recycle tins, bottles, jars and paper products.
- Compost food waste.

What food is served in or on is important, but equally so is the type of food itself. Where does it come from? How was it grown? And what was it treated with? These are all relevant questions, though not traditionally ones that food-service operators have worried about. Certainly in the

Doing the Dishes

At the 1993 Kamloops Canada Games, all dishes and utensils except cups were non-disposable. An army of dishwashing volunteers was required to work in shifts, but tens of thousands of plates, bowls and utensils were diverted from the local landfill.

case of elite athletes eating at an athletes' village cafeteria, it seems ironic to be serving pesticide-laden produce to people who are obsessed with health and performance. Most athletes try to follow the strictest of diets at home but are forced to eat whatever is available when away. It seems paradoxical that extraordinary measures are taken to protect athletes from intentional food poisoning, while institutionalized poisoning of food through chemical treatment is entirely ignored.

Cafeterias and restaurants for athletes should work to serve organically-grown produce. By doing so they will improve not only the health of the consumer, but the health of the soil, air and water in farming communities. Organic food is inevitably more expensive because the consumer is paying the true cost of its production. By taking a firm stand in favour of organic food, you can make a strong statement in favour of healthier farming practices while at the same time bringing down prices by expanding demand.

Local produce should be favoured by the food-service operator. Food produced locally requires less energy to transport and generally stays fresher with less refrigeration and fewer preservatives.

Greener Kitchen Practices

- Purchase environmentally-preferred products and equipment.
- Eliminate energy waste by purchasing more efficient equipment and doing regular cleaning and maintenance.
- Review pre-heating practices and implement new schedules or automatic equipment to limit the amount of heat wasted.
- Load ovens and dishwashers to capacity to conserve energy.
- Review all cooking and cleaning practices to identify areas where heating, cooling and water demands can be reduced.
- Identify substitutes for hazardous cleaning chemicals.
- Carefully store and dispose of hazardous materials that may be essential
- Reduce water use through improved procedures and equipment.

Use of Volunteers

A critical link in operations services at any major event is the corps of volunteers. The extent to which volunteers are trained and motivated will generally dictate how well they perform and how smoothly they can provide services to participants and spectators. Volunteer training should include a clear explanation of the environmental goals and objectives of the organization,

the steps that will be taken to meet those goals and the ways in which volunteers can contribute, and should be as thorough as possible. As important as training, however, is seeking the input of volunteers on ways in which an event can be made more sustainable. Volunteers frequently have considerable experience in dealing with the issues that arise at an event and a strong knowledge of what works and what doesn't. By involving them in any Green Games effort, volunteers can serve as important "green ambassadors," promoting and facilitating the initiative.

Hints for Training, Motivating and Utilizing Volunteers

An attempt should be made to green all aspects of the volunteer corps:

- Training manuals should be limited to only the material that they are likely to need and read. Rather than provide all volunteers with a huge binder on all aspects of the event, several copies should be made available for consultation at a central location.
- Mailouts of training and background information can be consolidated where several people from a family are volunteering.
- Uniforms should be made from appropriate materials and issued to those who need them for ease of identification. Uniforms should not be excessive, nor should other "freebies," a typical way of rewarding volunteers, be too numerous.
- The real rewards for volunteers lies in good treatment, not in the number of free hats, t-shirts and key chains they get. Issuing a standard uniform to all workers (paid staff and volunteers) helps avoid resentment, in addition to saving money. Identification tags can be used to distinguish between people for reasons of access and security.
- Volunteers should be able to ride public transportation and/or shuttle vehicles during the event, with their identification tags serving as passes.

VIP Services

High-level officials, politicians and other dignitaries are accustomed to receiving special treatment at sports events. Organizers are accustomed to delivering it. The problem with VIP (very important person) treatment is that it is rarely questioned and can become excessive. VIPs are often treated to first-class travel, hotel accommodation and meals, private car transportation, hospitality suites and gifts from the event organizers or host organization. All of this can be a significant added expense for organizers.

There is no reason why dignitaries and officials, however lofty their title, should be excluded from the goals of making sport more sustainable; some, who could easily live without many of these customary trappings, might even welcome it. Of course there may be others who take

offence at any such notion. Organizers will have to use their best judgement in greening the VIPs. Three areas where progress might be most easily made are:

Transportation

All private vehicles for VIPs should follow the same guidelines as other cars in the fleet: fuel efficiency, maintenance, no idling, etc. In addition, it may be possible (except in cases of extreme security) to arrange for dignitaries to share vehicles, either by riding together or by drawing from a fleet, rather than assigning a separate car to each person.

Food services

The food service guidelines and kitchen practices outlined above should apply equally to the dining areas and catering service for VIPs. While disposable cutlery and crockery is less of an issue, waste may appear in another form: excess food. Efforts should be made to accurately estimate food demands and to collect and compost left-overs.

Gifts

It is standard practice for organizers, host organizations and governments to give gifts to visiting officials. These may range from the token to the outlandish. Organizers should make an effort to seek appropriate gifts which are likely to be used and which do not waste rare resources. They should also consider giving alternative gifts—that is, gifts which are a service or a gesture, rather than a material object. These might include planting a tree in the recipient's name or making a donation to a local sports group or a charity of the recipient's choice. These may be unusual gestures, but it is precisely this unusualness which could make alternative gift-giving a popular new approach.

Signs and Banners

A tremendous number of signs, banners, posters and other means of directing people and identifying places are used at events/facilities. In the case of events, these are typically used once and thrown away—an expensive and wasteful practice. Event organizers stand to realize significant savings by developing means to:

- reduce the number of signs required to achieve the desired effect;
- reuse these same signs at subsequent events, give them to other events who can make use of them, or find a recipient who can reuse the materials; and
- recycle those signs which cannot be reused.

Greener Signs and Banners

Various ways exist to *reduce* the number and size of signs: accurate forecasting of needs, not "blanketing" the same area with signs which are ultimately lost amid the clutter, and using better graphics and symbols to improve the function and visibility of signs without having to make them large or too numerous.

Signs, banners and posters can all be *reused* if produced in a generic format which does not contain information which will be obsolete by the time they are required again. Spaces can be left for adding information such as the date, names of sponsors, etc. Specific measures might include:

- banners to identify the start, finish, registration, and first aid sites which do not have the date and name of sponsors. This can be attached if need be by velcro, tape or other means.
- posters for a regular or annual event with a strong graphic image or logo, to which additional information can be attached each year.
- signs for guiding people which have movable arrows and word directions that can be stuck on and peeled off. Computer-generated graphics and directions can be printed onto material that can be stuck onto a standard backing.
- durable posts and backing material which can be used many times.
- brackets for holding signs and banners might be left in place on lamps or posts with the permission and cooperation of appropriate officials.

These are just some of the possible solutions that imaginative event organizers might come up with to deal with this solid waste problem. Ultimately, all materials which have outlived their usefulness will need to be disposed of. By ensuring that only *recyclable* materials have been used, it is a simple step to divert such signs and banners to the appropriate recycling facility.

Technology Services

Facilities and event organizers are regularly called upon to provide a range of technical support: computing equipment, electronic information systems, video and audio facilities, darkrooms and much more. In each of these cases, there are probably steps that can be taken to make these services more environmentally sustainable. Greener computing systems were discussed in Chapter Seven. Similarly, applying sustainable thinking to other technologies can help to reduce energy consumption, avoid hazardous materials and reduce, reuse and recycle. The darkroom, for example, is an area where a lot of work has gone into developing less harmful materials and to capturing and reusing chemicals so as to limit water pollution. This is just the tip of the iceberg. Organizers and facilities managers, in partnership with suppliers and users of these services, can surely go even further in greening technological services.

15 Ceremonies and Cultural Events: Make a Splash, not Trash

After Albertville's avant-garde bungee jumpers and Barcelona's explosive fireworks tribute to its moniker—"the city of fire"—Lillehammer would have been hard pressed to come up with something even more spectacular. What the people of Norway chose to do instead was return to their roots. The athletes and spectators who attended Lillehammer's opening and closing ceremonies, as well as television viewers around the world, were treated to a fresh and pure display of Norwegian music, dance, folk sports and storytelling, performed mostly by amateur volunteers. In doing so they made a far stronger impression than if they had opted for the now standard extravaganza route. What these ceremonies also did, if the media response is anything to go by, is show the world that simplicity and charm can match noise and size.

Perhaps it was the several decades of unabashed excess which preceded Lillehammer that made these ceremonies such a refreshing change. The Norwegians seemed to be delivering a message to the world: be genuine about who you are, have some fun, and the rest will follow. It will be interesting to observe what effect this has on upcoming Games. Will Atlanta and Nagano take a cue from Lillehammer, or return to high tech and hullabaloo?

Sports events tend to feature three types of ceremony apart from the principal sporting attraction: ceremonies to mark the opening and closing of an event; entertainment during breaks in the action, such as pre-game and half-time shows; and ceremonies for the purpose of presenting awards. Each of these should be reviewed with an eye to sustainability.

Opening and Closing Ceremonies

In sport, it is the start of an event which is most frequently celebrated, although some major events also hold a closing ceremony. At its very simplest, the ceremony might include the singing of an anthem, the raising of a flag and some ritual greetings or handshakes. At its most

Kamloops' Appropriate Ceremonies

The closing ceremonies for the 1993 Kamloops Canada Games are an example of what a less extravagant production can look like. With a smaller budget than larger international games, organizers were forced to work primarily with amateur volunteers and limited props. Making the utmost of the enthusiasm of the performers, athletes and spectators, these closing ceremonies featured country dancing and a colourful performance by some local indigenous communities. The energy in the air and the tears in many eyes were the best possible proof of the success of these "low-key" ceremonies—ceremonies that were appropriate to the occasion in every way, including financially and environmentally.

extravagant, there might be marching bands, parading athletes, choreographed spectacles of dance, fireworks and laser shows. These are the sorts of rituals that help to make an occasion memorable. Such ceremonies can be noisy and wasteful, but this does not have to be the case.

If steps are taken to control the volume of sound produced and the way in which it is directed, even the most music-filled ceremony need not become a disturbance. Good sound production can make use of the acoustics of a venue to ensure that all spectators receive a high quality of sound. Announcements should be kept to a minimum, emphasizing clarity and conveying information rather than trying to fill dead air time.

Fireworks are another common source of noise. Rare indeed is a ceremony these days without forewirks. If a sports event is to match the typical national-day display that most people see, it will have to spend a lot of money and create a lot of noise and smoke. If ceremonies organizers wish to get the best bang for their buck, they should limit their use of fireworks to several impressive volleys carefully incorporated into the programme. They should seek colour and light in place of noise.

Pollution is another potential byproduct of ceremonies, from the smoke produced by fireworks to the tens of thousands of "flash cards" which are given to spectators to hold up at a given moment. Efforts to reduce waste that is exclusive to ceremonies should focus on the materials that are needed to stage the production. These might include costumes, props, stages, sets and other single-use items. It is hard to stage a good performance without many of these, and there is no reason not to. What should be carefully reviewed, however, is the potential post-ceremony use to which many of these materials can be put. Will props and sets be sold or donated so that they can be reused? Will costumes be kept and worn by performers or donated to a theatrical company? Have efforts been made to use environmentally-preferred materials to make costumes, props and sets?

Most ceremonies are accompanied by souvenir programmes. Organizers should review the demand for this type of item. An accurate estimate of the true demand might save in printing costs and keep a lid on waste. The Green Printing Practices found in Chapter Seven cover the principal means of limiting waste and ensuring that environmentally-preferred materials are used.

Accompanying Entertainment

Though peripheral performances and various forms of side entertainment are nothing new to sports, these have been elevated to a new level in the "made-for-television" manner in which so many sports events are now staged. Professional and even college basketball and football games in the United States are rarely without warm-up events, marching bands, recorded music and assorted contests and gimmicks. There are plenty of fans who would happily do without all of this additional hype. What the modern marketers must ask themselves is, "Are we improving the game, or creating an entirely different entertainment experience which relies on non-stop bombardment of the senses?" This is not just an environmental issue, but it is very much a question of sustainability. By ratcheting up the quantity of entertainment that is being packed into a sports event, is not the quality of the sports experience—for athlete and spectator alike—suffering? With each new way to incorporate sound, light and other resource-consuming activities, is the event getting more sustainable or less so?

A Garage Door with No Garage

At a university cross-country skiing race in Ontario, the first-place finisher from Queen's University received a garage door with installation included as his grand prize. What the well-meaning donor—the owner of a garage door installation company—seemed to overlook was the fact that the average university athlete has little use for such a prize. As the winning athlete joked to his teammates: "Now all I need is a garage!"

Awards Ceremonies and Prizes

The awards ceremony tends to be a relatively simple affair. Where questions of sustainability and environment enter is in the award itself. The refusal of Canadian skiers to accept a trophy from a tobacco company raised the issue of appropriate sponsorship for sport. But while more and more people are questioning who is giving the money and prizes, not many have taken a good look at the prize itself.

There is little to be concerned about in the standard trophy, medal or cash prize. Where a product or usable item is given, however, the challenge is to ensure that these are appropriate to the recipient, the event and the commitment to sustainable sport. Larger prizes tend to come from, and are therefore determined by, the event sponsor or a donor. A common prize is a car. Though this can be expected where an automobile company is the donor, the fact is this is a resource-consuming and pollution-creating prize, which is not entirely consistent with the green message. Further, the vast majority of recipients at the level of event where cars are given as prizes will already have a car, or several. Donors, and event organizers, should consider alternative prizes that do not encourage excess consumption of this sort: perhaps a gift certificate on the purchase of their next vehicle.

Even awards and door prizes that consist of appropriate sports equipment can encourage waste. Recipients will often already have the same equipment/clothing or better, or quite simply not

want or need it. Again, offering gift certificates or the option of making a donation in the recipient's name to a charity of his/her choice would be less wasteful and more educative. Though it is difficult to say no to donated prizes, it is important for event organizers to emphasize to donors that they are seeking appropriate awards. A good way to do this would be to develop a list of criteria that all awards and prizes should meet. Awards cermonies can thus be effective in raising awareness of sustainability through sport.

Non-material prizes can serve an educative purpose. Donating money to charity is one example, as is making a donation to a scholarship fund or bursary. Funds for young, low-income athletes or for athletes wishing to pursue further education are particularly appropriate. A category which has yet to be developed involves donating money to environmental projects of the recipient's choice, planting trees in the recipient's name, or offering scholarships to athletes who wish to pursue studies in a subject related to sustainable sports. In each community and at every level, there are dozens of potentially appropriate "alternative" awards such as these waiting to be created. While helping to reduce unnecessary material consumption, this type of award can also be a powerful educator. The spectator who learns that money has been donated to an environmental organization or a sports-related charity in the name of their idol also learns that something deeper than material reward really does matter to the sports community.

Summary of Recommendations

- Limit noise, pollution and waste produced by ceremonies.
- Don't let the peripheral entertainment overwhelm the sports event.
- Work with sponsors to avoid inappropriate awards and prizes.
- Seek alternative, non-material awards and prizes which inform and educate.

16 The Legacy of the Games: Environmental, Social and Economic

Any major event leaves a legacy. That legacy can be financial, social and environmental. In each case, the legacy can be positive (some host communities witness a surge in local pride and community participation), negative (the Montreal Olympics burdened taxpayers with a monumental debt), or a combination of the two. To ensure that a sports event's legacy is as positive as possible, organizers must from the very outset include projections for the long term in their planning. Only then can they make more immediate decisions informed by the likely future repercussions.

The native American Mohawk spoke of planning for seven generations—that is, making current decisions according to what the result will be over a century from now. It is an extraordinary way of thinking, especially when contrasted with the common corporate practice of acting to maximize profit in the next fiscal quarter. It is hard to imagine that a society which thinks seven generations ahead would allow water to be polluted or agricultural land paved over. While the sports industry will have a tough time planning for the seventh generation—although the ancient Romans and Greeks built arenas which lasted that long—it could certainly benefit from devoting more attention to the long-term legacy of today's decisions.

More often than not, the environmental legacy of a sporting event is a negative one. Land is developed, resources consumed, pollution created and waste generated. This does not have to be the case. Previous chapters examined in some detail preventive measures events and facilities can take to minimize environmental harm. But what about actually *improving* the situation? Rather than limiting pollution—leaving things no worse than you found them—how about actually cleaning up? Can the sports community not leave things even better than it found them?

Steps to improve environmental conditions can be immediate or longer term. Action can be taken to protect participants at a particular event from immediate harm: clean-air measures can

be enforced, such as closing down heavily-polluting industry during the course of the event; water can be cleaned by halting dumping, and diverting shipping. But with all the effort required to limit pollution during the event, why not go one step further and use it as a catalyst for enacting longer-term measures? Why allow dirty business as usual the moment an event is over? There are many initiatives, both immediate and more enduring, which can be taken to improve environmental sustainability in the host community.

A Bike Path for the Earth Summit

Though most of those who attended the 1992 Earth Summit in Rio de Janeiro were riding air-conditioned buses and limousines, a recreational bike path was built along the city's principal beaches in time for, and as a result of, this global conference.

Ameliorating Air, Soil and Water Conditions

Various measures can be taken to improve air, soil and water quality during an event and after:

Air

- Encourage major air polluters, including public utilities, to take permanent steps to reduce their emissions prior to the event, either by changing or adjusting processes, so that fewer air pollutants are created in the first place or, at a minimum, installing end-of-the-pipe scrubber technology (the former will save them money; the latter will cost them).
- Encourage transportation fleet operators to take steps to reduce emissions, including conversion to cleaner fuels and switching to cleaner, more efficient vehicles.
- Ensure that all sports facilities are designed (or retrofitted) to minimize air pollution.
- Work with municipal officials to reduce traffic through increased public transportation and the creation of traffic-free zones in the vicinity of sports facilities.

Water

- Educate industries and individuals to reduce the quantity of pollutants disposed of in the municipal sewer system.
- Improve the capacity of local sewage treatment facilities (see "Infrastructure" below).
- Implement strict anti-pollution measures for all ships and water traffic.

Soil

- Remediate the soil on former industrial sites so that sports facilities can be safely built there, as opposed to developing pristine land.[1]
- Implement alternative turf management systems so as to eliminate the need for chemical pesticides, fertilizers and other turf additives.

Community "Clean-up" Activities

Organize a host community "clean-up" activity prior to an event, involving as many people as possible. Not only will streets, parks, riverbanks and water bodies be visibly less polluted, perhaps even more importantly, participants will acquire a greater pride in their surrounding environment. If a feeling of stewardship is encouraged within the community, some individuals will be inclined to ensure that things are kept clean. A similar activity following the event might serve to highlight the pollution created by the event or, better yet, to identify which greening measures undertaken by event organizers were most and least successful.[2]

Instilling New Practices through Education

A high-profile event offers both the publicity and often the resources to initiate educational programmes which will help to instill more sustainable practices and ways of thinking. Educational programmes and improved practices can be developed for many audiences, including:

- informing industry of ways they can cut pollution while saving money
- encouraging more efficient and cleaner use of transportation
- educating shippers and boaters on ways to reduce water pollution
- advising individual sports enthusiasts of ways they can protect themselves and do less environmental harm.

Using Resources and Influence to Bring About Needed Changes

A major sports event has the opportunity to use its influence and its significant resources to promote more sustainable practices in the community. If only a small portion of an event's advertising budget could be devoted to encouraging sustainability, or piggy-backing environmental messages on their regular promotions, it might go a long way to improving awareness. Messages and tips might be included in promotional material as well as on billboards, scoreboards and tickets.

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[1] Greenpeace Australia, in its work on the 2000 Olympic Village, has argued strongly in favour of restoring contaminated land rather than developing virgin land, using the Olympics as an opportunity for cleaning up.

[2] See Chapter Thirteen. Also, see Appendix A for details of Lillehammer's clean-up efforts.

Victoria's Sewage Woes

For many years, pressure has been building on the city of Victoria to build a sewage treatment facility. Currently Victoria sewage is piped directly into the ocean, a fairly common practice on the coast of British Columbia. With a portion of that sewage finding its way to the coastal communities of the state of Washington, there have been numerous demands from Americans as well as Canadians to halt this outdated practice. There have even been calls for a tourism boycott of the city. Victoria has argued that it does not have the hundreds of millions of dollars that it would take to build state-of-the-art sewage treatment infrastructure. A 1993 city referendum on the issue came out in favour of the *status quo*. In anticipation of the 1994 Commonwealth Games, it was publicly suggested that this would be the ideal occasion to build the long-needed facilities. Municipal, provincial and federal governments all balked at this idea, and Games organizers reacted with undertandable horror since it would cost more than their entire budget. An opportunity was clearly missed by all involved. Not that the Commonwealth Games should have been expected to fund the project; rather, the many levels of government could have seized the opportunity to get some favourable publicity for itself and for the Games by doing the right thing and constructing a cutting-edge system in time for the event. It might also have been an opportunity to appeal to both the public and private sectors to support a greener Games through sewage infrastructure investment.

Infrastructure Improvements

When a community is due to host a major event, local officials often use the opportunity to make significant improvements to municipal infrastructure: road improvements, highway construction, electrical and telephone system upgrading, etc. In fact, sometimes the cart is placed before the horse. Bids receive enthusiastic backing from certain political and business leaders who see the sports event as a useful way of directing public money to projects they hope to realize. While this has frequently led to abuse, through the misappropriation of taxpayers' money for projects of dubious public benefit (and of significant environmental harm), it is also possible to direct public money towards infrastructure projects of long-term benefit to both the public and the environment.

A flurry of road building has accompanied most Olympic Games. In order to meet the surge of demand on the transportation system, the infrastructure must somehow be expanded. Rather than directing money to roads, which will only encourage greater vehicular traffic, it is more eco-efficient to improve the public transportation network. Indeed, the Athens bid for the 1996 Olympics included the construction of a subway system. While a sports event can hardly be expected to cover the entire cost of such a massive project, it can make a valuable contribution, as much symbolic as financial, to needed improvement of infrastructure.

Urban renewal is often a theme of bids by large cities who hope to use a sports event to revive declining central cores by providing jobs, new facilities and new customers. Properly planned so as to avoid building "white elephants," there is no reason why sports money should not be spent in a way that benefits communities as well as sport. Great care

should be taken, however, to ensure that public money is not in fact lining the pockets of real estate developers and other private interests under the guise of economic development.

The single most urgent infrastructural need in urban centres worldwide is improved sewage treatment facilities. Cities that are home to several million people are often without adequate sewage systems, leading to severe health and environmental stress. As with transportation, sports events can play a large part in encouraging projects to improve sewage and water treatment infrastructure. Though they can only provide a fraction of required funding, they can exercise significant political leverage. Long-ignored projects of this sort can be moved to the top of the municipal agenda with the help of an event which shines the spotlight on them.

A recycling system is a form of infrastructure which not only contributes to sustainability, but is within the financial means of events and facilities, especially if they work in partnership with municipal officials, private waste management companies and recycling brokers. The City of Kamloops, which did not have a recycling programme, initiated a limited one in time for the 1993 Canada Games, and is now working to expand the system.

Mere philanthropy and good will are not enough to incite sports event promoters to spend money on better infrastructure. What may do it is a combination of pressures: the fact that the event will be placing considerable additional stress on existing infrastructure and the fact that public money which could have been spent on more urgent public needs is being directed towards sport. Diverting public money on this scale can only be justified when there is an identifiable return to the community from which it is taken.

Preserving and Enhancing Natural Spaces

The state of the planet's natural spaces have been steadily deteriorating throughout recorded history. Sports and recreational activities have done little to alter this course. But they have an opportunity and even an obligation to do so. The legacy of sport can be made a positive one through a dual commitment: first, to refrain from building any further facilities within wilderness areas and to refrain from activities that will add to the stress on the ecosystem, including all wildlife; second, to take positive steps where facilities already exist and events are currently held to actually restore the integrity of the ecosystem.

The first commitment is relatively straightforward. No further plans should be made that involve the use of undeveloped spaces. We cannot make any further demands on our limited parks and wilderness land without doing irreparable damage. Public officials charged with protecting these areas must similarly recognize that "shared use" or "multiple use" is a failed experiment. By trying to accommodate industry, recreation and wildlife within the same regions, compromises have to be made. Unfortunately, that means the land and its inhabitants have themselves been compromised.

Golf Courses as Biodiversity Sanctuaries

There is an exciting movement afoot in the world of golf course management. Some golf courses have chosen to claim a more positive role for themselves. Those courses which have literally razed the existing landscape and replanted to meet the fashions of modern golf are beyond help. They can never be maintained without constant artificial intervention. On the other hand, those—typically older—courses which have preserved a great deal of the original, indigenous habitat and which remain healthy without much intervention, can actually contribute to the preservation of wildlife and ecosystems. Many golf courses support rare and uncommon species and vegetation types. This is particularly the case in England and Scotland where a number of courses are several centuries old, predating modern, highly interventionist management techniques. In an article calling for conservation management on golf courses, M. Fordham argues that golf clubs—many of which are "largely unaware of the ecological significance of their courses"—have a responsibility to "institute management regimes that do not threaten or endanger their scientific importance."[3] Through careful "natural" management techniques, valuable types of land and aquatic habitat can be maintained. Fordham argues, however, that it is first necessary to convince golfers and course managers that "the preservation of wildlife and ecological balance should take priority over the search for the 'perfect' course." He concludes:

> "An awareness of this value is the first step towards adopting alternative management techniques that are sympathetic to the needs of wildlife whilst being entirely compatible with the game of golf. Golf course managers are the custodians of these valuable wildlife areas and the wider public expects responsible management from them to safeguard this natural heritage. If this creates a more attractive and interesting course at the same time—possibly for a lower financial outlay—then no-one is the loser."[4]

The second commitment is more complicated. Sports facilities which benefit from their natural setting—ski resorts, golf courses, etc.—must accept responsibly for not only preserving that setting, but restoring whatever damage has been done. Steps might include planting trees and other indigenous plants, measures to stabilize and rebuild threatened wildlife populations and efforts to prevent erosion by water and wind. Almost any outdoor facility has the opportunity to naturalize the terrain on which it is built. Any event should include a restoration programme in its planning. At Lillehammer, trees were carefully protected. To "compensate" for those few that were cut down, an Olympic reforestation programme was created, with schoolchildren planting trees throughout the country.

Instilling New Habits

The least tangible but perhaps most pervasive legacy that a Green Games can leave is a heightened awareness in the community of the value of a more sustainable approach to sport. This awareness will manifest itself in the new management approaches instilled in sports organizations and in the staff and volunteers who will disseminate what they have learned into other sectors and activities throughout the community. The high expectations raised during the games will remain

[3] M. Fordham, "Conservation Management on Golf Courses," *Journal of the Sports Turf Research Institute*, 1988, Vol. 64, pp. 10-11.

[4] ibid., p. 17.

In North America the Audubon Society of New York State is spearheading the "Audubon Cooperative Sanctuary Program" for golf courses, which aims to:

- Enhance wildlife habitats on existing and future golf courses by working with the manager and providing advice for ecologically-sound course management.
- Encourage active participation in conservation programs by golfers, golf course superintendents, golf officials and the general public.
- Recognize golf courses as important open spaces and credit the people actively participating in environmentally responsible projects.
- Educate the public and golfing community on the benefits of sustainable golf courses and the role they play relative to the environment and wildlife.

Golf courses and clubs are encouraged to join the program by registering and beginning the Certification Process, which involves the successful completion of criteria in seven "Achievement Categories":

- Environmental Planning
- Public Involvement
- Wildlife Cover Enhancement
- Wildlife Food Enhancement
- Integrated Pest Management
- Water Conservation
- Water Enhancement

The Audubon Society offers support to member courses in the form of educational material, seminars and presentations. As of July 1994, 1087 courses were registered and actively participating in the programme. Full certification, which can take up to two years to complete, had been achieved by 18 courses. Both the U.S. and Canadian golf associations are supporters of the programme.

in the public consciousness for a long time. The end of the event need not signal an end to the pursuit of sustainable communities. Quite the opposite: people may expect all organizations, events and facilities to mirror and even build on the successes of the games. A critical mass of people will have acquired the necessary skills and habits, learned to question conventional thinking and come to believe sustainability to be a goal worth pursuing.

Encouraging R&D in Technologies and Systems

Many of the environmental challenges faced by a sports event will call for innovative solutions. In some cases these will require new systems to be implemented and technologies developed. Though this may appear to be adding to costs, it is in fact providing a significant opportunity to those organizations or companies which develop solutions. With the experience provided by the games under its belt, a company can go on to market its innovations to other events, facilities and sectors. As the Norwegian Ministry of Environment noted, "You don't develop a new product to scrap it after 16 days. You use the 16 days of the Games to show it."[5]

A sports event which demands solutions to unusual environmental challenges can work with private-sector partners to research and develop appropriate systems and technolo-

[5] An unpublished Norwegian Ministry of the Environment report on Lillehammer, "How the XVII Olympic Winter Games Were Greened."

LOOC Green Buyer's Guide Goes Nationwide

To assist LOOC staff with their purchasing decisions, a "Green Office" buyer's guide to environmentally-preferred products was developed with the help of PEFO (Project Environment Friendly Olympics). PEFO pushed to have this guide adopted by all local governments. More than 120 municipalities had done so by the time of the Games. Olav Myrholt of PEFO explained how "we have ended up setting a new standard for the entire country."

Legacy to the University of Calgary of the 1988 Winter Olympics

- speedskating Olympic Oval on university campus
- student residences, paid for by the provincial government
- renovations of the student centre, dining centre and some residences
- one-third of Olympic Oval time available to the general public[6]

gies. In doing so, it can help local or domestic environmental industries to grow and mature (See Appendix A for examples of how the Lillehammer Games promoted Norwegian technology).

Environmental Monitoring Before, During and After the Event

Keeping a close tab on key indicators of environmental health makes it possible to judge precisely where and how the local environment is affected by a sporting event. With this information it is then possible to evaluate whatever measures were taken and suggest refinements or additional measures at future events.

Post-Event Use of Facilities

The importance of designing facilities with post-games use in mind cannot be emphasized enough. The event for which a facility was originally designed will last only a fraction of the life of the facility itself. Far too many facilities are built to meet the very short-term needs of an event like the Olympics. Many of these are inappropriate for the use to which they are put following the event. Montreal's Velodrome and Athletes' Village (see Chapter One) are a case in point.

The best way to ensure that facilities for a major event provide a positive legacy is by designing them for their after-games use, making temporary modifications to accommodate the needs of the major event, if necessary. Too often just the reverse is done. Excessively large or sophisticated facilities are built which go on to lose vast sums of money through operations and maintenance costs. Any facility that will not be economically viable over the next several decades should not be built. If it is essential that a host city provide a non-viable facility, it should be a temporary structure designed for easy dismantling and reuse of materials.

In the case of facilities like ski jumps and bobsled/luge runs, cities bidding to host the Winter Olympics do not have the choice of leaving these out. The globe is now littered with abandoned

[6] John Tewmon, *The University of Calgary and the XV Olympic Winter Games*, University of Calgary, 1993.

ENSIS in Lillehammer

An environmental surveillance and information system (ENSIS) was developed for Lillehammer to monitor the quality of air, drinking water and waste water. Using advanced Norwegian technologies and systems, ENSIS was designed to:

- establish a surveillance system for the Olympic region, which could also be used after the event;
- provide a fast and user-oriented information system for environmental data;
- develop a complete system that can be used as a planning tool and sold internationally.

Results compiled during and after the Olympics are available to the public, government, media, industries and educational institutions. The groups which developed ENSIS anticipate significant international sales of the system.

ski jumps and bobsled runs in those countries where these sports are not popular and were never economically viable. If the IOC wants to make a valuable contribution to sustainable sport by ensuring that no host cities are left with the negative legacy of a "white elephant" facility, they have two choices: either to remove those sports which are not popular enough to make facilities economically viable, or to allow and even encourage the construction of temporary facilities which can be dismantled after the Games.

Designing for post-event use entails a careful study of the needs of the region. Through proper community consultation, event organizers can ensure that those facilities which are built will be well used and profitable, so as to leave the region with a positive legacy, not environmental blight and economic debt.

17 Developing Environmental Bid Criteria: Greening the Selection Process

Some event organizers will go green willingly. Others may need prompting. The most appropriate and effective way to encourage host cities to green their games is for governing bodies to introduce environmental criteria by which to judge bids. Such Green Games Criteria will supplement, rather than supplant, traditional criteria for evaluating the quality of a bid. They would serve to encourage all bidders to take questions of sustainability very seriously. Impressing upon candidate cities the importance the decision-making body attaches to sustainable sport will serve as a powerful catalyst for transforming the definition of what a "good" bid looks like. Suddenly pollution abatement and waste reduction plans will take on the same importance as the grandeur of a stadium.

The use of Green Games criteria will have two beneficial effects: First, it will serve to dampen the tendency to lavishness and excess which seems to be generated whenever candidates are bidding against each other, ultimately impoverishing many bidders and driving others—particularly from poorer countries—out of the bidding. Second, by encouraging eco-efficient organizations, facilities and services, Green Games Criteria will ultimately save money for the successful bidder and eventual host and bring good publicity to their event.

There are two further potential benefits of greener evaluation criteria. The negative environmental impact of an event should be drastically reduced; it may in the future even become positive. For the body which chooses the winning bid, a genuine effort to establish and enforce Green Games Criteria will ultimately place the organization and its members in a positive light.

The use of Green Games Criteria to promote more sustainable sports events need not be limited to a selection process that involves competing candidates. Even where a host is selected without bidding, the governing body or sports association should encourage event organizers to address,

at a minimum, all of the principal issues laid out in the following criteria. Similarly, self-appointed event organizers should use these Green Games criteria as a guide.

Green Games Criteria Scorecard

The following scorecard is proposed as a tool by which governing bodies and games organizers can evaluate the degree to which an event is pursuing the goal of more sustainable sport. The criteria take the form of questions which bidders/hosts should answer in as detailed a manner as possible. The decision-making body can use the answers to develop a "sustainability ranking" for each candidate. An independent body with more environmental expertise could be engaged to assist with an evaluation of the scorecard responses. Governing bodies may also wish to solicit an independent evaluation of the candidates' Green Games efforts. The value of the scorecard and the criteria it contains is as much to impress upon candidates the importance of greening their games as it is to act as the basis for evaluation and decisions. You may wish to first define and then enforce your own set of "Green Games Criteria."

The role of the governing body does not end with the selection of the candidate with the most sustainable proposal. It is easy enough to make promises on paper; what counts is the

Green Games Scorecard

A. General

- Has an environmental policy been adopted by the organization?
- What objectives have been identified?
- What means of implementation will be used to achieve the above goals and objectives?
- Have any Codes of Conduct/Practice been developed?
- How will the organization be structured to ensure environmental responsibility at all levels?
- Have all stakeholders likely to be affected by the event, both within the community and without, been consulted during the planning process?
- What partnerships have been formed with external stakeholders?
- Has an Environmental Impact Assessment been done for any projects or the entire event?
- What, if any, environmental audits will be undertaken?

B. Human health

- What steps will be taken to protect the health of the competitors and all other participants, including spectators, officials and media from potential health risks?
- What will be done to reduce or eliminate threats to participants from environmental factors such as:
  - air pollution and smog?
  - exposure to dangerous ultraviolet rays?
  - impure drinking water?
  - polluted water at venues?
  - poor indoor air quality?
  - hazardous chemicals, building materials, etc.?
- What standards have been adopted for the above potential risks?

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C. Environmental protection and conservation measures

- What steps will be taken to conserve energy?
- Will the use of renewable energy sources be encouraged?
- What waste management strategies are planned?
- How will hazardous materials be avoided?
- How will hazardous waste be treated and disposed of?
- What steps will be taken to reduce the impact of the event on:
  - air quality?
  - water quality?
  - soil quality?

D. Protecting natural and cultural environments

- Will any existing natural spaces or wilderness be developed?
- Will events be held or facilities built/expanded in protected natural areas?
- Has an environmental impact assessment been completed for any such events/facilities?
- What steps are being taken to protect natural spaces, habitat or species?
- What restorative or rehabilitative measures will be taken?
- Will any habitat or species be harmed to such an extent that a complete remedy cannot and will not be provided?
- Will any significant cultural environments be affected?
- What steps are being taken to protect such cultural environments?

E. Facilities construction and management

- What new facilities will be built?
- What purpose will they serve following the event?
- Are they designed to meet the needs of both the event and post-event use:
  - in size?
  - in technological features?
  - in location?
- Can temporary facilities serve the needs of the event equally well?

F. Transportation

- What will the impact of the event be on transportation levels and infrastructure?
- How will any anticipated demand increases be addressed?
- Has public/mass transportation been encouraged and infrastructure improved?

G. Legacy

- What steps have been taken to ensure a positive legacy from the event:
  - economically?
  - socially?
  - environmentally?

follow-through. For this reason, the governing body will need to develop a mechanism for ensuring that the host city does its utmost to achieve the sustainability targets it has set for itself.

A host organization typically signs an agreement or contract with its governing body which specifies its contractual obligations. This document should include a series of commitments based upon the type of criteria outlined in the scorecard above. Regular reports should then be required to be submitted by the host organization, reviewing progress to date in meeting these commitments. The governing body may wish to include in the contract penalties which will be imposed for failure to meet these obligations. Penalties will probably take the form of fines, though the harshest penalty for a serious breach of its environmental commitments would be to withdraw the host city's right to stage the event. Each organization will have to determine the rigorousness of the contract and the appropriate severity of penalties. In doing so, it should keep in mind that the better a job it does of promoting sustainability, the better the events it oversees are likely to be in terms of economic efficiency and a positive environmental legacy.

It is incumbent on governing bodies that rules, regulations and bylaws which are deemed not to be essential to personal safety and security be reviewed and, where appropriate, modified. Are complete binders of information required to be sent to all participants, volunteers, officials, etc., even if they have not been requested? Must separate vehicles be provided for each official delegation or team? These are the types of regulations which may handcuff innovative organizers. Because most organizers will not question the guidelines they are given, it is up to those who set and enforce the rules to make them supportive of greener games.

The IOC Takes a Stand

The IOC, at its 1994 Centennial Olympic Congress, agreed that environmental responsibility must become a key tenet of the Olympic Movement. In its Final Document, the IOC included five important statements:

1. The necessity of respecting the environment must figure among the Fundamental Principles of the Olympic Charter.
2. The role of the Olympic Movement in respecting the environment must be reinforced, not only on the occasion of the Olympic Games or other major sports competitions, but also through continuing action; to this end, it is suggested that the IOC create an Environment Commission.
3. The Olympic Movement and organizations specializing in environmental matters should co-operate and contribute to the education of the sporting world and young people in such matters.
4. Sport must be organized in a manner which respects the environment and promotes the implementation of techniques and procedures conducive to sustainable development.
5. All aspects of the environmental impact of organizing the Olympic Games must be a constant concern of the Olympic Movement. Respect for the environment must be an important criterion in the choice of host cities of the Olympic Games.

18 Green Travel and Tourism Promotion

Sierra Summit Ski Resort Promotes Regional Awareness

The Sierra Summit, California ski resort has created a "Ski With The Ranger" programme that teaches children from ski schools about various aspects of wildlife management, forestry, ski area operations and skier-safety awareness. Using video, slide shows, practical demonstrations and group discussion led by Forest Service rangers, the ski patrol and members of the ski school, Sierra Summit has found that the programme not only yields economic benefits (it generates a significant amount of mid-week business), it contributes to natural resource conservation goals as well.

Like the sports and recreation industry, the travel and tourism sector has a fairly intimate relationship with the natural environment. The attractions provided by nature—be they climate, geography, flora or fauna—are frequently the principal appeal drawing tourists to many popular holiday destinations. Just as the sports industry will suffer from the degradation of these attractions, so too will travel and tourism. In many of the same ways, sports and tourism actually contribute to that degradation. There are already long lists of popular tourist destinations which have been hurt if not destroyed by their popularity and the failure of the industry to take preventive measures and control growth and overuse.

There are more than just similarities between the two industries; in some instances they are one and the same. Often a sports event or recreational facilities are part of the same "package" with travel and tourism. People come to a particular area to attend a sports event (like the Olympic Games), to use facilities that appeal to them (such as an alpine ski resort) or experience special outdoor recreation opportunities (like whitewater canoeing). What they are in fact engaging in is sport/recreation tourism. For all of these reasons, the sports/recreation and travel/tourism industries have a unique opportunity to collaborate, assisting one another in addressing the principal challenges of sustainable behaviour and working together to reap the benefits.

Benefits of Sustainable Travel and Tourism

The benefits that will accrue to the tourism industry from learning and promoting sustainable practices are similar to those realized by other industries, as noted in Chapter Six:

- improving eco-efficiency can bring financial savings;
- demonstrating industry responsibility will reduce the likelihood of government intervention through legislation or regulation; and
- the new ethic of sustainability can vastly improve employee morale and motivation, while also improving relations with outside stakeholder groups.

Benefits from greener travel/tourism which may be unique to the industry include:

- long-term preservation of the natural environment whose integrity may be a critical part of a region's appeal; and
- an added "draw" for tourists in the growing "eco-tourism" niche, who are looking for low-environmental-impact travel experiences.

The principal areas where the travel/tourism industry is being faced with increasing challenges, and which have much in common with sports/recreation, include:

- transportation
- accommodation (hotels, motels, campgrounds, etc.)
- facilities design and operation
- parks management, grounds management and landscaping
- commercial attractions

The World Travel and Tourism Environment Research Centre identified in a 1992 report several key areas where policies are required: environmental protection, energy conservation, waste reduction, recycling of waste, reduction of emissions, protection of employee and public health and safety, reduction of chemical usage, and education of staff.[1]

The Centre calls for the industry to implement comprehensive environmental improvement programmes such as:

- the use of Environmental Impact Assessments and audits to identify and address product and operational problems, with close attention being paid to new projects;
- seeking sustainable alternatives in the design, planning and construction of facilities, notably in accommodation;

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[1]The World Travel and Tourism Environment Research Centre, "World Travel & Tourism Environment Review," Oxford, 1992, p. 6.

- emphasizing the conservation of environmentally protected or threatened areas, habitat, species and scenic aesthetics, while aiming to enhance the landscape wherever possible;
- practising energy conservation, waste reduction and management, fresh water management, and control and reduction of air emissions;
- monitoring, controlling and reducing noise levels;
- controlling and replacing environmentally harmful products;
- considering environmental issues as being of primary importance to the development of destinations for travel and tourism; and
- respecting and safeguarding the interests of local populations, including their history, traditions, culture and future development.

This latter point is critical to the sustainability of tourism. The economic and cultural future of communities and, in some cases, entire ethnic groups can be and has been placed at risk by unsustainable forms of tourism. Travel and tourism must be recognized for what it is: the invasion of somebody else's home; sometimes by invitation, frequently not. Where that "invasion" alters the fundamental way of life in the destination community, tourism is ultimately changing that which the tourist has come to see. Sufficient alteration over a long enough period will bring the eventual decline in the attractiveness of the destination, hastening the self-induced demise of the industry.

The environmental repercussions of tourism have been most severely felt in areas of the world where local people lead a more basic way of life. In order to meet the demands of the tourist (or perhaps to capitalize on them), far more sophisticated facilities than are common to these areas must be constructed and infrastructure built to service them. The undesirable results can be several: scarce resources such as water diverted to serve tourism; land prices driven beyond the reach of native people by outside investors; food prices rising to the level which hotels and restaurants are willing to pay, but which locals cannot; local people being denied access to public resources which have been privatized, such as beaches; the creation and dumping of high levels of solid and sewage waste, which surpass the treatment and disposal capacity of local infrastructure; and the transformation of formerly self-sufficient local economies into ones that are excessively dependent on tourism. For tourism to become more sustainable, and in order for those in the industry to legitimately claim that they are promoting green tourism, all of these must be addressed.

The sports/recreation industry can work with local tourism authorities, resort and hotel owners to craft a more sustainable approach to tourism. If and when this is done industry members will be well placed to market and benefit from this new brand of Green Sports Tourism—tourism that will help to educate tourists, sports/recreation participants and local operators while encouraging new opportunities and a new approach in the tourism industry as a whole.

Oyer Pilots Green Tourism Initiative

Typical of almost every city's bid to host a major sports event, Lillehammer's candidacy received the strong backing of the local tourism industry. The Games were seen as a potential boost to economic growth and a stagnant tourism industry. Growing environmental awareness and concerns about uncontrolled development forced the tourist trade to take a close look at the broader implications of an anticipated boom.

In the small town of Oyer, the nearest town to the Hafjell alpine skiing venue, several tourism leaders decided to try and carve a niche for the town as a Green Tourism destination. The local tourism industry relies primarily on the beauty of the region, the slopes of Hafjell and several historical museums and theme parks. By launching a Green Tourism pilot project, Oyer hoped to increase its appeal to visitors.

Among the components of the project was the aesthetic improvement of Oyer's principal sites, attractions and facilities. All businesses which volunteered to participate in this initiative agreed to undergo an environmental audit, which would include recommendations for more eco-efficient management and practices in areas such as waste management, energy and water use and purchasing environmentally preferred products. Local authorities made a commitment to develop transportation systems which met the demands of the hotels while reducing the impact of traffic. Commercial attractions will aim to implement the principles of sustainability in their operations and future development. The Oyer project is encouraged and partly funded by the Ministry of Environment.

Initial work by local authorities included a "design guide" for the building industry which attracted nationwide attention. The guide provided guidance to local builders on how to design modern structures to conform with traditional styles.

The widespread media attention given to the environmental efforts of the Lillehammer Games is expected to be a valuable drawing card for tourism. Campaigns will be designed to appeal to those tourists seeking to discover the natural beauty of the region and to learn about the traditional lifestyle and customs.

To support and guide both the tourists and the local operators, travel authorities are developing training programmes, including a university-level degree at Norway's Academy of Sports for educating a new breed of professionals in natural and cultural interpretation. Such Green Tourism professionals would develop and lead activities which provide tourists with a sport/recreation/tourism experience which also educates them in the value of the natural environment, the importance of protecting it, and various means of doing so. Programme candidates might include municipal employees, travel industry workers, teaching professionals and agriculturalists. They would bring with them all of the traditions and knowledge of their trades, building on these skills to create new job opportunities. Green travel holidays might include: moose safaris, bird-watching, climbing, cave exploration, whitewater rafting, winter camping and learning traditional farm skills.

19 Greening Our Games at All Levels—A Working Guide

Events, facilities and organizations can all be greened to some degree, benefiting from their efforts financially and in other ways. For the sport administrator, event organizer, facilities manager, parks and recreation director and worker, or any other person interested in adopting a sustainable approach to sports activity, this chapter is intended to summarize and highlight those recommendations which may be relevant to their level or responsibilities. What should be the principal focus of the organizer of a major games, a minor games or a single sport championship? Where should a professional sports event or franchise focus its greening efforts? What steps are relevant to the local sports event or recreational activity? How can wilderness activity leaders or outdoor enthusiasts limit their environmental impact? These are all addressed under the appropriate sub-heading below.

The reader looking to use this book as an operational manual will find in this chapter a summary of the issues they should address and steps they can take, as well as a guide to locating this information in previous chapters. Those concerned with a specific type of facility should turn to Chapter Twenty, which provides an overview guide to greening the principal types of sports facilities. The Chart of Key Issues and Opportunities for the Operational Reader on pages 220 and 221 can be used as a quick reference list. More specific recommendations can be found in the sub-sections below.

Major Games

While every "major games" will differ according to size, location and funding, they share such common elements as: multiple sports; multiple facilities; large numbers of participants; accommodations in an "athletes' village" of some description; transportation requirements; media interest; and a duration of several days or weeks. Planning for a major event must begin

For the Operational Reader

To identify those issues and recommendations of concern to major games, read all of Section B of this book. The majority of those issues covered in Chapters Six through Twenty will be of value, either directly or as useful background.

Specific areas you should address:

- environmental management
- "Green Office" practices
- purchasing
- partnerships with stakeholders
- working with media
- sponsorship and donations
- material and waste management
- transportation
- facilities construction/operation
- accommodation
- food services
- event legacy
- green travel/tourism opportunities

at least several years in advance. For major games to achieve greater sustainability, it is critical that any Green Games initiative be comprehensive and adopted at the earliest possible stage.

Though Lillehammer will go down in history as the first attempt to green a major games, it must be remembered that the LOOC only embraced the idea of a "green profile" at a relatively late stage in the preparatory process and only after heavy prompting from other stakeholders. The first Olympic Games which has incorporated the goal of a sustainable event from the outset is Sydney. As a result, Sydney will be the first major games with the opportunity to embed the goals and objectives of a Green Games into all areas of the organization and all aspects of the event itself. Taking this early and comprehensive approach means Sydney can also realize benefits well beyond those achieved at Lillehammer.

The green major games will incorporate sustainable sports thinking and translate it into action. It will also use its Green Games profile to advantage both for publicity and as a means of leverage for getting stakeholders involved in a positive way. Once the objective of sustainable sport has been adopted by all governing bodies and federations and built into the host selection process, all major games will be greened.

Minor Games and Championships

From the point of view of improving sustainability, the differences between what we consider major games and minor games and between them and single-sport championships are remarkably few. Running a "minor" multi-sport event can be as complex as organizing a major event.

Where there are differences, they tend to fall into two areas: budgets are smaller and/or a narrower range of facilities is required. Both of these serve to restrict the amount of building that is done specifically for the event and the size of projects which can be undertaken by event organizers and local communities. Smaller sports events rarely have new sports facilities built or roads expanded for them. They also tend to house athletes in existing accommodations rather than in dedicated "athletes' villages."

Despite these differences, smaller events have many of the same operational needs as major games and face similar challenges. As a result, the list of areas where these minor events can improve their sustainability is almost as long as that for major games found above. Though minor events should follow a similar process and tackle any of these issues which may be applicable, they will likely have fewer resources with which to do so. They may therefore want to stress solutions which come with a lower up-front price tag or none at all. The cheapest way for a sports organization to benefit from sustainability, is to emphasize good environmental management and eco-efficiency.

For the Operational Reader

You can improve the sustainability of your minor games or championship by addressing the same comprehensive list of issues as should a major event (see above). You should nevertheless emphasize:

- good environmental management
- eco-efficient systems, processes and practices
- developing partnerships with stakeholders
- working closely with sponsors, donors and suppliers
- material and waste management
- renovating and retrofitting facilities with an eye to pay-back on investments
- promoting a positive legacy

Professional Sport

Professional sport tends to be characterized by a series of short events confined to one sport. Given their duration, it is remarkable how much of an impact one such event can have on the environment, let alone a series or entire season of such events. The impact of a professional sports event tends to be confined mostly to the facility in which it is held or its near vicinity. It is therefore at this facility and on its grounds and neighbouring streets that the professional sports organization, its governing body and the facilities operator should be looking to implement solutions.

Both the professional sports organization or franchise and its governing body must first recognize their connection to the community which supports them. A team which relies almost entirely on community support must nurture that relationship and acknowledge its responsibilities to its supporters. Those supporters include both the active "fan" and the taxpayer who allows municipal facilities and even funds to be used by the team. Where the professional organization contributes to smog, traffic congestion, solid waste, noise, energy demands, sewage volume, etc., it has a responsibility to contribute to solving these same problems.

By building sustainable thinking into its operations, the professional sports organization can take advantage of both the short- and long-term savings available. Unlike one-time events, most

Chart of Key Issues and Opportunities for the Operational Reader

Issue	Level of Event or Type of Activity				
	Major Games	Minor Games	Professional Sport	Community and Local Events	Recreational Programmess
• environmental management·	√	√	√	√	√
- define policies, goals & objectives·	√	√	√	√	√
- consultation process & stakeholder involvement·	√	√	√	√	√
- training & education of staff & volunteers·	√	√	√	√	√
• "Green Office" practices·	√	√	√	√	√
• purchasing: establishing criteria & partnerships·	√	√	√	√	√
• printing·	√	√	√	√	√
• marketing·	√	√	√	√	
• merchandising·	√	√	√	√	
• promotion & public relations·	√	√	√	√	√
• partnerships with stakeholders·	√	√	√	√	√
• working with media·	√	√	√		√
• sponsorship & donations·	√	√	√	√	
• material & waste management·	√	√	√	√	√
• transportation·	√	√	√	√	√
• facilities construction & operation·	√	√	√		√
- renovating, retrofitting & building·	√	√	√	√	√
- environmental impact assessments & audits·	√	√	√		√
- building design, equipment & materials·	√	√	√		√
- tendering for supplies & services·	√	√	√		√
- aesthetic concerns·	√	√	√	√	√
- clean-up, landscaping & rehabilitation·	√	√	√		√
- energy & water conservation·	√	√	√	√	√
- water quality·	√	√	√	√	√
- indoor air quality·	√	√	√	√	√
- hazardous materials use, storage & disposal·	√	√	√	√	√
- renewable energy systems·	√	√	√		√
- noise & light disturbance·	√	√	√	√	√
- equipment maintenance·	√	√	√		√
• accommodation·	√	√			
• medical services·	√	√	√	√	√
• food services·	√	√	√	√	
• volunteer services·	√	√		√	
• VIP services·	√	√	√		
• signs & banners·	√	√	√	√	√
• technology services·	√	√	√		
• ceremonies & entertainment·	√	√	√	√	
• gifts and prizes·	√	√	√	√	
• event legacy·	√	√			
- air, soil & water conditions·	√	√			
- community clean-up·	√	√		√	
- instilling new practices·	√	√			
- infrastructure improvement·	√	√			
- preserving natural spaces·	√	√			
- encouraging research & development·	√	√			
- after-use of facilities·	√	√			
• green travel/tourism opportunities & partnerships·	√	√	√	√	
• erosion of trails, campsites, shorelines, fragile terrain·	√	√			
• damage to vegetation through over-use·					
• use of non-biodegradable substances·					

Chart of Key Issues and Opportunities for the Operational Reader

Issue	Level of Event or Type of Activity			
	Outdoor and Wilderness Activity	Phys Ed and Outdoor Ed in schools	Sponsors, Donors & Suppliers	Manufacturers
• environmental management·	√		√	√
- define policies, goals & objectives·	√	√	√	√
- consultation process & stakeholder involvement·	√		√	√
- training & education of staff & volunteers·	√		√	√
• "Green Office" practices·		√	√	√
• purchasing: establishing criteria & partnerships·			√	√
• printing·			√	√
• marketing·			√	√
• merchandising·			√	√
• promotion & public relations·			√	√
• partnerships with stakeholders·			√	√
• working with media·			√	
• sponsorship & donations·			√	
• material & waste management·	√	√	√	√
• transportation·	√	√	√	√
• facilities construction & operation·	√		√	√
- renovating, retrofitting & building·			√	√
- environmental impact assessments & audits·	√			√
- building design, equipment & materials·	√		√	√
- tendering for supplies & services·			√	√
- aesthetic concerns·	√		√	√
- clean-up, landscaping & rehabilitation·	√			√
- energy & water conservation·	√		√	√
- water quality·	√		√	√
- indoor air quality·			√	√
- hazardous materials use, storage & disposal·	√		√	√
- renewable energy systems·	√		√	√
- noise & light disturbance·	√			√
- equipment maintenance·	√		√	√
• accommodation·	√	√	√	
• medical services·				√
• food services·	√	√	√	
• volunteer services·				
• VIP services·				
• signs & banners·				
• technology services·			√	
• ceremonies & entertainment·				
• gifts and prizes·			√	√
• event legacy·				
- air, soil & water conditions·			√	
- community clean-up·		√	√	
- instilling new practices·		√	√	
- infrastructure improvement·			√	
- preserving natural spaces·			√	
- encouraging research & development·		√	√	
- after-use of facilities·				
• green travel/tourism opportunities & partnerships·	√	√	√	
• erosion of trails, campsites, shorelines, fragile terrain·	√	√		
• damage to vegetation through over-use·	√	√		
• use of non-biodegradable substances·	√	√		

sports teams and facilities will be around long enough to benefit directly from the savings that eventually accrue from their investments in greener systems and technologies.

Given the high profile enjoyed and encouraged by professional sport over a prolonged period, an opportunistic organization committed to sustainability can legitimately develop a positive image for itself. Companies that are seen as caring and committed to their community, not to mention the planet, will enjoy a big leg up in the sports marketing game. That reputation can be enhanced even further by work with the community on joint initiatives and education campaigns and by supporting local groups in their environmental work.

For the Operational Reader

Your professional sports organization or facility should consider the issues in Table 1, with a special emphasis on:

- environmental management (as above)
- "Green Office" practices
- purchasing: establishing criteria and partnerships with suppliers
- partnerships with stakeholders, especially concerned community groups
- partnerships with sponsors
- material and waste management
  - reducing the vast quantities of waste generated by spectators
- food services
- ceremonies and entertainment
- transportation
  - improving accessibility by public transit
  - reducing traffic congestion, pollution and noise
  - discouraging private vehicle dependence
- facilities construction and operation
  - building design, equipment and materials
  - tendering for supplies and services
  - energy and water conservation
  - indoor air quality

Community and Local Events

Events organized by or for smaller communities and local residents range from the very small and low-budget to the large and well-funded. What these events tend to have in common with one another is a relatively "low-frills" approach: facilities and services tend to be modest; out-of-town athletes and other participants are either billeted or expected to pay for their own accommodation; and volunteers do most, if not all, of the work.

Considering these constraints, two things are surprising: the amount of waste and inefficiency—and hence the potential opportunities—that can exist; and the wide range of issues that the green-minded organizer must somehow tackle. The local event must focus its efforts on reducing, limiting costs to the bare essentials. Waste generally denotes inefficiency which can be

Case Study: Greener Community Events

The Jones family of Ottawa has spent more than a decade organizing community events of all sizes. They have been closely involved in everything from speedskating and running races to bicycle charity fund-raisers. Their principal claim to fame is a winter triathlon (speedskating, cross-country skiing and running) which has been held on and around the Rideau Canal for more than a decade. Though the triathlon has attracted up to 500 participants, from as far away as Europe, it remains a relatively low-budget, no-frills affair. The entry fee is low, facilities are minimal and it runs entirely on volunteer labour. Despite all of these apparent constraints and the vagaries of Ottawa's February weather, the triathlon is renowned for being efficiently run and enjoyable for participants at every level.

Though the winter triathlon never consciously set out to be a "green" event, according to Glenda Jones, it has for practical and financial reasons implemented many approaches and practices which reduced its environmental impact. Jones is matter of fact about their approach: "If we don't protect the environment, we can't hold the event." The triathlon is held primarily on public parkland where rules regarding litter, damage to natural habitat and the disturbance of wildlife all apply.

Steps taken for environmental and economic reasons, as well as to protect the health of the participants, include:

- mapping out courses to avoid sensitive spots (the course was once moved to avoid a fox den);
- conducting a thorough clean-up after the event;
- keeping the size of the participants' race kit small
- using recycled paper
- trying to limit the number of faxes (non-recyclable paper)
- advising out-of-town competitors to use a toll-free number for hotel/tourism information in place of mailing large packages of brochures
- arranging start times to avoid bus fumes along the running course
- banning the idling of vehicles
- forbidding smoking at the start/finish line
- seeking "appropriate" sponsors "who understand the needs of the athlete" (tobacco, alcohol and fast-food companies are excluded)
- purchasing Canadian products (less transportation), in bulk (less packaging)
- doing without an "unnecessary" start/finish banner
- producing signs made from vinyl letters on reusable corrugated plastic backing
- handing out small medals and "useful" gifts and prizes (sports apparel and equipment)
- producing t-shirts for racers the night before to assure the right number.

ill afforded, especially in these times of scarce sponsors and donors. This does not mean a dull event. The focus should be on helping participants and spectators to make the most of their experience, without expecting unnecessary services, handouts and entertainment which detract from enjoyment of the main event.

For the Operational Reader

Consider the following issues and steps for your community event

- environmental management
- "Green Office" practices
- purchasing
- printing
- promotion and public relations
- partnerships with community groups to raise awareness and educate
- partnerships with sponsors
- facilities operation
- signs and banners
- food services
- material and waste management
  - reducing waste generated by packaging
  - litter clean-up
- transportation
  - accessibility by public transport
  - reducing traffic congestion, pollution and noise
  - discouraging private vehicles
- gifts and prizes
- green travel and tourism opportunities and partnerships

Recreational Programmes

The greatest number of practitioners of active sport are found not at the elite level, but at the recreational level, whether in organized recreational programmes or simply as users of recreational facilities. It is therefore incumbent that any sustainable sport campaign target these people, the sporting majority.

Recreational programmes and facilities have been hard hit by cutbacks in funding by local governments. After several decades of strong development of both programmes and facilities, the public has come to expect high standards and availability of both. The challenge faced by parks and recreation officials is how to continue to provide the same calibre of service but at a lower cost. Sustainable sport comes to the rescue. Many steps can be implemented to allow programme organizers and facilities managers to provide the same or even better quality of service and reduce their costs in the process.

In certain cases, these changes will be to systems, practices and technologies, subtle changes that the majority of users may not even notice. Changes in parks and turf management, the installation of water- and energy-conserving technologies, better waste management strategies

and the replacement of hazardous materials with more benign ones are all steps that can save money while improving the quality and safety of the recreational experience for users as well as staff.

In other cases, changes will be noticeable and will depend on the cooperation of users, and on their willingness to embrace more sustainable sports practices. These might include: discouraging private vehicle use by limiting parking and banning idling; encouraging the use of public and active means of transport; naturalizing playing fields and parklands; and conserving water.

Though recreation takes diverse forms, some common routes to greater sustainability do exist:

(i) Build only "appropriate" infrastructure. If twenty softball diamonds are needed for one summer holiday weekend but only ten are used the rest of the year, build ten and locate temporary substitutes in neighbouring communities or on other fields. Most people will have just as much fun at a basic facility as they will at one with all the latest frills.

(ii) Make facilities as flexible, durable and energy-efficient as possible. They should be able to serve more than one type of user and be easily adapted to meet changing needs and fashions over the years. By designing to delay major renovations, facilities will be far more economically viable. Maintenance and operating costs can be kept to a minimum.

(iii) Design programmes to minimize the need for expensive or harmful facilities or services. Green thinking should be incorporated into all activities so as to reduce their impact and in order to inform and educate participants about the importance of sustainable sport.

(iv) Encourage users to get actively involved in greening their games. The concepts of Active Living and Healthy Communities[1] should be promoted, emphasizing the ideas that by living actively you can reduce your impact on the environment and improve your own health and that of your community at the same time.

For the Operational Reader

Parks and Recreation administrators, programme planners and facilities operators should address the following issues:

- environmental management
- "Green Office" practices
- purchasing
- printing
- promotion and public relations
- partnerships with stakeholders
- material and waste management
- transportation
- facilities construction and operation (as in Table 1)
- food services
- signs and banners

[1] The Active Living programme and Canadian Healthy Communities Project are supported by a variety of Canadian government agenices and non-governmental groups. For more information, contact the addresses listed in Appendix D.

For the Operational Reader

If you run facilities or activities in wilderness areas or profit from their use by others, you should examine closely the issues listed in the major games section and Table 1 above, particularly those under facilities construction and operation. Critical issues include:

- environmental management
- partnerships with stakeholders, including environment/parks groups
- material and waste management
- transportation
- facilities construction and operation
- accommodation
- food services
- green travel and tourism opportunities and partnerships

Recreational users of wilderness areas should address such concerns as:

- contamination of water and soil
- erosion of trails, campsites, riverbanks, lake shores and fragile terrain
- damage to vegetation including trampling and cutting for firewood
- harassment of wildlife and other users with noise or other disturbances
- use of non-biodegradable substances such as soaps and shampoos
- littering of campsites, trails and waterways

Outdoor and Wilderness Activities

> Let no one say
> and say it to your shame
> that all was beauty here
> until you came.
>
> *—a sign at the entrance to Tanzania's Manyara National Park*

Shrinking protected wilderness areas, growing populations and the rising popularity of wilderness excursions have put our parks in danger of being loved to death. Though solutions to the broader and more immediate threats of resource extraction and inadequate protection from development pressures are beyond the scope of this book, what will be addressed are ways the sports industry and those who enjoy or profit from wilderness excursions can play a role in preserving endangered natural spaces.

That unspoiled nature has both an intrinsic value and a right to exist seems to have been accepted by a surprisingly small percentage of the general population. Even a large number of regular parks and wilderness users seem to have trouble with the idea that these are not solely commodities for their enjoyment. Is Mount Everest no more than a climbing challenge, to be littered with discarded gear by departing "users"? Should canoeists on the wilderness rivers of the Northwest Territories assume that what they throw in the water will disappear? Do skiers really want the Japanese Alps to be served by every imaginable convenience, including amplified music?

Fortunately a growing number of those who rely on wilderness for their pleasure or their livelihood—guides, outfitters, operators of resorts, etc.—have recognized that without wilderness, there is no wilderness adventure. Knowing this, can we afford not to take an active part in ensuring that our wilderness areas are being used sustainably?

Swiss Encouraged to "Be Fair to Nature"

The Swiss Sport Association has done extensive work to develop environmental guidelines and codes of practice for recreationists and outdoor sport organizers and participants. In addition to a "Checklist for Organizers of Sports Activities and Events," a series of "Be Fair to Nature" brochures (see Appendix E) have been printed and distributed to schools, sports clubs, facilities, etc. The goal of the campaign is both to raise awareness of the potential impact of outdoor sports and recreation on the environment which is being "enjoyed" and to offer constructive codes of conduct.

This growing awareness has generated a grass-roots movement to ensure that all who use wilderness adopt a voluntary ethic that grants priority to the integrity of natural spaces and that demands a sense of environmental stewardship from everyone. Around the world, park wardens, scout troops, school groups, adventure holiday guides and legions of campers and hikers are among those who have begun and must continue with renewed vigour to promote such an ethic.[2]

In areas particularly degraded by human use, it will be necessary to go beyond the ethic of preservation and into restoration. Wilderness users will have to take responsibility for attempting to restore certain places to their original condition. That may mean climbers carrying a garbage bag to bring down the litter from previous expeditions, canoeists rebuilding eroding river banks or mountain bikers adopting a trail to be restored and then maintained. Nowhere is the vested interest of the sports/recreation community in promoting sustainable practices more apparent than in the area of outdoor and wilderness activity.

Sports and Outdoor Education Programmes in Schools

Environmental awareness should be introduced into school curricula, in the form of an overriding ethic and as a component of study in physical and outdoor education. By learning to better appreciate their place within the natural environment and the role that it plays in their survival and good health, students will be more likely to act responsibly on its behalf.

The concept of sustainability and its relevance to sport and recreation should be built into school curricula at all ages. Similarly, a "green games ethic" should be taught and supported in all school activities and events. Students should learn to identify sustainable behaviour and to promote it in their classes, events and excursions. At the elementary and high school level, phys ed and health curricula should include an environmental component. School-sanctioned activities and excursions should be organized according to principles of sustainability.

Courses at the college and university level in physical and health education, recreation studies and sports administration should again include an environmental component in the curriculum and assume sustainable sport and greener games as an overriding principle and ethic.

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[2] See Codes of Ethics/Practice in Appendix E.

For the Operational Reader

- Design curricula which study the relationship between sport/recreation and the natural environment in which it takes place.
- Define a school environmental goal and code of practice which promote environmental stewardship and sustainability in all activities, including a commitment to sustainable sport and greener games.
- Ensure that all school sports and recreation activities are guided by the Green Games ethic and work to promote the goal of sustainability.
- Include in the curriculum:
  - "minimum-impact" outdoor living and travelling skills
  - understanding of basic ecological processes
  - awareness of local and global environments
  - understanding of human dependence on environmental resources
  - awareness of human influence on natural environments
  - study of the impact of growing quantities of human-generated waste
  - study of the ability and limitations of natural systems to recycle waste.
- Teach principles of conservation: sustained yield, maintenance of life-supporting environments, maintenance of species diversity.

Sponsors, Donors and Suppliers

Companies and groups which sponsor, supply or donate to a sports event, facility or programme must assume their own role in the quest for sustainability and greener games. Any organization has the responsibility to promote environmental stewardship within its society, through its own operations and through its interaction with others. A wide range of literature exists (see Resources and Contacts in the Appendices) to guide you through the process of moving toward sustainability, at whatever level you require.

For the Operational Reader

Sponsors, donors and suppliers should look to build partnerships with the sports industry in order to ensure maximum benefits to both sides and to the environment. The main issues to be addressed are noted in Table 1, though special emphasis should be placed on:

- environmental management
- "Green Office" practices
- purchasing
- partnerships with stakeholders
- sponsorship and donations
- material and waste management
- facilities construction and operation
- accommodation
- food services

The Individual Athlete: Roles, Rights and Responsibilities

Often forgotten at the "big-business" levels of sport is the athlete or participant. It is the athlete who suffers most from a degraded recreational environment, and yet the athlete has not traditionally had much input into changing the situation. If this is to be corrected it will be up to the athlete to recognize the role that he/she can play, one which revolves around certain rights and responsibilities. Athletes, like everyone else, should have the right to live, train and perform in an environment which does not put their health at risk. By the same token, the athlete has the responsibility not to contribute to environmental degradation, either through sport or daily activity. The athlete should assume the role of advocate for his/her individual rights and those of all athletes, and assume responsibility as an environmental steward, both on the field and off.

For the Operational Reader

As a concerned athlete you will want to:

- organize with other athletes to create an effective lobby that defends your right to a healthy environment in which to train and compete;
- call for strict guidelines governing how facilities should be built, events run and sites and venues selected;
- adopt the Green Games ethic and promote more sustainable sport in all your activities.

Spectators

The spectator is accustomed to being passive. Here is a chance to make a difference—to participate in the greening of your favourite games.

For the Operational Reader

- Push for greener events and facilities in your community.
- Volunteer for clean-up activities and promote the Green Games ethic.
- Take the least resource-intensive means of transport to an event.
- Reduce the amount of resources you consume as a spectator.
- Reuse or recycle consumer products and put trash in its place.

20 General Facilities Recommendations

In this concluding chapter, we review some of the most common types of sports facilities and venues with an eye to identifying where opportunities exist to make them more sustainable: that is, reduce the costs of operation and maintenance and minimize environmental impact and its related costs. This is intended as an overview of those areas where administrators, operators and managers could be looking to make helpful changes. For more precise information, technical advice and assistance with implementing changes, however, the reader should turn to professionals in the field. This chapter is intended to equip managers and decision-makers to ask the right questions—of their colleagues, of their staff and of experts.

When looking for the help of professional consultants, it is essential to keep in mind that most such experts will most often turn to established and time-proven solutions to today's problems. What is needed, however, is someone who can offer insight into what the future looks like, as opposed to only a firm grasp of the past. There are, in increasing numbers, people who have made a point of supplementing their knowledge of traditional solutions; sometimes with cutting-edge technology and occasionally by reviving older but often forgotten methods. People who view today's challenges from the sort of holistic perspective that characterizes sustainable thinking are the most likely to have innovative solutions.

Operators and managers should take steps to ensure that their associations and other resource bodies adopt sustainability as a primary objective. By collaborating with others who regularly face similar situations and challenges, facilities managers can help one another to identify and implement appropriate solutions.

What follows is a selection of many of the principal types of facilities where different forms of sport and recreation are practised. Each of these facilities can be designed, renovated or retrofitted to improve its sustainability. Under each facility heading, some of the primary current opportunities are listed. Every facilities operator/manager will be in a unique situation and will be best placed to decide, upon review of these options, whether any or all of them are applicable.

Ice Arenas

Lighting

Better-quality lighting can be installed which by virtue of its energy efficiency will quickly pay back capital installation costs. Natural lighting should be admitted wherever this can be done without excessive heat transfer.

Water conservation

Ice-making systems can be installed which use closed-loop systems to save water and reduce contamination and demand on the sewage system.

Energy saving

In addition to lighting, recent advancements in a number of areas can slash energy consumption by 30–50%. These include:

- efficient pumping systems and motors (variable-speed pumps)
- brine pumps
- ice surfacing machines
- heat reflectors and low emissivity ceilings
- heat exchange systems (for air and water)

Coolant chemicals

The use of CFC cooling systems requires careful handling of these chemicals to prevent leaks. As soon as is technologically possible, all arenas should move to a non-CFC or -HCFC system.

The Paintless Ice Surface

At one Ontario rink, an officer of the Ministry of Environment traced the source of milky runoff to a storm sewer in the parking lot of a nearby arena, which had recently taken out its ice. Although the paint was not toxic, it was creating a silting problem in a nearby stream, which happened also to contain a trout spawning bed. Managers of the arena and the local recreation department were instructed to provide a plan for the safe disposal of the paint. Three options were feasible: (i) trucking the material off-site—at a cost of $2,000-3,000 per pad of ice; (ii) on-site containment using a large portable filtering system; and (iii) not using a base coat of paint at all. The latter solution was chosen. By using coloured paper lines and no white paint at all, there would be no environmental risk. The cost savings in materials and their application would be as high as $1,000 per pad.

Air quality

Better ventilation simultaneously improves fresh-air intake and retains heat through the use of heat pumps and heat exchangers. Switch to ice resurfacing machines with low or no emissions. Carbon monoxide sensors should be installed.

Ice painting

By using safer paints or substituting paper lines for paint and eliminating ice-brightening paints, costs can be reduced and water contamination minimized.

Swimming Pools

Energy

Examine the efficiency of all appliances, lighting and building heating systems. Opportunities for conserving include:

- heat pumps and exchangers
- water heating systems
- more efficient pumps (also quieter)
- heat blankets, which retain heat and limit evaporation of water and chemicals
- energy management systems that can easily boost or lower output according to fluctuating demand

Water conservation

Within the limits of water quality regulations, water can be conserved within a closed-loop system. Heat blankets can limit evaporation.

Hazardous chemicals

Many pool operators are moving away from chlorine gas. Non-chlorine substitutes should be explored and evaluated for effectiveness and cost.

Water Treatment without Chemicals

Pools across North America are moving away from the hazardous and expensive practice of treating pool water with chlorine gas, or concentrated liquids and powders. In their place, several technologies have been developed, including Lectranator™ and Ozonator™. The Lectranator™ is a chlorine generator which uses electrolysis to generate chlorine from a low concentration of salt (sodium chloride) in the pool water. The Ozonator™ uses ozone gas to purify water. This kills bacteria faster than chlorine and does not contaminate the water supply.

Golf Courses

Steps to improve the sustainability of golf courses include:

Land preservation

Design to limit alteration and destruction of natural habitat, most notably valuable wetlands and disappearing agricultural land.

Chemical application

Eliminate the use of bio-accumulative chemical pesticides, herbicides and fungicides and use natural fertilizers to maintain soil health. Implement various Integrated Pest Management (IPM) techniques.

Water conservation

Reduce water consumption by cutting rough and fairways at a higher height, using spraying methods which limit evaporation, watering in the coolest part of the day and watering less. Explore means of capturing rainwater and recycling "grey" water.

Selection of species

Select species of grass and other vegetation according to what is natural for the existing ecosystem. This will limit the need for weed control, fertilizing and irrigation.

Naturalization

Preserve the natural state of the geography, flora and fauna and biodiversity of insects and other species critical to the health of soil, water and ecosystems. In cases where these have already been badly degraded, work to restore the natural ecosystem as far as possible.

Education of the golfer

Most of the above suggestions cannot be implemented without a fundamental shift in the thinking of both the golfer and the course manager. Golf can return to being more of a nature appreciation opportunity than a game played within an artificially-controlled setting.

Marketing

Some golf courses which have embraced a more sustainable model are beginning to market their "green" golf opportunities. This will appeal strongly to players who are already concerned about the impact of golf as well as to the growing number of people suffering from allergic reactions to pesticides and other chemicals. Clubs can work closely with tourism officials to develop "Green Golf" vacations.

Audubon Cooperative Sanctuary Program Participants Notch Up Savings

More than one thousand golf courses are registered in the Audubon Cooperative Sanctuary Program (see Chapter Sixteen); many are already seeing tangible results from their efforts:

- The Applewood Golf Course in Golden, Colorado has reduced its irrigated acres from 145 to 75 since 1988, cutting water consumption from more than 100 million gallons per year to 40 million gallons. At the same time they increased by more than 50 acres the amount of native prairie habitat on the course.
- Shadow Creek Golf Club in Las Vegas has used natural methods to maintain a high quality of turf grass in the severe desert climate of Nevada. Its techniques have included planting more than 13,000 trees and hydroseeding 200 acres with native grasses and wildflowers.[1]

[1] "Environmental Steward Awards: Results and Highlights," *Golf Course Management*, February 1994, pp. 30-32.

Playing Fields

Many of the recommendations for golf courses hold true for playing fields (land preservation, naturalization, user education). Especially important are:

Water conservation

Limit irrigation demands by using more native turf grasses, reducing watering during dry seasons and scheduling watering for appropriate times of the day. Explore means of capturing rainwater and reusing "grey" water for irrigation.

Chemical treatment

Eliminate the use of harmful chemicals through natural turf management practices such as Integrated Pest Management, appropriate grass selection and encouraging greater tolerance for certain "weeds."

Alpine Ski Resorts

Alpine ski facilities must take great care to avoid harming what are among the most fragile of all geographical sites. Mountain slopes and valleys not only have short growing seasons, they can be prone to erosion, avalanche and landslide.

Habitat destruction

The number of undeveloped alpine locations has shrunk dramatically since the popularization of alpine skiing this century. To preserve what remains, existing resorts must limit their future growth and conservation authorities should implement strict measures for both existing and planned developments. In many regions, a freeze on additional development is the only solution.

Flora and fauna

The impact on flora and fauna can be reduced only through great care in the siting of resorts, ski runs, lifts and other facilities and

Environmental Excellence on the Slopes

Oregon's Mt. Bachelor has instituted a comprehensive environmental programme, which earned it an award for Overall Environmental Excellence in 1994. Initiatives include:

- an employee educational programme also offered to ski-school children
- staff recycling
- employee committees on waste management and resource conservation
- free transportation for employees and guests to reduce air pollution and traffic
- low-flow plumbing
- heat reclamation and other energy-saving devices
- mulching and seeding programmes to reduce erosion
- creation of community partnerships to improve the environment and communicate the advantages to employees and the public

equipment. Machine operation practices, as well as skiers' habits, should be reviewed with an eye to restricting damaging behaviour.

Water conservation

Consumption of water both by resorts (accommodation, day facilities and restaurants) and especially snow-making equipment typically exceeds the local supply. To avoid draining water tables and placing too great a demand on surface water sources (lakes and streams):

- select snow-making machinery which uses as little as one-fifth the water as earlier versions
- limit the amount of snow-making during dry seasons
- install water conservation devices within all resort facilities
- recycle "grey" water for suitable uses such as toilet flushing[2]

Water quality

Minimize water pollution through careful choice of cleaning products and other chemicals, emphasizing less-harmful alternatives and the appropriate disposal of hazardous materials. Also, ensure that machine maintenance follows strict guidelines for avoiding spills.

Chemicals

Eliminate the use of harmful or bio-accumulative snow-hardening chemicals. These pollute soil and water, and inhibit recovery for vegetation on some slopes by retaining snow long into the spring. The subsequent death of vegetation will increase the likelihood of erosion and even landslides.

Noise

Limit the use of amplified sound systems and operate snow-guns for as brief a period as possible.

Energy consumption

Examine the possibilities for reducing energy demand through better insulation and heating systems, more efficient appliances, machinery and lighting, and improved snow-making equipment.

Light pollution

Select systems which minimize "wasted" light, redirect lighting, dim lights during maintenance periods and extinguish lights when runs are not in use.

Marketing of eco-tourism

Resorts which have made legitimate strides to "green" their operations should capitalize on this fact by designing and marketing eco-tourism ski packages.

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[2] See box in Chapter Thirteen.

Road Races

Competitions held on roads, such as wheelchair, running and cycling races, should address several environmental issues:

Traffic congestion

Keep non-official vehicles away from the race area by limiting access and parking in the vicinity, and encouraging and facilitating the use of public transportation and active transport.

Air pollution

The same as for traffic congestion (above) but also by selecting venues and times of day with low air pollution levels, and by using low-emission vehicles or electric vehicles on or near the race course. Pace cars, on-course official vehicles and media cars should be electric, wherever possible.

Noise

Limit the use of amplified sound and generators and ban idling of vehicles.

Bobsled/Luge Tracks

Coolants

Cooling systems must be carefully designed to prevent any possible leak into the atmosphere of either ammonia or CFCs. Ammonia, despite its short-term risk, remains the preferred coolant until such time as non-ozone depleting alternatives to CFCs/HCFCs are available.

Energy efficiency

Tracks should be kept cooled only when demand is sufficient. Summer use should be avoided unless demand is so high as to merit off-season operation. Sun screens should be used.

Design

Tracks should follow the existing terrain and be partially underground wherever possible for reasons of energy efficiency, aesthetics and reducing demand for building materials.

Trails (cross-country skiing/running/hiking/mountain biking/equestrian, etc.)

Trails that run over natural terrain can take a number of steps to reduce damage.

Erosion

To prevent erosion, trails should avoid fragile areas. Rebuild and reinforce those trails where erosion has already occurred. Activities such as horseback riding and mountain biking should be

kept to firmer trails. All trail users should be educated in proper trail-use etiquette so as to reduce the amount of damage done during wet periods.

Wildlife habitat

Where trails pass through significant wildlife habitat, they should be directed away from known feeding, nesting and breeding grounds. Users should also be educated to stay on marked trails and not to trample or harm vegetation.

Trail design

Trails should be only as wide as necessary to accommodate users and avoid unintentional damage to vegetation. Wherever running water crosses a trail, proper drainage pipes should pass under the trail.

Parking

By keeping parking as far away from the trail as is feasible, trail users will be spared unnecessary noise and smog disturbances.

Facilities/amenities

Bringing all the trappings of home onto wilderness trails may only encourage people to use the trail as they would a non-wilderness setting. This is typically expensive and considered unnecessary and undesirable by many users. Take a minimalist approach.

Water Courses and Venues

Sailing, sailboarding

Sites for sailing facilities and competitions should avoid polluted waters, which put all sailors at risk. Potential polluters, both on the shoreline and other marine traffic, should be involved as partners in limiting emissions of sewage, garbage and boat fuels. Sailors are themselves common contributors to water and shoreline pollution. A strict code of conduct should be implemented by clubs and governing bodies to ensure that sewage tanks are emptied only in appropriate on-shore disposal tanks and that littering by sailors is seen as harmful to the sport.

Canoe, kayak, rowing

Several issues should be addressed when designing or selecting sites for training and competition:

- sewage, garbage and fuel pollution, as above
- possible erosion of shorelines from increased shoreline traffic and wake created by boating activity
- preserving natural water courses and water levels
- noise, fumes and wake created by the motorized boats of coaches and officials

Whitewater

- competitions should not be held in protected wilderness areas
- the preparation of courses should forbid changes to the natural environment
- designated points for entering and exiting the water should be chosen according to their ability to withstand erosion; instruct users not to stray from these access areas.

Stadia

Stadium designers and operators should ensure that the following principles (most have been covered in more detail above) are implemented:

- *energy conservation:* design, equipment and other energy practices
- *water conservation:* fixtures, landscaping and other water use practices
- *noise reduction:* design, amplifier direction and other sound practices
- *lighting:* design, system selection, direction and timing
- *transportation:* Reduce congestion and private vehicles; encourage public transportation, foot and bike traffic.
- *location:* Avoid green space, wilderness and agricultural land.
- *materials:* Select environmentally-preferred building materials and products used in operations and maintenance.
- *life planning:* When designing a facility, give full consideration to demographic trends and changing fashions in order to plan for optimal use during the lifetime of the facility. Consider making any facility multi-purpose and easily adaptable for different activities.

Etobicoke's 4-Step Cost-Saving Measures[3]

Step # 1: The Energy Database

The energy database is an essential baseline for identifying opportunities, charting progress, making comparisons and proving success. Steps to develop such a database include:

- create a database of energy used
- analyze energy consumption accounting for weather and use patterns
- use the database as a sales tool—proof for the decision-makers

Step # 2: Zero-Cost Measures

Many initial and highly effective measures come at no cost and can be implemented immediately. They include:

- manual shut-off and lowering of thermostats for heating
- turning off unnecessary lights
- reducing hot water temperatures (pools, arenas, showers, etc.)
- less frequent pool water and arena ice changes
- removal of arena stand heaters
- "delamping" excessively lit areas

Continued on next page

[3] Based on a speech by David Jones, Etobicoke Parks & Recreation, March 3, 1994.

Continued from previous page

Step #3 - Minimal Cost Measures

Lower-cost measures which can bring significant energy and cost savings, while improving the environment of a facility include:

- air-sealing doors, windows, roof-to-wall joints, service openings
- night set-back controllers for both heating and cooling systems
- replacing standard fluorescent lamps and incandescent bulbs
- instantaneous water heaters for low-volume areas

Step # 4 - Capital Cost Measures

Etobicoke committed substantial effort and capital to implementing capital cost measures, of which more than 100 had a pay-back period of 5 years or less. Types of measures include:

- Low Emissivity Ceilings for ice arenas
  Average Cost = $22,000 per ceiling
  Pay-back period = 4.9 years
- Heat Reclaim Systems for capturing heat from hot water
  Cost for Centennial Arena = $40,000
  Pay-back period = 4.7 years
- Redesigned lighting systems
  Cost for Centennial Stadium = $52,000
  Pay-back period = 4.0 years
- Thermal pool covers/heat set-back systems
  Average cost = $9,000
  Pay-back period = < 1 year – 1.2 years
- Co-generation system
  Cost for Etobicoke Olympium = $90,000
  Pay-back period = 2.7 years

Gymnasia

As above (Stadia) for energy and water conservation, noise, lighting, transportation, location, materials and life planning. Gymnasia designers and operators will also want to consider:

Multiple use

Design gymnasia to accommodate many types of sports and levels of users, as well as to adapt to shifting preferences in activities over time.

Indoor air quality

Ensure that indoor air quality is adequate for high-intensity activity through the choice of building, furnishing and finishing materials, regular fresh-air ventilation and the banning of smoking.

Shooting Ranges: Firearms, Archery

As above for energy and water conservation, transportation, location, materials and indoor air quality. Operators of shooting ranges will also want to consider three other key issues:

Noise reduction

Steps to reduce noise through better insulation, baffling and enforcement of operating hours

Habitat protection

Steps to protect wildlife and habitat, especially soil and water, from contamination by bullets and shot. Shooting clubs should encourage the growing movement away from lead shot.

Bullet retrieval

Use of bullet retrieval systems will allow for the recycling of metals.

A Case Studies: Telling Their Stories

Lillehammer: The Road to a Green Profile[1]

A week after Lillehammer was chosen to host the XVII Winter Games, the chief environmental officers of Lillehammer and Oppland County initiated an urgent meeting at the Ministry of Environment in Oslo, out of which came a commitment to give the Games a "green profile." An annual budget was approved for these efforts, including funding for a non-governmental pressure group known as Project Environment Friendly Olympics (PEFO), a branch of Friends of the Earth (Norway).

The term "environmental showcase" was later coined by the Ministry of Environment to describe the overall goal for standards of development in the Lillehammer/Oppland region. This goal was endorsed by Norway's parliament, which approved the following mandate:

> "The way in which we approach the construction work connected with the event will have a signal effect on Norway's will and ability to follow the recommendations of the World Commission on Environment and Development.
>
> "Any development must conform to the natural and cultural landscape and other regional features. In the long run this will be crucial in preserving and enhancing qualities that are already assets to tourism. For local people it will be most important to construct the arenas and other buildings needed for the event in an environmentally friendly way."

Once the goal had been defined, new working methods and techniques had to be developed and new alliances forged.

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[1] Based on reports, both published and unpublished, with primary information from the Norwegian Ministry of Environment's publication *The Greening of Sports - The Third Dimension of the Olympics*, used with the permission of the Ministry.

Conflicting Interests

Lillehammer had first launched a bid for the winter Olympics in 1982, on the initiative of a group of local businessmen, bankers, politicians and sports personalities. Their aim was to revitalize the region, which suffered from declining investment and rising unemployment.

The first bid was low key and modest. It assumed the use of existing arenas and other facilities that were already at the planning stage. Such economic austerity virtually guaranteed minimum environmental impact. The IOC fancied this "back to basics" approach but nevertheless chose Albertville as host for the XVI Winter Games.

A fresh bid for 1994 emphasized the potential for a "compact Games," in which all events could be staged within a few miles of each other. At the decisive IOC meeting, Norwegian Prime Minister Gro Harlem Brundtland argued the case for Lillehammer and won. On September 15, 1988, Lillehammer was declared host of the 1994 Winter Games.

While many Norwegians involved in sport and tourism were jubilant, environmentalists were dismayed. At the outset, environmental concerns were forgotten as other interests competed for a piece of the action; the modest "compact Games" concept was abandoned as construction plans and cost estimates became ever more grandiose.

Parliament had agreed to absorb excess costs not covered by income from television rights, ticket sales and sponsorships. Cost projections by the Lillehammer Olympic Organizing Committee (LOOC) and Lillehammer municipality reached a staggering NOK 7 billion ($US 1 billion), five times the original budget. Parliament swallowed hard and accepted the new figures, with a reminder that the cost of environmental considerations would have to be included in the total.

Planning by Negotiation

The hills and forests to the east of Lillehammer are a recreational area for the local population. Plans to build new arenas in this wilderness area provoked the first conflict between environmentalists and developers. The Directorate for Nature Management and the Oppland County Governor were among the environmental authorities opposed to building new arenas for cross-country skiing and biathlon in the forest. (Previous plans had sited the arenas near an army camp.) The County Governor, whose environmental office is empowered to block development in natural habitats of national importance, served notice that the development would be stopped, and Governor initiated a process of negotiation with the municipal authorities that resulted in the construction of the skiing venues in the forest, but with strict regulations curbing further development and limited access by road.

This process of "planning by negotiation" turned out to be far more practical and efficient than investing time and prestige in working up a final plan that would inevitably attract opposition from competing interests. Instead, local and regional authorities would collaborate from the beginning, dealing with specific objections as they arose. A "planning forum" was created to encourage informal discussion; persistent conflicts were resolved by formal mediation under the County Governor.

Natural Lillehammer

In preparing for the 1994 Winter Games, town planners sought to exploit Lillehammer's natural landscape while respecting its historical and economic context. Development in connection with the Games was kept to a minimum in areas designated "especially valuable" for historical, scientific or recreational reasons. Any changes to such sites had to be shown to improve the original amenity values. Some farmlands were also designated "valuable"; these, and most areas of woodland, were protected. Major development work was therefore restricted to areas already subject to relatively intensive residential or industrial use.

The Lillehammer area has always attracted large numbers of hikers, fishermen and hunters. Several natural areas of national importance are protected by law, foremost among them the delta of the river Lågen. The Mesna gorge runs like a green wedge along the Olympic Park and into the town centre. The forest is intact, even in the heart of Lillehammer.

Since the arrival of the railway in 1894, tourism has flourished in Lillehammer. Many homes and hotels were built in order to exploit the healthy climate and landscape. Even after the Games, the foundation of tourism in the region will remain unchanged: beautiful scenery, virgin forests, clean air and water. Lillehammer is basically a pretty, drowsy small town, and its residents want to keep it that way.

Planning by Design

The process of analyzing Lillehammer's natural and cultural landscape began immediately after it was awarded the Games. The object was to set down on paper those qualities appreciated by everyone in Lillehammer but unremarked in conventional municipal planning documents. Landscape architects and local bureaucrats had to devise a method for classifying and giving weight in orthodox planning procedures to such intangible qualities as scenic beauty. The municipality of Lillehammer spearheaded this process.

All buildings made for the Games had to conform to four main principles:

- Norwegian character, comprising simplicity, suitability to the landscape, the use of natural materials such as wood and stone, and traditional colours
- environmentally-friendly design and construction, often involving new solutions to standard architectural problems
- unity and coherence
- work by leading Norwegian designers

Guidelines were strictly spelled out:

- designs adapted to existing landscape and architecture
- permanent buildings conforming to local architectural traditions while temporary structures reflect the unique visual profile of the Games
- permanent buildings expressing their character in natural materials and colours
- some temporary structures for festive use in strong, clear, light colours
- ceremonial elements expanding on Nordic themes—northern lights, ice, snow and crystal

Strict specifications were applied to each construction site. Architectural suitability is only part of an extensive environmental impact assessment. Noise, emissions from cooling and heating installations, and interior climate were all taken into account. Low energy consumption was standard for all buildings. The buildings therefore combine the virtues of local craftsmanship and new technology.

Showcase Buildings

Lillehammer

Lysgardsbakkene ski jumping arena, though not strictly a building, was carved out of a gentle hill, creating a sculptural focus in the landscape while seeming to "crown" the town itself. The demands of the TV producers weighed heavily in its design. The jumping hills have been changed from their original plans and rotated slightly in order to give the favourite competitor, the last jumper, the optimal light and camera angles.

Hamar

The Olympic Hall, in the shape of a Viking ship beached belly-up for the winter, is undoubtedly the most spectacular of the venues. Wooden beams 110 metres long are the biggest in the world, a fine example of Norwegian wood-crafting technology.

Gjovik

The "cavern" ice hockey hall in Gjovik is carved out of a mountain. It is virtually invisible from the outside, but a marvel of the potential of excavation for public building projects on the inside.

First Impressions

Road and rail approaches to Lillehammer, and entry points to the sub-sites and arenas were designed, redesigned or refurbished in order to ensure that visitors' first impressions were favourable. Norwegian Rail collaborated with Friends of the Earth, the Ministry of the Environment and municipal authorities to tidy up the rail corridor between Oslo and Lillehammer. Under the slogan "your backyard is our view," the railway launched an "Environmental Relay" clean-up operation to improve views from the train.

A similar approach was taken to the roads. In addition to clean-up operations, regulations for traffic signs, commercial billboards and the like were revised in order to remove or camouflage distractions and eyesores. Local businesses and landowners were encouraged to clean up their properties.

Environmental "MOM"

To ensure that all Games buildings would be safe, built of sound materials, well heated and ventilated and reasonably quiet, organizers developed a system of specifications known as "MOM"—management, operation, maintenance. Building materials do not as a rule carry environmental impact labels; but contractors were obliged to satisfy the authorities that materials used for Olympic installations satisfied a number of environmental criteria at all levels: production, construction, use and dismantling. A specimen environmental impact assessment was given to would-be suppliers and contractors, with a listing of the various requirements. These considerations were made an integral part of the bidding process.

The MOM system is a "cradle-to-grave" approach to building materials and their use, covering every step from drawing board to running and maintenance costs long after the Olympics, when buildings might be used for other purposes. Bidders for building contracts were required to supplement the usual specifications with detailed answers to a wide range of environmental questions concerning construction materials, long-term energy use, cleaning and maintenance routines, glues and solvents, security systems for coolants, waste disposal, and treatment of soil and vegetation in the construction area. Such specifications formed the basis of an environmental audit of the four main venues: the ski jumps, Hamar speedskating oval, Hakons Hall and the bobsled and luge track.

Environmental standards in and around the finished buildings fell into four categories: thermic comfort, air quality, control and measurement and acoustics. Air quality standards are unusually detailed and strict, setting limits on a wide variety of chemical and biological pollutants. For example: the strongly irritating formaldehyde gas is virtually banned, and controls on dust, moulds, bacteria and even dust mites were aimed at making the Olympic arenas "safe havens" for asthmatics. Smoking was forbidden except in specially-designed, ventilated smoking areas.

Energy Saving

One of the most important environmental criteria for the Olympic arenas was that they be as energy-efficient as possible, consuming at least 30 percent less energy than similar buildings following standard Norwegian specifications. As a result, annual savings in running the giant Hamar Olympic Hall alone are expected to average 2.5 GWh—approximately $100,000—even allowing for the low cost of power in Norway. Authorities hope the hall will become a national showcase for a wide range of energy-saving devices and techniques, including heat recycling through ventilation and a heat pump using surplus power from the ice-making machinery.

Keeping it Clean

Supplying clean water, food, sanitation and waste disposal on any Olympic scale add up to a formidable challenge, which has inspired LOOC organizers to seek new solutions to old problems. More than 100,000 visitors flooded the region daily, consuming close to 300,000 meals per day. The main strategies for waste treatment and disposal were simple: prevent or reduce the production of waste in the first place; encourage the recycling of materials and energy associated with such waste as is unavoidable; and at all times ensure proper treatment.

In preparation for the Games, Lillehammer encouraged local homes and businesses to separate waste at source, and opened a new recycling plant. As a result, the quantity of garbage dumped locally has declined by 60 percent by weight. All companies supplying the LOOC had to comply with certain environmental demands. Products and packaging carrying the Nordic "swan" label were preferred, as were recycled and reusable materials. Materials to be avoided included carcinogenic agents, PVCs, ozone-depleting materials, lead, cadmium, chrome, mercury and other toxic metals, formaldehyde and certain detergents.

All visitors—spectators, participants, journalists and officials—were encouraged to minimize waste. Even competition programmes were touted as collectors' items and designed to be so.

Commercial sponsors were persuaded to assist in reducing waste. Kodak, for example, took steps to reduce the photochemical wastes produced by thousands of press photographers. Partena, the

principal caterer to the Games, provided dishes and cutlery made almost entirely of potato and corn starch which, after use, was composted or turned into animal fodder.

Many of the demands made by the authorities would have backfired without practical follow-up measures. Separating waste, for example, would have been useless without local facilities for processing and recycling. The town could not afford to build a recycling plant with all the financial risks involved in a pilot project. A state-run project was therefore established to handle the recycling of waste for Oppland and Hedmark counties. As a result, there are now hundreds of local projects in the region supporting household composting of food scraps, collection of hazardous waste, and source separation systems.

Watchful Eyes

Long before the Games, no houses were built in Norway without the scrutiny of any number of authorities: informing neighbours, studying plans, checking specifications for land use and safety. Environmental impact, however, had never been singled out for official control. The LOOC was well aware that its vision of a greener Games required more than high ideals and arbitrarily imposed standards if it was to be realized. In order to ensure that the long lists of standards and demands really did safeguard the environment, new and more accurate ways of measuring the environmental impact of the Games had to be invented.

The Ministry of Environment and the Research Council of Norway asked the internationally respected classification foundation, Det Norske Veritas, to develop such a tool—an environmental audit. The audit was very wide-ranging, starting not with technical specification but with leadership. Auditors visited the various authorities involved in the organization of the Games, checking that they were aware of their responsibilities, properly trained and running their offices efficiently. Auditors looked at standards of staff training, sat in on meetings at which environmental issues were discussed, and analyzed arrangements for controlling contractors, or suppliers' goods and services.

Only then, in a detailed study of four arenas, did the auditors turn their attention to such technical criteria as potential pollution of air, water and soil; waste, noise, energy consumption, interior climate, architecture and landscaping. The four arenas selected for audit were in fact testing the efficiency of this new procedure at the same time as they were themselves assessed. Findings and recommendations were passed to the builder, who was expected to act on them wherever possible—in some cases the auditors came too late, but their findings were recorded anyway.

Science in Action

For the Norwegian scientific community, the Olympics were a once-in-a-lifetime opportunity for innovation. There was a wealth of new problems to solve—and almost all of them sprang from the environmental imperatives of the Games.

The development of ENSIS (Environmental Surveillance and Information System) is a prime example. In Lillehammer, Hamar and Gjovik, air and water quality were monitored around the clock; the data can be analyzed in conjunction with measurements of traffic flow, industrial emissions, home fuel consumption and other indicators. The results are readily accessible by government departments, local authorities, industries, the media and others with an interest in the Olympics or the region. ENSIS can be used as both a planning and a response tool. For example, it can help to approximate the impact of a new road as well as to pinpoint the source of pollution in an emergency.

Another scientific achievement was the construction of the ice hockey hall deep inside the hill rising at the end of the main street of Gjovik. The free span of 65m—the world's largest in a public building—is a showpiece of Norwegian technology. Densely populated countries like South Korea and Japan have been most interested. Inside the hall, the temperature is a constant 7°C, making for annual heating and cooling savings of at least $U.S. 14,000 compared to an above-ground installation.

In short, the environmental demands of the Games obliged many suppliers to develop new products and technologies, which will continue to benefit the companies concerned, as well as the environment, for years to come.

Greens Go for Gold

Norwegian environmentalists were predictably opposed to Lillehammer's bid for the 1994 Winter Games. But once the bid was successful, an important decision was taken: instead of fighting, the activists would work with the authorities to minimize adverse effects.

Project Environment Friendly Olympics (PEFO), the umbrella organization for the various pressure groups, invited IOC President Juan Antonio Samaranch to its cramped office in Lillehammer. Much to their surprise, he accepted and made a visit in March 1989 to hear their views on the upcoming Games. Despite this encouragement, early negotiations with the LOOC were unsuccessful. Venues were sited against the advice of the environmentalists, roads they opposed were built nonetheless, and, worst of all, plans were drawn up for a huge speedskating hall which threatened an internationally recognized bird sanctuary at Akersvika in Hamar.

When Samaranch next visited Lillehammer in December 1990, he met a full complement of angry, chanting demonstrators. He responded by encouraging all parties to avoid further conflict through mediation. As a result of his and higher domestic political pressure, the plans were modified after several rounds of negotiation.

The Akersvika controversy was nevertheless a turning point. Previously the LOOC had paid only lip service to the stated ambition of a "green" Olympics, doing little to fulfill such a goal. Now environmental concerns were centre stage. An environmental coordinator was appointed, and the LOOC made haste to draw up environmental specifications for prospective contractors.

A unique, collaborative process was also developed: every Thursday from mid-1991 until the end of the Games, environmentalists, officials from LOOC, the Ministry of the Environment, the County Governor's office and the local authorities met to discuss the environmental implications of preparations for the Games. The head of PEFO, Olav Myrholt, at the invitation of IOC President Samaranch, drafted an environmental policy and action plan for the IOC. Accepting the draft, the IOC pledged to add environment as a third element in future Olympic Games, on a par with sport and culture.

This was a powerful signal. The General Assembly of International Sports Federations (GAISF) asked Myrholt to address its annual meeting in October 1993. Sport officials were told to check their office routines and energy budgets, to encourage the use of public transport for sports events, to control litter in their stadiums, and to exploit unused capacity in existing venues by cooperating with other clubs.

During the lead-up to the 1994 Games, PEFO was deluged with media requests, as the sport-environment connection was finally being recognized internationally as an issue of importance. Interest in Lillehammer's environmental efforts peaked during the Games itself, with several thousand stories being filed on this topic alone by the world's journalists. The issue was prominently mentioned during the opening and closing ceremonies and throughout the Games.

The Legacy

Opinions vary on how profound the legacy of the Lillehammer Games will be. The Ministry of the Environment concludes that Lillehammer demonstrated how intelligent planning, research and development can help to make the Olympic Games more environmentally friendly. Environmental goals must be accepted as a joint responsibility, to which appropriate financial resources are allocated as a matter of course. The Ministry concluded that "cooperation and negotiation at all levels is probably the key to a successful environmental approach."[2]

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[2] *The Greening of Sports—The Third Dimension of the Olympics,* a special issue of *Environmental News,* Ministry of the Environment, Oslo, February 1994.

Hundreds of individual steps were taken to address environmental concerns at Lillehammer, with varied success. Some steps that should or could have been taken were not. The Norwegian Society for the Conservation of Nature (NSCN) prepared an assessment of the Games, which attempts to answer two questions:

i. Did any changes take place as a result of the 1994 Winter Olympics?
ii. If so, was this enough to give the Games a "green profile"?

Their overall conclusion is that: "Yes, changes did take place. For the first time serious attempts were made to increase environmental awareness and allow this to be reflected in practical action in connection with a major internationals sports event"; and "Yes, this actually gave the Lillehammer Games a 'green' profile and started an important process.... However, [there] is a very long way to go and basic changes must be undertaken before the Olympic Games can be called 'environmentally friendly.'"

The NSCN lists the most significant results of the Games, both negative and positive. Among the principal points are:

Negative results

- extensive use of land for arenas and roads
- protective forest belt and hillside forest lost to construction and infrastructure development
- lynx habitat severely affected
- valuable wetland lost in Akersvika and because of landfills
- birds hurt or killed when hitting glass facades and transparent noise barriers
- recreational paths and green space lost in Lillehammer area
- commercialization of previously public recreation areas
- increased post-games use of private cars as a result of road and parking lot building
- increased traffic on newly-built roads

Positive results

- increased awareness of environment and nature-protection issues
- good cooperation between private, public and non-governmental sectors as well as various levels of governments
- off-shoot projects established to improve "green tourism" and to monitor the construction of a new national airport
- creation of useful planning tools for large-scale construction and road building

- thorough involvement of public in planning processes resulted in significant improvements at certain sites (Hakons Hall, bobsled tracks)
- comprehensive, joint solutions with public sector (sewage, solid waste handling)
- environmental tendering criteria developed
- remediation of many of the instances of damage to the landscape
- remedial efforts in connection with road construction
- aesthetic improvements in towns and along highways and railroads

General assessment

- By defining common goals and creating cooperative partnerships to achieve them, partners with different motivations were able to achieve results that none of them could have obtained working alone.
- Total environmental damage was less than feared, although some groups and areas were more adversely affected than others.
- The enormous consumption of resources demands further critical evaluation.
- Behind even the smallest solutions lay cooperation and hard work by many parties.
- The watchdog role of the NSCN (through its sub-project PEFO) was important, even if it led to criticism from some environmental groups that the NSCN was providing a convenient alibi for LOOC. Compared to the alternative—non-involvement—considerable positive environmental achievements were realized.
- Even if many people are not impressed with the results of the environmental efforts, they represent an important first step in an ongoing process. Enthusiasm and readiness to take responsibility became the hallmark of organizers, sponsors, business in general, sports federations and the environmental movement. It is important to maintain this momentum.
- It is equally important to anchor environmental responsibility firmly within the IOC, sports federations and partners from trade and industry for the future.

Epilogue

On June 5, 1994 the United Nations Environment Programme awarded its highest distinction—the Global 500 Award—to the Lillehammer Olympic Organizing Committee and Project Environment Friendly Olympics for their groundbreaking work.

Sydney 2000 Summer Olympics: The Greenpeace Campaign for an Ecologically Sustainable Community

Environmental groups are better known for criticizing the system than for working within it. It is confrontation that tends to grab the headlines, and grabbing headlines helps to spread the message about environmental threats and solutions. Few groups are better known for their skill in using the media to raise awareness and confront the status quo than Greenpeace. It came therefore as a surprise to many that Greenpeace Australia had played a key role in Sydney's winning bid for the 2000 Summer Olympic Games.

The environmental group's motives went well beyond boosterism, however. Faced with the possibility that Sydney would win the rights to host the 2000 Games, Greenpeace Australia took the bold decision to try and work with the bidding group to ensure that environmental issues were given full consideration from the start. They recognized in the Olympic Games an opportunity to fund a highly visible demonstration of what an ecologically sustainable form of urban development could look like.

In July 1992 Greenpeace consultants Andrea Wilson and Roderick Simpson entered the Sydney Olympic Village design competition. They were among the five equal first-prize winners, who agreed to work together on a final design in accordance with the environmental brief that the bidding organization had requested from Greenpeace. The five finalists worked cooperatively to prepare a final "environmentally-responsible" design that aimed to minimize resource consumption and waste creation, maximize open space, preserve existing landscape features, and provide a buffer zone between the human and natural environment. The design's key features included:

- highly efficient land use through medium-density housing
- integration with other city and regional planning
- economical energy use through passive solar design
- innovative water conservation systems
- integrated domestic and commercial waste minimization systems
- use of environmentally-friendly building materials
- low-impact integrated transport systems[3]

Once the design had been accepted and included in the official bid books, Greenpeace was invited by the Sydney 2000 Bid Environment Committee to develop a set of Environmental Guidelines for the Summer Games. Contributors to the guidelines also included representatives from Ark Australia, the Australian Centre for Environmental Law and the New South Wales

[3] Greenpeace Australia, *Implementation Issues Relating to the Successful Bid for the Summer Olympic Games: Supporting Document*, March 1994. This is an unpublished Greenpeace document that is publicly available.

Aboriginal Land Council. Covering not just the village but the entire Olympic plan, the Environmental Guidelines were publicly released in Monte Carlo in 1993 at the time of the IOC decision. They were based on acceptance of five core environmental problems: threats to biodiversity, climate change, ozone depletion, air, soil and water pollution and the over-consumption of resources. The Environmental Guidelines, which recommend that all future Olympic cities should adopt the principles contained therein, generated interest from around the globe.

What the urban village concept offered, in the words of Greenpeace Australia, is "a realistic model for ecological sustainable development (ESD) incorporating cutting-edge technologies in areas of energy (solar co-generation), transport, waste, water, event management, and protection of diversity."[4]

Proponents of the Green Olympics bid stressed that there can be no truly green Olympic Village without a greener Sydney. For this reason, their guidelines and proposals extend well beyond the physical boundaries and jurisdiction of the Sydney Organising Committee for the Olympic Games (SOCOG). Greenpeace makes these connections explicit in its document "Strategy for a Sustainable Sydney," which uses the Olympic Village proposal to illustrate the type of development thinking that would make the city more sustainable. The Sydney region, with all its component governments, industries and communities will have to be closely involved in any true attempts to improve air and water pollution, transportation, waste management and a host of similarly broad issues. This illustrates the potential for a relatively short, albeit large, sporting event to catalyze major changes and create a long-term positive environmental legacy.

Both the general public and the media were strongly supportive of the environmental theme of Sydney's bid. Recognizing that the competition for Olympic hosting rights might come down to those unique features that set one bid apart from the others, the Sydney bidding organization elected to emphasize its "green" features. This could only have been buoyed by the knowledge that heavily-polluted Beijing, Sydney's main rival, could never compete with them on environmental grounds. Furthermore, the IOC was known to have been considering the adoption of a formal environmental policy, encouraged by the positive public reaction that Lillehammer's efforts were receiving.

Several months prior to the IOC decision, Sydney Olympics 2000 chief executive Rod McGeoch claimed that the environment would play a major role in the success of the bid: "No other city bidding for the Games has shown as much support for the environment," he stated. "Protecting the environment is the biggest strength of our bid."[5]

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[4] ibid., pp. 4-5.

[5] Canberra *Daily Telegraph Mirror*, March 24, 1993.

Key components of Sydney's commitment include the following:[6]

Planning and Construction of Facilities

- all new Olympic projects are subject to environmental impact assessment
- all new projects must be in accordance with environmental planning instruments
- care must be taken to protect native bushland, forests, wetlands, fauna, etc.
- all Olympic sites must be accessible by public transport
- a minimalist approach to constructing new facilities
- requirements that companies tendering for construction contracts submit details of how they will satisfy the requirements of the Environmental Guidelines
- components that go into new projects will be subject to life-cycle costing and consideration of cradle-to-grave environmental implications

Energy Conservation

Planning and Transport Integration

- venues selected for Olympic sites strongly support transport efficiency
- 21 of 25 sports will be conducted in two compact zones linked by an efficient network of road, rail and water-based services
- all venues are within 30 minutes' travel of the Olympic Village
- cycle and pedestrian routes will be linked to public transport interchanges

Low-Energy Design for Buildings and Urban Infrastructure

- incorporation of solar technologies and other forms of renewable energy
- sophisticated building energy management and control systems
- buildings planned as prototypes of energy-efficient, medium-density housing

Water Conservation

- collection of waste water for recycling
- use of artificial wetlands or other appropriate methods to remove pollutants from waste water prior to recycling

Waste Avoidance and Minimization

- best practice waste reduction and avoidance applied to services, materials and appliances
- the cooperation of sponsors and service providers in developing responsible corporate purchasing and waste management policies
- best practice recycling, including use of compost from organic waste, use of recycled materials and public education on waste minimization

Continued on next page

[6] As described in the document *Environmental Guidelines for the Summer Olympic Games,* prepared by the Environment Committee of the Sydney Olympics 2000 Bid Limited, September 1993.

Continued from previous page

Air, Water and Soil Quality

- the selection wherever practicable of materials and processes that are non-toxic in use such as natural fibre insulation, and non-toxic paints, glues, varnishes, polishes, solvents and cleaning products
- use of building techniques and interior design that minimize the need for chemical pest control and maximize opportunities for integrated pest management
- protecting the water quality of the mangrove, estuarine and saltmarsh environments near Sydney Olympic Park from erosion and run-off
- rehabilitate and remediate contaminated soils at Homebush Bay, site of the Athletes' Village and a former industrial site
- soil testing and, where appropriate, remediation at other sites

Protecting Significant Natural and Cultural Environments

- preservation of existing landscape features
- rehabilitation of wetlands
- use of extensive indigenous planting to attract birds and other animals
- establishment of buffer zones between recreation and conservation areas
- control of feral animals and weed invasion
- establishment of a management plan for the protection of natural ecosystems
- use of low wash ferry transport to minimize impact on mangrove ecosystems

On September 23, 1993, Sydney was awarded the Games. Just how big a part its environmental proposals played in swaying IOC members away from "sentimental" favourite Beijing may never be known—voting is by secret ballot and IOC members are notoriously tight-lipped. What is certain, however, is that the Sydney victory catapulted awareness of the environment-sports connection and of the potential for more sustainable community development onto a new level.

With the Games secured for Sydney, the next task for Greenpeace and its non-governmental partners was to ensure that the lofty promises of the Environmental Guidelines and the bid book were to be implemented. Its strategy included: pushing for the State Environmental Planning Policy (SEPP 38), which is a legal instrument covering the Olympic Games, to be acknowledged as part of the government commitment to a Green Olympics; lobbying for a clear environmental management structure and a comprehensive, strategic approach to environmental planning; initiating a public information campaign, including seminars; involvement in the revision of the Master Plan for the Homebush Bay site, which included upgrading environmental provisions; and working with the IOC and other host and bidding cities to see that the Olympic Games work towards continuous environmental improvement.

Greenpeace and the numerous public, private and non-governmental supporters of a Green Olympics have their work cut out for them ensuring that the commitments made in the bid book are treated as legally and morally binding by games organizers (SOCOG), developers and public officials. Legal advice sought by Greenpeace determined in March 1994 that the environmental guidelines are "legally enforceable controls"; and that "any person in New

South Wales, and any party to the contracts may enforce the environmental guide-lines."

When vested interests and economic realities are added to the equation, however, environmental and concerned community groups can expect to be put to the test in defence of their hard-won sustainable development goals. A key plank in this effort will be the creation of a coalition of advocacy groups along the lines of Lillehammer's PEFO. "Green Games Watch 2000," as it has been dubbed, plans to facilitate cooperation between environment groups and with other sectors, as well as promoting the implementation of the Environmental Guidelines. The coalition will also act as a conduit for international cooperation on Games-related environmental issues.

Vigilance will be required to ensure that commitments become reality. Though some such as architect Bruce James have expressed concern that "if it gets into too many hands it will dissipate into an ordinary suburb," others such as Greenpeace's architect Rod Simpson remain confident that since "the parameters are so fixed, the site so constrained and the environmental credentials of the scheme so fundamental to its successful role in the Olympic bid any move to dilute what has been approved by the IOC would be political dynamite."[7]

Commentator Peter Ward, writing shortly after Sydney's victory, predicted that the 2000 Olympic Games "could mean a gold medal for Australia's first major environmentally sustainable urban development and one of the first in the world."[8] There is no doubt that Sydney shows promise of surpassing even Lillehammer's environmental achievements, given that the goal of sustainability has been built into the planning from the start. More importantly still, proponents of a Green Olympics in Sydney such as Greenpeace will have had more than six years to contribute to a growing global awareness of the need for greater sustainability, in our communities and in our sporting events.

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[7] Peter Ward paraphrasing Rod Simpson in "Village people go for green and gold," *The Weekend Australian*, October 16-17, 1993.

[8] ibid.

The Mathare Youth Sports Association—Cleaning Up, On the Field and Off

There are several ways to approach a problem. You can sit around hoping that someone else will do something about it. You can lobby and encourage someone else to do something about it. Or you can solve it yourself.

For a group of kids from one of the worst slums of Nairobi, Kenya, the only real choice was the third option. The first had been tried and the second, for a group of uneducated people with no political clout, was hardly viable. The only people who were ever going to do something about the unsanitary conditions, the crime and drug-ridden streets and the lack of a constructive outlet for their energies were themselves. So a group of Mathare Valley youths set out to pull themselves up by their own bootstraps. Using the popular appeal of sport, they set about tackling the interrelated problems of pollution, disease, crime, addictions and general lethargy from which they suffered.

Now, only seven years after its inception, the Mathare Youth Sports Association (MYSA) is surely one of the most inspiring movements ever to emerge—anywhere! The group has been honoured with the United Nations' highest award for environmental achievement; its teams have won dozens of national and international tournaments; it organizes soccer, basketball and netball games for more than 5000 youth playing on over 250 teams; it holds workshops for coaches and referees, and it coordinates slum clean-up projects with over 2000 boys and girls taking part every weekend. If this is not already impressive, it is organized and run almost entirely by youths on an annual budget of $5,500.

When MYSA was formed in 1987, the average lot of Mathare youth was dismal: mothers struggling to feed families of 5-7, fathers working away from home or having abandoned the family entirely, glue-sniffing, prostitution, polluted land, blocked drainage ditches, few job prospects and a high drop-out rate from school. With no facilities for playing sports and no money to build them or get to facilities elsewhere, youth sports activity was limited to kicking a makeshift ball around the narrow streets.

In 1987, some Mathare youth met with Bob Munro, a Canadian sustainable development policy advisor living in Nairobi who had been surprised to learn that no sports opportunities existed for them. Together they discussed how to go about organizing a league with almost no financial resources at their disposal. They decided to create a sports association that would be run primarily by the participants. Most importantly, however, the association would be more than just sports-centred; it would also organize slum clean-up activities as a first step in promoting community improvement.

The fundamental tenets of MYSA go along way to explaining its success. There is an emphasis on discipline, respect for others, consensus decision-making and pulling your weight. That

MYSA Sportsmanship Code

1. ***Be Disciplined:*** I will always maintain good conduct and discipline on and off the field. I will always play without endangering my opponents or committing fouls.
2. ***Play Fair:*** I will never fake an injury or foul, use unfair tactics or indulge in any other unsporting conduct such as using abusive language or gestures.
3. ***No Retaliation:*** I will never retaliate if fouled, abused or harassed by an opponent.
4. ***No Fouls:*** I agree to be substituted immediately if given a yellow or red card.
5. ***No Appeals:*** I agree that only my Captain may speak to the Referee during a game. When a dispute arises I will always remain silent and at least ten steps away.
6. ***Respect the Referee:*** I will always obey the Referee's decisions. I will stop immediately at the whistle and, without appeals or argument, move quickly into position for restarting play.
7. ***Respect the Captain:*** I will always obey my Captain during games. In or around the penalty box I will obey my goalkeeper's instructions immediately.
8. ***Respect the Coach:*** I will always obey my Coach's decisions and instructions. I agree that I should be substituted or suspended for any indiscipline or unsporting conduct.
9. ***Respect Teammates:*** I will always support and encourage my teammates on and off the field. I will never abuse a teammate who makes a mistake.
10. ***Respect Opponents:*** I will always treat my opponents with respect. I will always assist fallen opponents and offer to shake their hands before and after every game.

I promise to respect the MYSA Sportsmanship Code at all times. I also promise to share my knowledge and skills by coaching a younger MYSA team, participating in all MYSA training clinics and refereeing at least one MYSA game every week. I will also help organize at least one slum clean-up project every month.

message is embedded in one simple overarching rule: "You do something, MYSA does something. You do nothing, MYSA does nothing."

Youths are expected and encouraged to contribute in a number of ways. In addition to showing up for their sports activities, they are obliged to join the team on its clean-up days. Working with limited city staff, they pick up garbage, unblock sewers and drainage ditches and encourage members of their community to observe better hygiene and waste disposal practices. In a shanty town with no electricity, plumbing or running water, good hygiene is often a matter of life and death. Since MYSA kids, like kids everywhere, can't always be counted on to show up for clean-up sessions, the sports leagues award bonus points to teams with good attendance records. Any team that does not have sufficient attendance cannot qualify for the playoffs.

The clean-up sessions, like the sports activities, are coordinated by the youths themselves. Organized into various zones, covering not just Mathare but a number of neighbouring slums as well, the clean-up is scheduled and supervised by older players. Giving the youths a high degree of responsibility has helped to foster self-confidence, organizational and decision-making skills and leadership qualities.

Adult enforcement is conspicuous only by its near-absence. All members are expected to abide by the MYSA Sportsmanship Code (see box). Its ten points are enforced by referees, teammates and, only on the rare occasion, by adult supervisors. The system depends on peer pressure. The same peer pressure that may lure them into stealing and glue-sniffing on the streets has been turned to a more positive use, encouraging players to lead a healthier and more responsible lifestyle "for the good of the team." Legend has it that the player who has been smoking or sniffing substances will be threatened with expulsion by his own teammates if his actions are felt to be affecting the team's play or spirit.

Poor sportsmanship is similarly punished. In the early days, violence against referees was a problem. A simple rule quickly put an end to that. The players decided that anyone touching a referee would be suspended until such time as they had themselves refereed 10-15 games in a younger league. Though the rule still exists, it has not had to be used for several years.

The discipline which MYSA has helped to engender among the boys and girls who are members has been translated into their lives off the field as well. Dozens of cases can be cited of street kids who have chosen a path far different from what anyone might have predicted. In place of running with the packs of street gangs, they are now running to fit school, community work, MYSA organizational responsibilities and training into their daily lives. Salim Mohamed, "King" Zolo and John Kabure are just a few of the MYSA boys who are forging for themselves a more promising future thanks to the opportunities and lessons they received courtesy of MYSA.

While MYSA's members are predominantly boys, there is an ongoing effort to promote sports participation among the girls of Nairobi's slums, through a girls' netball league. Though social pressures and domestic demands placed on Kenyan girls make playing sports a tougher sell, headway is certainly being made. Dozens of netball teams have now been created, and the list is growing.

In a community where survival is of primary importance, there is little money or in-kind resources available for sport. Outside support for the MYSA programme is essential. This consists of a combination of voluntary donations from benefactors—organized by the Friends of MYSA—as well as a range of private and corporate sponsors. Funds, free services and generous discounts on equipment have come from a range of MYSA "friends."

It is perhaps a strange irony that the most powerful vision of sport's future should be born not in the wealthy cities of Europe and North America but in the seemingly desperate conditions of an African slum. The sporting vision of MYSA is surely the closest thing yet to a working model of sustainable sport: through shared responsibility and community participation the complementary goals of better human and environmental health, greater recreational opportunity, personal and community growth are all achieved.

B Facts and Figures: Quantifying the Economic Benefits

City of Etobicoke, Ontario, Canada

Since 1983, the City of Etobicoke has pursued a comprehensive energy conservation programme which has significantly reduced energy consumption and costs. The following tables illustrate where and how much they have been able to save. All figures were provided by the City of Etobicoke, Parks & Recreation Services.

Table 1—Annual Cost Savings through Energy Conservation

Year	Cost Savings (in $ Canadian)
1983	104,000
1984	152,000
1985	229,000
1986	257,500
1987	310,000
1988	454,000
1989	502,000
1990	514,000
1991	539,000
1992	550,000* (* minimum anticipated savings)
1993	550,000*
Total	4,171,500

Table 2
Energy Conservation Programme/Project Highlights (1985-89)

Year	Project/Programme	Cost ($Cdn)	Anticipated Savings/Year
1989	Gihon Springs Outdoor Pool/solar system	9,443.00	2,625.00
	Central Arena/Brine pump controller	14,000.00	3,039.85
1988	Centennial Arena/Brine pump controllers	26,444.00	8,096.00
	Centennial Arena/Water recirculation system	12,050.00	5,000.00
	Pine Point Arena/Heat reclaim system	11,080.00	3,200.00
	Etobicoke Olympium/High efficiency boilers	44,743.00	8,000.00
	Etobicoke Olympium/Computerized control system	53,720.00	25,000.00
1987	Pine Point Arena/Low Emissivity Ceiling	25,400.00	5,207.00
	Pine Point Arena/Ice pad lighting redesign	4,197.00	1,579.00
	Central Arena/Heat reclaim system	11,967.00	3,600.00
	Long Branch Arena/Heat reclaim system	9,891.00	3,200.00
1986	Etobicoke Olympium/Heat recovery systems	137,758.00	23,626.00
	Norseman Pool/Thermal pool blanket	9,536.32	8,916.00
	Alderwood Pool/Thermal pool blanket	8,877.85	9,184.20

1994 Lillehammer Winter Olympic Games—Environmental Measures

Because every Olympic Games is different from those preceding it—in location, numbers of participants, spectators and visitors, profile of facilities and many other ways—it is difficult to make comparisons. Furthermore, Games organizers prior to Lillehammer not only failed to implement environmental policies, they also kept few records that could be useful as a baseline for identifying weaknesses and making comparisons. Lillehammer must therefore serve as the baseline for subsequent Games—not only Olympics, but major sports events of all types.

The baseline established at Lillehammer is partially qualitative and partially quantitative. Those initiatives which generated quantifiable results and whose figures have already been made available, are listed here. Other steps are more difficult to judge empirically, for example, efforts to preserve natural habitat, work with suppliers and leave a positive legacy. For these, we will have to make do with statements of fact rather than numerical measures. Many of these facts are contained in the Lillehammer case study in Appendix A. Others can be found throughout the text of the book. Although many statistics were not yet available at the time of publication, those that were are listed here.

Figures:

- Population of Lillehammer **24,000**
- Visitors to Lillehammer during Games (daily) **100,000**
- Percentage using public transportation (bus/train) **80%**
- Rate of increase of nitrogen dioxide levels during Games ..... **double**

- Quantity of trash anticipated during Games ..... **800 tons**
- Quantity of trash actually generated ..... **549 tons**
- Percentage of collected materials recycled **50%**

- Official food/drink facilities using plates/utensils with compostable or recycled content **100%**
- Number of compostable potato starch plates used **900,000**
- Number of recycled cardboard plates used **900,000**

- hectares of farmland lost due to Olympics 5
- hectares of wetland lost to Akersvika arena 22

- estimated reduction in energy consumption in Olympic facilities due to conservation measures **30%**

- # of information signs **200,000**
- percentage of signs made from recycled paper **70%**

- percentage of Norwegians who rated environmental protection above Norwegians winning gold medals **65%**

Greening the Hill—Projected Costs and Savings

In 1989, the Speaker of Canada's House of Commons launched a comprehensive review of environmental policies and practices on Parliament Hill. This led to the creation of an action plan in June 1990 known as "Greening the Hill." An Office of the Environment was created to oversee and facilitate the implementation of environmental measures, which have been updated and expanded annually. In 1993, the House of Commons issued its first "Economic Analysis" of the Greening the Hill programme from 1990-1993. The report concluded that in addition to the dozens of environmental achievements, the programme had realized cost savings of more than $700,000. It also projected annual savings of over $500,000. The following table offers a breakdown of the key areas of actual and projected costs and savings.

Table 3
Actual and Projected Costs of, and Savings from, Greening the Hill, 1990-93 ($Cdn)

	Actual to date		Annual Projections	
	Costs	Savings	Costs	Savings
Solid Waste Reduction Initiatives				
Waste Audit	9,200	—	—	—
Better Papersave	271,100	328,800	73,300	95,500
Multi-Material Recycling	78,600	7,200	30,000	3,500
Hazardous Waste Disposal	24,000	—	2,500	—
Total Solid Waste Reduction Initiatives	382,900	336,000	105,800	99,000
Alternative Transportation				
Alternative Fuels Conversion	37,000	29,500	—	15,500
Task Force on Cycling	8,300	—	—	—
Total Alternative Transportation	45,300	29,500	—	15,500
Greening the Inventory	—	570,000	—	340,000
Energy Audit-Confederation Bldg.	164,000	—	—	27,200
Water Audit—Centre Block	58,000	—	—	—
Office of the Environment	252,000	—	101,400	—
Other Reduce, Reuse and Recycle Initiatives				
Paper Reduction and Reuse	—	772,000	—	238,000
Food Services	82,300	—	17,000	—
Other Examples	20,500	13,300	—	47,200
Total Other 3R Initiatives	102,800	785,300	17,000	285,200
Total Costs and Savings	**1,005,000**	**1,720,800**	**224,200**	**766,900**
Summary of Net Savings				
Actual to March 31, 1993		$715,800		
Projected Annually				$542,700

Anticipated Benefits to Victoria of the 1994 Commonwealth Games

Economic Benefits

Total expenditure on hospitality, hotels and shopping ..... $40 million
Anticipated number of bednights in hotels/motels 420,000
Bednights contracted by Victoria Games Society 40,000–50,000
Economic activity generated by Games ..... $500 million
New employment generated ..... 4,800 person years
Construction industry employment ..... 1,000 person years

Facilities Legacy

Investment in new facilities and fit-outs of existings ones ..... $52 million

- Saanich Commonwealth Place pool complex will be a multi-purpose recreation centre after the Games.
- Juan de Fuca Recreation Centre will have four new international lawn bowling greens and an outdoor velodrome.
- Centennial Stadium at the University of Victoria has been upgraded with new permanent seating, new surfacing and a new warm-up track.
- New residences for athletes ($4 million) at the University of Victoria will become student housing.
- New field hockey facility at the University of Victoria.

Sport Legacy

- $10 million Commonwealth Legacy Fund—to be used to foster sport in British Columbia and Canada after the Games.
- $3.1 million earmarked for sport development. Sporting equipment will be left as a legacy to the community, and a sport development programme will contribute to the development of coaches and programmes for amateur athletes in Victoria.

C Resource Lists

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D Contacts

Organizations—Sports and Recreation

Atlanta Committee for the Olympic Games
250 Williams Street, Suite 6000
P.O. Box 1996, Atlanta, GA, USA 30301-1996
Tel: (404) 224-1996 Fax: (404) 224-1997

Nagano Olympic Organizing Committee
KT Building, 3109-63 Kawaishinden
Nagano City 380 Japan
Fax: 81 262 251898

Sydney 2000 Organizing Committee
The Maritime Center, 207 Kent Street
Sydney, NSW 2000 Australia
Fax: (61-2) 931-2020

International Olympic Committee
Chateau de Vidy 1007 Lausanne, Switzerland
Tel: (21) 621-6111 Fax: (21) 621-6216

Commonwealth Games Association of Canada
1600 James Naismith Drive
Gloucester, Ontario, Canada K1B 5N4
Tel: (613) 748-5625 Fax: (613) 748-5781

Canada Games Council
Suite 201, 1600 James Naismith Drive
Gloucester, Ontario, Canada K1B 5N4
Tel: (613) 748-5799 Fax: (613) 748-5759

Canadian Parks/Recreation Association
1600 James Naismith Drive
Gloucester, Ontario, Canada K1B 5N4
Tel: (613) 748-5651 Fax: (613) 748-5854

Canadian Athletes Association
22 Whitney Ave.
Toronto, Ontario, Canada M4W 2A8
Tel: (416) 944-8577 Fax: (416) 969-9247

Participaction
Box 64, 40 Dundas Street West, Suite 220
Toronto, Ontario, Canada M5G 2C2
Tel: (416) 954-1212 Fax: (416) 954-4949

Royal Canadian Golf Association—Green Section
Golf House, 1333 Dorval Drive, R.R. #2
Oakville, Ontario, Canada L6J 4Z3
Tel: (905) 849-9700 (905) 845-7040

Audubon Society of New York State
131 Rarick Road
Selkirk, NY, USA 12158
Tel:(518) 767-9051

Swiss Sports Association
Sport et environnement
Case Postale 202, 3000 Berne 32, Switzerland

International Ski Federation (FIS)
Blochstrasse 2, CH-3653 Oberhofen/Thunersee, Switzerland
Tel: (33) 44 61 61 Fax: (33) 43 53 53

Organizations—Non-Governmental

United Nations Environment Programme (UNEP)
P.O. Box 30552, Nairobi, Kenya
Tel: (25 42) 333-930 Fax: (25 42) 520-302

Friends of the Earth (Canada)
251 Laurier Ave. W., Suite 700
Ottawa, Ontario, Canada K1P 5J6
Tel: (613) 230-3352 Fax: (613) 232-4354

Friends of the Earth (Norway) /PEFO
The Norwegian Society for Conservation of Nature
P.O. Box 368, N-2601
Lillehammer, Norway
Tel (47) 61 26 30 45 Fax: (47) 61 26 08 58

Greenpeace Australia
41 Holt Street, P.O. Box 800, Surry Hills
NSW 2010 Australia
Tel: 61-2-211-4066 Fax: 61-2-211-4123

International Council for Local Environment Initiatives (ICLEI)
8th floor, East Tower, City Hall, 100 Queen Street
Toronto, Ontario, Canada M5H 2N2
Tel: (416) 392-1462 Fax: (416) 392-1478

International Institute for Sustainable Development (IISD)
161 Portage Ave. E., 6th Floor
Winnipeg, Manitoba, Canada R3B 0Y4
Tel: (204) 958-7700 Fax: (204) 958-7710

Organizations—Governmental

Active Living - Go for Green Canada
Suite 601, 1600 James Naismith Drive
Gloucester, Ontario K1B 5N4
Tel: (613) 748-5895 Fax: (613) 748-5734

Health Canada - Healthy Environment Programme
Health Promotion Directorate
4th floor, Jeanne Mance Building
Ottawa, Ontario, Canada K1A 1B4

Health Canada, Health Programmes and Services Branch
Active Living and the Environment Programme
200 Promenade du Portage
Place du Centre, Level 2
Hull, Quebec, Canada K1A 0X6

Environment Canada - Office of Environmental Stewardship
Terrasses de la Chaudiere
5th floor, 10 Wellington St.
Hull, Quebec, Canada K1A 0H3
Tel: (819) 997-8346 Fax: (819) 953-4130

National Roundtable on the Environment and the Economy (NRTEE)
1 Nicholas Street, 15th floor
Ottawa, Ontario, Canada K1N 7B7
Tel: (613) 992-7189 Fax: (613) 992-7385

Individuals

Phil Reilly
Environmental consultant/activist
Land use planning and golf course environmental impacts
R.R. 2, Kinburn, Ontario, Canada K0A 2H0
Tel: (613) 832-2965

Conferences and Courses

The Global Environment Management Initiative (GEMI) is a centre of corporate leadership and thinking on environmental management. Courses are offered on environmental management issues.
Tel: (202) 296-7449 Fax: (202) 296-7442

An Environmental Issues for Journalists program is offered by the University of Western Ontario. Contact the Office of the Dean, Graduate School of Journalism, Middlesex College, University of Western Ontario, London, Ontario, Canada, N6A 5B7.
Tel: (519) 661-3383 Fax: (519) 661-3848

E Codes of Practice

Appendix E contains a number of examples of Codes of Practice, Principles, Guidelines, etc., which could be applicable to different sectors of the sports industry. Each sector or group will want to develop its own set of guidelines, directed at its particular activities, perhaps drawing on some of the efforts of others below.

The Canadian Environmental Advisory Council in its March 1992 report "Ecotourism in Canada"[1] makes some useful recommendations to those going through the process of defining their own Code. These include:

- "recognize the preeminence of environment and resources... and the importance of carrying capacity, facility placement, and other means to maintain and enhance environmental integrity and fulfil sustainable development objectives"
- "generate total commitment to quality; all levels must subscribe to quality; quality must be grounded in vision and principles that all believe in"
- "specify the roles of players and their responsibilities"
- identify "procedures for delivering codes to their target audiences... such as through industry, association and government publications"
- codes should be widely publicized in all media
- "exemplary application of codes should be publicized and rewarded to set examples for others to follow"
- "include a monitoring system to determine compliance or the lack of it"
- "codes must be designed to acknowledge both the economic and ecological benefits for all of properly conducted ecotourism"
- "acknowledge the various institutional arrangements in place for conserving the host environment and society"

[1] Canadian Environmental Advisory Council, "Ecotourism in Canada," Ministry of Supplies and Services Canada, March 1992, pp. 28-29.

Environmentally Responsible Golf
Environmental Guidelines for Canadian Golf Clubs
Royal Canadian Golf Association, April 1993[2]

Statement of Intent

The Royal Canadian Golf Association is committed to taking every practical precaution towards ensuring that products and techniques used in the development and maintenance of golf courses present the lowest possible risk to their employees, golfers, the public or the environment.

Guiding Principles

The Royal Canadian Golf Association and its member clubs subscribe to the following principles:

1. Ensure that all operations present the lowest possible risk to employees, golfers, the public and the environment.
2. Comply with all legal requirements affecting operations and products.
3. Develop and implement self-initiated action plans to conserve and enhance natural resources.
4. Be responsive and sensitive to community concerns.
5. Communicate with and assist governments to encourage fair and attainable standards based on scientifically supported data.

Other sections include:

Guidelines for Golfers

Guidelines for Golf Designers and Developers

1. Site selection
2. Design considerations
3. Construction

Guidelines for Golf Club Directors, Managers and Superintendents

1. Planning and policies
2. Alternative pest controls
3. Fertilizer and pesticide use
4. Wildlife and wildlife habitats
5. Water use
6. Clubhouse operations

[2] Reprinted with the permission of the RCGA. Copies of the complete guidelines can be ordered from the RCGA at the address listed in Appendix D.

CERES Principles

The CERES Priniciples (formerly known as the Valdez Principles) were created in 1989 by the Coalition for Environmentally Responsible Economies, a project of the U.S. Social Investment Forum. They are broad standards for evaluating corporate activity, intended to help organizations set policy and enable investors to make informed decisions on environmental issues.

Introduction

By adopting these principles, we publicly affirm our belief that corporations and their shareholders have a direct responsibility for the environment. We believe that corporations must conduct their business as responsible stewards of the environment and seek profits only in a manner that leaves the Earth healthy and safe. We believe that corporations must not compromise the ability of future generations to sustain their needs.

We recognize this to be a long-term commitment to update our practices continually in light of advances in technology and new understandings in health and environmental science. We intend to make consistent, measurable progress in implementing these Principles and to apply them wherever we operate throughout the world.

1. Protection of the Biosphere
   We will minimize and strive to eliminate the release of any pollutant that may cause environmental damage to air, water, or earth or its inhabitants. We will safeguard habitats in rivers, lakes, wetlands, coastal zones and oceans and will minimize contributing to the greenhouse effect, depletion of the ozone layer, acid rain or smog.

2. Sustainable Use of Natural Resources
   We will make sustainable use of renewable natural resources, such as water, soils and forest. We will conserve nonrenewable natural resources through efficient use and careful planning. We will protect wildlife habitat, open spaces and wilderness, while preserving biodiversity.

3. Reduction and Disposal of Waste
   We will minimize the creation of waste, especially hazardous waste, and wherever possible recycle materials. We will dispose of all wastes through safe and responsible methods.

4. Wise Use of Energy
   We will make every effort to use environmentally safe and sustainable energy sources to meet our needs. We will invest in improved energy efficiency and conservation in our operations. We will maximize the energy efficiency of products we produce and sell.

5. Risk Reduction
   We will minimize the environmental health and safety risks to our employees and the communities in which we operate by employing safe technologies and operating procedures and by being constantly prepared for emergencies.

6. Marketing of Safe Products and Services
   We will sell products or services that minimize adverse environmental impacts and that are safe as consumers commonly use them. We will inform consumers of the environmental impacts of our products or services.

7. Damage Compensation
   We will take responsibility for any harm we cause to the environment by making every effort to fully restore the environment and to compensate those persons who are adversely affected.

8. Disclosure
   We will disclose to our employees and to the public incidents relating to our operations that cause environmental harm or pose health or safety hazards. We will disclose potential environmental, health or safety hazards posed by our operations, and we will not take any action against employees who report any condition that creates a danger to the environment or poses health or safety hazards.

9. Environmental Directors and Managers
   We will commit management resources to implement the CERES Principles, to monitor and report upon our implementation efforts, and to sustain a process to ensure that the Board of Directors and Chief Executive Officer are kept informed of and are fully responsible for all environmental matters. We will establish a Committee of the Board of Directors with responsibility for environmental affairs. At least one member of the Board of Directors will be a person qualified to represent environmental interests to come before the company.

10. Assessment and Audit
    We will conduct and make public an annual self-evaluation of our progress in implementing these Principles and in complying with applicable laws and regulations throughout our worldwide operations. We will work towards the timely creation of independent environmental audit procedures which we will complete annually and make available to the public.

Swiss Sports Association "Be Fair to Nature" Codes of Behaviour[3]

The Swiss Sports Association has produced a series of brochures under the title "Be Fair to Nature" proposing Codes of Behaviour for participants in a number of possible sports.

Code of Behaviour for Skiers

- Always keep to the marked runs.
- Observe local notices, regulations and barriers.
- Keep away from game feeding preserves and from the animals themselves.
- When in forested areas, never ski in deep snow or leave the prepared runs.
- Keep yourself informed of danger from avalanches.
- And by the way... ski tracks in deep snow are no guarantee of safety.

Code of Behaviour for Ramblers

- Please protect arable and grazing land by following the paths.
- Alpine and meadow flowers look best where they grow, so please leave them there.
- Animals love their peace and quiet and should therefore not be disturbed.
- Please shut the lattice gates between pastures after you have gone through. The farmers will be grateful.
- Fire may only be lit with caution and in suitable places.
- Litter should be taken home with you or thrown into the bins provided.
- Have regard for others. It will also be to your own benefit.

Code of Behaviour for Mountain Bikers

The Swiss Sports Federation and the Swiss Tourism Federation recommend these rules of good behaviour for mountain bikers:

- We—and the Swiss Office for Accident Prevention—advise you to wear a safety helmet.
- Please take care of our flora and fauna—the environment is everyone's responsibility.
- As a mountain biker, please be courteous to hikers and yield to them the right of way.
- Please leave no refuse behind.
- Make sure you avoid narrow paths or tracks, close all gates and don't ride cross-country.
- By all means ride on regular paths, dirt and paved roads and designated mountain bike routes.

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[3] Reprinted with the permission of the Swiss Sports Association.

- And remember, road equipment is mandatory for mountain bikes and the sport is governed by two specific articles of law:
  - "On public roads, bicycles known as mountain bikes must be fully equipped in the manner of other bicycles.
  - "Roads and paths such as footpaths and hiking trails not suited to motor vehicle and bicycle traffic or obviously not intended for their use, shall not be travelled by such vehicles."

Water-Sports Enthusiasts Protect Nature

- Water-sports enthusiasts protect nature and treat it with care. Nature provides the balance for human, animal and plant life. And only a healthy and intact environment can provide the conditions for leisure activities in and on the water.
- Water-sports enthusiasts with an awareness of nature keep away from reed beds and bank vegetation. They try to avoid disturbance from excessive wash and noise, thus protecting the living space of our animal and plant world.
- Responsible water-sports enthusiasts protect the rivers and lakes, for these are their own sports grounds and leisure areas, which they use for rest and recreation.
- Considerate water-sports enthusiasts are well informed. They avoid protected areas and nature reserves. They also prevent all disturbance of plant and animal life by and in the water. They know the breeding and closed seasons of water birds and how important water plants are for the maintenance of ecological balance.
- Well-informed water-sports enthusiasts appreciate the fragility of our waters and they realize the limits of what we as humans can impose on nature and the environment. With their environmentally-conscious behaviour on all rivers and lakes, they make their contribution towards an improvement in the condition of our natural living space.

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Greening Our Games

Running Sports Events and Facilities that Won't Cost the Earth

NAME: _____ TITLE: _____

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Greening our Games

The 'eco-efficiency' guide for sports and recreation decision-makers

Discover how to

- save time and money through "eco-efficient" management practices
- attract new sponsors with a green profile
- develop partnerships with suppliers, donors and community groups
- avoid costly mistakes, fines and remediation by reducing risks
- improve the quality of the sports experience by putting participants first
- protect environmental health by practising environmental stewardship

Greening Our Games is the first book to show sports decision-makers how to reduce their environmental impact and pocket the savings through 'eco-efficiency.' It covers every issue today's manager and organizer must be ready to deal with. It describes how sport affects and is affected by the health of the environment. It explains not only *why* the sports community should address these concerns but *how* to go about doing it. It offers practical, step-by-step guidance that is as accessible to the student as it is to the professional. *Greening Our Games* offers a promising vision of sport for the future; a model of "sustainable sport" which is admirably suited to addressing the economic, environmental, health and social concerns of the sports industry and the communities in which it operates.

David Chernushenko is an environmental consultant, writer and senior associate with The Delphi Group in Ottawa. He has worked with External Affairs and International Trade Canada as executive assistant to Canada's chief negotiator for the 1992 Earth Summit. He has also served as international news editor at the *Asahi Evening News* (Tokyo) and editor of the *Cambridge Review of International Affairs*. He holds a BA (honours) degree in political studies (Queen's University at Kingston) and an M.Phil. in international relations (Cambridge University). He engages in a wide variety of sports and outdoor activities, and has experience as a coach and referee.

"*Greening Our Games* offers a persuasive argument and prescription for putting health—both human and environmental—back into sport."
Dr. Andrew Pipe, University of Ottawa Heart Institute
Chief Medical Officer, 1992 Canadian Olympic Team

"Respecting the environment must be a priority for sport... *Greening Our Games* provides valuable insight for organizers and boosters—a blueprint for responsible staging of all types of sporting events."
Ken Read, Olympic skier, broadcaster,
President of Read & Company

"*Greening Our Games* will help further understanding of the ways in which economic development and environmental integrity can be mutually supportive."
Elizabeth Dowdeswell
Executive Director, United Nations Environment Programme

"An incredibly authoritative work. *Greening Our Games* is the most practical and helpful guide to environmentally-responsible sporting events I've seen. The information... is cutting-edge and very, very useful."
Russell S. Gaskin
Co-op America Business Network

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