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Guide Overview —

The *NTA Tour Operators Guide to Sustainable Tourism* is geared toward inbound and outbound tour operators of all sizes. It is designed to give you the information and resources you need to take the first steps towards sustainability or to improve your existing approach.

Information contained in this guide addresses the unique needs of tour operators and provides useful tips on how to measure and manage your business’ impacts. Information is organized by topic, to give you a broader view of all the ways tour operators impact the people and places they visit. The topics covered in this guide include supply chain management, energy, air, waste, water, community, conservation, and corporate philanthropy.

Each section is organized so you can:

- Understand the issues involved in sustainability within the context of the tourism industry;
- Identify practical ways to implement best practices; and
- Learn about other’s best practices with respect to each section topic.

In addition, Section II—*Integrating Sustainable Tourism into your Business*, provides in-depth information on how to craft your own sustainability policy and incorporate it into your operations.

The appendices provide further useful information and links to other accredited resources that might be helpful to you. There’s also a comprehensive Glossary and additional information on a couple of critical topics.
1. An Introduction to Sustainable Tourism

In our modern era, the word “sustainable” is commonly used. In fact, a lot of “green” words and phrases have become so overused that they’ve lost some of their pungency and meaning. It is important that these meanings do not get lost in your mission to improve your operations. This history of the sustainable tourism movement might help lend credentials to your understanding. So let’s take a minute to talk about what sustainability actually means, to you and your business, and where it came from.

In 1992, 100 governments and heads of state from around the world came together at the United Nations Convention on the Environment and Development (UNCED, also known as the Earth Summit). They discussed the state of the world’s environment and the measures necessary to decrease the negative effects of development on the natural world in order to have a more sustainable future. Although many pivotal decisions were made at this summit, tourism as a tool for positive economic development was not discussed. Nor were its negative or positive impacts on the world part of the discussions. (UNCED Earth Summit+5, UNEP 2005, p.8)

Ten years later, the leaders of world governments came together again, and this time they included tourism in their discussions. The World Summit on Sustainable Development, hosted in Johannesburg, South Africa in 2002, focused on assessing progress since the 1992 Earth Summit, and addressing concerns for the future. By this time, the international travel and tourism industry was considered a powerful force in economic development and potential degradation across the world, and also as a tool for sustainable development. 2002 was also deemed the International Year of Ecotourism by the UN General Assembly. The following year in 2003, the World Tourism Organization (WTO) general council and the UN agreed to establish the WTO as a specialized agency of the UN, which is now known as the United Nations World Tourism Organization (UNWTO). (UNDESA, 2009)

Spurred by this international dialogue, in 2008 the Global Sustainable Tourism Criteria (GSTC) were created in a partnership between the UNWTO, Rainforest Alliance, the United Nations Foundation and the United Nations Environment Program. The GSTC represent an effort to reach common ground and provide baseline criteria for sustainable tourism. The criteria are organized around four pillars of sustainable tourism:

1. Effective sustainability planning
2. Maximization of social and economic benefits to the local community
3. Reduction of negative impacts to cultural heritage
4. Reduction of negative impacts to environmental heritage

These international agreements and coalitions reflect a broader environmental movement that, since the 1980s, has been pushing for sustainable development. Today, environmental policies, eco-labels, green hotels and corporate responsibility initiatives and programs have become commonplace. Going “green” probably is not new to you either, which may be why you’ve reached out to STI in the first place.

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1.1 Tourism—The Industry and Its Impacts on the Triple Bottom Line

Moving in the “green” direction seems to be the popular thing to do these days; industry leaders across all sectors are increasingly aware of and taking advantage of the benefits and opportunities sustainable business practices offer. The tourism industry is no exception. And it’s not a small industry either. According to the United Nations World Trade Organization (UNWTO), international tourism is not only one of the fastest growing economies in the world today, but also one of the largest. Ranked fourth in the world economy, the overall export generated by international tourism in 2008 reached US$ 1.1 trillion. Although 2009 did show an overall decrease in international tourism, that decrease was only 5% from the previous year, and remarkably lower than the UNWTO projected. In that last financial quarter of the year, tourism was on the rise again, with notable increases in air transport, hotel reservations and overall international tourist receipts. (UNWTO *World Tourism Barometer*)

It is clear that the overall trend in the tourism industry was only slightly dampened by the economic troubles of 2009. International tourist arrivals have grown from only 438 million in 1990, to 684 million in 2000, and reached a peak of 922 million in 2008. By 2020, the UNWTO expects that international tourist arrivals will reach 1.6 billion. (UNWTO *Tourism Highlights*)

Think of the impacts. In recent years, the negative environmental and socio-cultural effects of tourism have become more apparent. There is ample evidence to support the fact that transportation impacts global climate change. Host communities face resource-use conflicts, land-use disputes, and the loss of their indigenous identity and values. Pollution, deforestation, and the alteration of ecosystems have resulted from shortsighted tourism development.

Yet while those negative impacts have received increasing notice and concern of late, it has also become increasingly clear that customers prefer responsible travel. According to *National Leisure Travel Monitor*, 80% of travelers consider themselves environmentally conscious (*National Leisure Travel Monitor, 2009*). Another market study reports that 67% of travelers would prefer environmentally responsible travel options. (PhoCusWright)

By moving towards sustainable operations, you can attract those travelers and provide them with the environmentally and socially responsible travel options they prefer. The purpose of sustainable tourism is to allow tourism to develop in a way that is fair and equitable for host communities. Sustainable tourism is economically viable in the long-term, and it avoids damage to tourist attractions and the physical environment. “By definition, sustainable tourism is focused on generating positive impacts for the places your company visits and the planet at large. It refers to a level of tourism activity that can be maintained over the long term because it results in a net benefit for the social, economic, natural and cultural environments of the area in which it takes place. So, in implementing sustainability within a company, what we’re really talking about is measuring business-related performance based on the triple bottom line.” (Krahenbuhl and Mullis, p.1, 2002-2008)
1.2 The Triple Bottom Line

Generally speaking, sustainable tourism aims to conserve and protect the people and places we visit. It does this by addressing the potential impacts of tourism on three main areas: environmental protection, socio-cultural responsibility, and economic health. By focusing on these, the “triple bottom line,” it adds socio-cultural and environmental dimensions to the traditional economic benchmarks for measuring success. A positive triple bottom line means a net improvement in conservation of the natural environment, social benefit for local communities, profitability for shareholders, and gain for national or regional economies.

*Environmental Impacts*

Environmental impacts affect land, air, water and other organisms and ecosystems. How your business recycles waste, utilizes energy efficiently, controls water usage, minimizes greenhouse gas emissions, and protects natural ecosystems are all measures that play a vital role in environmental impact management. Concentrated and organized efforts to minimize any negative impacts will greatly improve your sustainability and promote a healthier and cleaner environment.

*Socio-cultural Impacts*

Socio-cultural impacts affect local communities’ social structures and cultures. Tourism providers benefit communities by discouraging cultural imperialism, supporting cultural diversity, and promoting tolerance and acceptance of different ways of life and belief systems. How your business enhances its positive socio-cultural impacts and helps local communities and indigenous peoples maintain their cultural integrity in the face of vast economic and societal pressures can greatly benefit both business and community. Thoughtful efforts to foster pride in cultural traditions and promote cultural exchange in the communities where your business operates can effectively preserve cultural identity and improve quality of life.

*Economic Impacts*

Economic impacts are usually categorized as direct, indirect or induced. *Direct impacts* include monetary transactions involving tourism businesses themselves and include all wages, taxes, supplies and services directly affected (e.g., tourists paying their adventure tour fee). *Indirect impacts* are changes in sales, income, or employment within the region of industries that supply products and services to the tourism industry (e.g., increased sales in transportation services resulting from an increase in the number of adventure travelers). *Induced impacts* are changes in economic activity resulting from household spending of income earned directly or indirectly from the tourism industry and include all sales, income, and jobs that result from household spending of increased wages or salary (e.g., local tour guides spending their income on housing, food, transportation, and household products and needs). Your business’ success will be reflected in your total direct, indirect and induced economic impacts. Enhancing your business’ positive economic impacts can generate employment and business opportunities while improving your bottom line, furthering economic development, and contributing to a region’s overall appeal.
“Leakage” is a negative economic impact that must be addressed. When a tour operator buys supplies or services from outside the region(s) in which it operates, or when most of the revenues associated with a tourism service don’t remain in the host country, the money spent is “leaking” out of the local economy and providing no local direct or indirect economic impact. To be economically sustainable, tourism providers must minimize economic leakage to the greatest extent possible.

1.3 The Role of Tour Operators —

Each sector of the tourism industry plays a slightly different role within the industry, and has varying impacts on the triple bottom line. It is important to recognize that as a tour operator, your role is quite different from that of other industry sectors. This guide is designed to give you the information most appropriate for your operations. Let’s examine the unique role of tour operators.

Tour Operators as Intermediaries

As intermediaries between consumers and destinations, tour operators gain exclusive knowledge about what both consumers and other tourism providers want and need. This position as an intermediary between guest and destination allows tour operators to build on that knowledge and influence the behaviors and practices of both sides of the equation. Tour operators have great potential to make a contribution towards sustainability by altering the way destinations are marketed, influencing the choices consumers make, and positively advising tourist providers on what modern tourists expect in a holiday package. In this way, tour operators can be the catalyst for bringing different tourism industry sectors together towards the same goal of sustainability.

Leading by Example

Tour operators also lead by example and in this way influence the behaviors, perceptions and attitudes of their customers. By upholding certain standards within your own operation — like for example ensuring there is proper disposal for recyclables throughout the tour, treating the environment with respect by sticking to marked trails and paths, and treating locals with respect and tolerance — tour operators can act as proper role models for their travelers, who may feel uncomfortable in a new setting and not know how to act or behave appropriately.

Sources of Education and Inspiration

In addition, tour operators are the number one source of information and education for travelers about the people and places they visit. When travelers decide to book a tour or adventure trip with a tourism provider, they trust that provider to create an experience that does not only include logistical needs such as transportation, food and lodging, but also includes an education and passion for the destination. Signing up for a tour is very different than traveling solo because travelers expect to have access to sources of information that wouldn’t be otherwise accessible. For example, the unique knowledge of local guides, an insider’s explanation of a cultural tradition, or historical information about the place and people in the destination are all part of the package expected from a tour.
2. Integrating Sustainability into Your Business—Economics, Policy and Management

2.1 The Economics of Sustainability

Tourism is arguably the world's largest industry. It generates about 10% of total world gross domestic product and employs over 10% of the global workforce, and it's on the verge of tremendous growth. In 2008, there were 924 million international tourism arrivals – an increase of 16 million over 2007 and a figure that the World Tourism Organization expects to reach one billion by 2010.

Sustainable tourism currently only represents 4% of the overall market, but is set to increase dramatically. Consumer purchasing trends (both within and beyond the tourism industry) reveal the driving force of this budding market shift. More than half of all U.S. adults say they would be more likely to select an airline, rental car or hotel that uses more environmentally friendly products and processes. (Travel Industry Association and Ypartnership)

44% of U.S. travelers consider environmental impact to be important to them when planning travel. The high propensity of green supporters to vote with their wallet leaves opportunities for premiums for green travel. Nearly one third of U.S. travelers would pay such premiums, but these savvy consumers are looking for practices that go above and beyond cursory measures. (PhoCusWright)

Going green is good for business. Although most Americans are unfamiliar with the term "carbon footprint," fully 85% consider themselves to be "environmentally conscious." And an impressive four out of ten now state they would consider shifting their patronage to a travel service supplier who demonstrates environmental responsibility. (Ypartnership)

These statistics are evidence of the tremendous momentum garnered by the sustainable tourism movement over the past 5-10 years. Despite this rapid growth, we’re barely scratching the surface of the impacts from the world’s largest industry. For better or for worse, our environmental, climate, and cultural problems are not disappearing, and in order to thrive in this uncertain future, we have to protect the very resources that our industry depends on.

2.2 The Benefits of Sustainable Tourism for Tour Operators

*Improved Profitability and Competitive Advantage*

Industry leaders are now putting more effort into and applying more resources toward “green” initiatives during these trying economic times, which is enabling them to reap enhanced rewards in terms of cutting costs and increased competitive advantage. The average company engaged in sustainable business practices sees an incremental improvement in their bottom lines.
Sustainable tourism lowers costs through enhanced resource efficiencies such as increased energy efficiency and reductions in waste. One example of a return on investment (ROI): The Sandals Hotel Group, encompassing 18 resorts and hotels in the Caribbean, achieved a savings of $1.375 million and significant reductions in solid waste and freshwater consumption over a four-year period of time after introducing an environmental management system to meet sustainable tourism certification standards. (Green Globe 21)

Corporate responsibility has become a competitive advantage. Consumers are coming to expect that their travel providers are actively involved in corporate social responsibility (CSR) and sustainability initiatives, and those that successfully engage in such practices are reaping the benefits. For instance, Exodus, a UK-based adventure tour operator, developed a “Responsible Tourism Policy” in 2000. The policy formalizes the company’s commitment to environmental, social and economic sustainability and applies to its entire operations. Since the policy was implemented, Exodus has derived a number of benefits, including but not limited to increasing bookings, attracting positive publicity in the media as well as industry recognition, and supporting destination stewardship. (TOI)

*Increased Market Strength, Market Differentiation, and Customer Loyalty*

The green movement has rapidly transitioned from niche to mainstream. Major companies – from GE to Wal-Mart – have jumped onboard, promotional messages have changed, and the American public is increasingly looking at green products as a normal part of everyday life.

No matter how you classify them – responsible travelers, L.O.H.A.S. customers (Lifestyles of Health and Sustainability) or conscientious consumers – a majority are now making purchasing decisions based on their personal values. All of the research indicates that when quality and convenience are perceived to be equal, these individuals will select an eco-friendly product or service when available – and some will even pay a premium for it. The estimated number of LOHAS consumers is 63 million strong and growing and is in line with the number of responsible travelers. These consumers represent a market conservatively estimated to represent more than $226 billion in annual sales in the U.S. and more than $540 billion worldwide. (LOHAS, 2001)

A couple notable statistics:

- The latest findings from Mintel reveal that 36% of American adults claim to “regularly” buy green products. In 2006, only 12% said they “regularly” purchased green products.

- The number of people who “never” purchase green products has been cut in half over the past, according to Mintel. In 2006, one in five Americans (20%) claimed to “never” buy green products. In 2008, only 10% of the population made such claims.

Successful travel companies offer quality service, new and exciting destinations, frequent traveler discounts, etc to secure the loyalty of the clients they serve. But now customers are demanding more. 58.5 million Americans say they would pay more to use a travel company that strives to protect and preserve the environment. The majority (61%) of those who would pay more to use such companies

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would pay 5-10% more. (National Geographic Traveler)

Responsible travelers are attracted to travel companies that employ sustainable business practices, and this target market represents a huge profit arena. Clearly, the so-called "green movement" is not a fad. It has become part of consumer and corporate culture and many of the problems (like global climate change and social inequity) aren’t getting any better.

Attraction of Talent

Sustainability is a key value of today’s new work force. A company committed to this value holds a market advantage in recruiting this talent. Both graduates and industry professionals are increasingly looking to green jobs. A recent Wall Street Journal poll on green employment found that 80% of young professionals are interested in securing a job that has a positive impact on the environment, and 92% would be more inclined to work for a company that is environmentally friendly. (The Wall Street Journal)

Key findings from the "2008 Corporate Sustainability Employee Study,” which was released in August (TIME), reveals that most employees have embraced the principles of corporate responsibility; they want the change, and they are looking for ways to bring their values to work. In order to facilitate this, they need to be educated, understand employers’ goals and objectives, and have a stake in setting them.

Preservation of the Destination

Ensuring the preservation of destinations and cultures for future generations equates to more attractive environments, and increased satisfaction from your guests. 61% of American travelers believe their experience is better when their destination preserves its unique natural, historic, and cultural sites. In addition, 41% of these travelers said their vacation experience is better when they can see and do something authentic. (TIA and National Geographic Traveler, 2003)

"Personal passions" are a key driver of vacation planning, and vacations which incorporate one or more passions result in longer trips and higher spending. An example of this concept at work: The Little Nell Hotel in Aspen adds $2 to their guests’ lodging bills for the Aspen Valley Land Trust. Guests not wishing to pay this amount can ask for it to be removed from their bill but almost none do. Approximately $30,000 is raised annually. The money helps preserve the quality of the surrounding environment and open space. (Aspen-Snowmass)
2. 3 How to Integrate Sustainability into your Business

**Step 1: Write Sustainability into Policy**

Your first step toward embracing sustainable business practices entails creating a sustainability policy, implementing it, and communicating it to employees. A well-written sustainability policy will define and help you to clearly communicate your organizational goals and objectives as they relate to your environmental, socio-cultural, and economic performance.

The purpose of your sustainability policy is to help guide decision-making, management and the daily operations of your business in a sustainable manner.

To prepare an effective sustainability policy, follow the six steps outlined below:

**Step 1: State Your Commitment** - Begin by clearly stating your business’ commitment to achieve environmental, socio-cultural, and economic performance goals and objectives. This approach will provide a solid framework for developing a management plan for implementing your policy.

**Step 2: Make it Clear and Concise** - Write your sustainability policy in such a way that it is clear, concise, and the language and orientation match your existing literature so that it fits into your mainstream business operations. This approach will help integrate the policy into your operations and will facilitate a more fluent process for achieving your objectives.

**Step 3: Prioritize Your Efforts** - Ensure that your policy provides guidance about the specific issues and impacts that are important and relevant to your business operations. This requires that you identify the environmental, socio-cultural, and economic impacts associated with your business, such as the amount of energy and water consumed, the amount of greenhouse gases emitted, and the economic benefits provided to local communities. Once you’ve identified which impacts are most important to your business, prioritize your efforts according to your most significant impacts, which will help you to establish a framework for your management plan.

**Step 4: Address Your Connections** - Address your connection to stakeholders (those who have a stake in how you operate your business). Determine how you’re going to cooperate with your employees, clients, suppliers, and local communities:

*Employees* - It is essential that you obtain their support of your company’s sustainability policy since your success largely depends on their active participation. If they have a stake in the process, they’ll be much more likely to contribute to your sustainability goals and objectives. In addition, your staff must receive the training required to positively contribute to organizational goals and objectives. Executed effectively, this approach will help to streamline the process of achieving sustainability.
Clients - Communicating your efforts toward sustainability to clients is a great way to stimulate interest and cooperation. It’s also a great selling point! By promoting your related goals and objectives in your marketing materials, you can effectively raise consumer awareness of the sustainability issues your company is addressing. This approach will encourage your customers to do their part in contributing to these efforts, making the transitional process toward sustainability more seamless.

Suppliers - Establish consistency and uniformity by ensuring that all service providers and subcontractors adhere to comparable sustainable tourism standards. Find out what they’re doing: determine if they have a sustainability policy, if they follow specified standards, and if they have certification from a sustainable tourism program. If you find that your service providers are not as devoted to sustainability as you’d like, then consider educating and helping them achieve a higher level of sustainability, so they can meet your requirements.

Local Communities - Local communities are central to many tourism operations and should be invited to play an active, collaborative role in your business operations. Working with one another to enhance economic development that equally benefits both business and community should be a regular process by which your organization interacts within its region(s) of operation. This approach will allow the communities in which you operate to embrace your organization as part of their social system and consider your business a viable asset to the community, while simultaneously improving your product offering.

Step 5: Focus on Continuous Improvement - Set fixed objectives and goals – quantified by measuring your impacts – and create systems to measure your progress. Monitor your progress internally, through third party assessments, and/or from customer feedback mechanisms. If necessary, seek assistance from a third-party environmental specialist when analyzing your facilities and operations and addressing your business’ and your client’s impacts. This approach will provide you with information vital to enhancing your level of sustainability, affording you with opportunities to make well-informed financial decisions and plans.

Step 6: Update and Review Annually - Your sustainability policy should be a living document – something which will evolve along with your business. Review it annually to ensure that it’s up-to-date. Eliminate practices that aren’t working and develop new ones to address issues that may have come up during the past year.

Step 2: Impact Assessment

You can’t manage what you don’t measure. It is an old management adage that is still accurate today: Unless you measure something, you don’t know if it is getting better or worse.

Undertaking an impact assessment will help you identify the issues and impacts related to your business, and help you to prioritize them and identify projects, systems and employees to measure and
manage them. The goal here is to begin to gather data, and establish a baseline level of performance utilizing quantifiable metrics for any impacts that have been identified as a priority.

The eight primary steps to conducting a successful impact assessment are:

1. Obtain buy-in – ideally a commitment from management
2. Collect detailed data – to help establish a baseline level of performance
3. Identify possible areas for improvement and potential hurdles you may encounter
4. Set goals and objectives
5. Identify and evaluate cleaner and greener consumption and production options
6. Implement a system for ongoing measuring and monitoring
7. Get key employees involved and to the extent possible your clients as well
8. Focus on continuous improvement

The following sections describe the primary environmental, socio-cultural, and economic impacts associated with businesses in the travel and tourism industry. By measuring your impacts across these areas, you’ll have an accurate picture of your company’s “footprint.” Further details on measurement and impact management can be found in later chapters of this guide.

**Responsible Purchasing — Supply Chain Management**

Responsible purchasing is an easy way to make a difference. By utilizing your spending power to buy locally produced goods and services, and purchasing products that have a reduced environmental impact, you can: actively support the growing green products market; enhance the marketability of your business; improve your reputation among guests and others, and; reduce your carbon footprint and waste disposal costs.

**Energy Efficiency, Conservation and Management**

The greatest environmental and financial benefits related to business operations are achieved by frequently monitoring utility bills, effectively training and providing incentives for staff to implement energy efficiency programs, and the preventive and routine maintenance of office and other mechanical equipment. Your electricity, gas, and petroleum bills / receipts are perfect indicators for measuring your monthly and annual levels of consumption.

**Air Quality Protection — Greenhouse Gas Emissions Reduction and Noise Management**

Being aware of your operation’s impact on air pollution and greenhouse gas emissions in particular is vital to management and reduction. The goal is to work towards becoming carbon neutral by reducing your emissions where possible, which in turn will save you money in the short-term, or provide a ROI over time if you invest in renewable energy or more fuel efficient vehicles, for example. Some companies offset unavoidable emissions as well.

We’re all exposed to environmental pollutants and related health risks almost every day of our lives. Some risks are almost unavoidable. However, by ensuring that your air is clean and that
...your noise levels don’t adversely affect others, you can proactively address the less visible impacts your business may have on its surroundings.

**Solid Waste Management**

To complete an impact assessment for waste, first determine how much of your waste can be recycled, reused or composted versus how much goes to a landfill. Then determine the volume or mass of your solid waste and recycling. The goal is to work towards zero waste by reducing consumption of non-recyclable materials, increasing resource efficiencies, recycling and composting. Integrating solid waste reduction and recycling practices into your operations will also help to cut your costs, by for example, reducing hauling and disposal fees.

**Freshwater Consumption Reduction and Wastewater Management**

With 1.5 billion people lacking safe drinking water, the problem of water scarcity already is a reality throughout many parts of the world. If you own your facilities or operate trips in arid regions of the world, we encourage your company to start thinking about water conservation. Fortunately, measuring water consumption associated with your facilities doesn’t require much effort; your water bills are perfect indicators of monthly and annual levels of consumption.

**Ecosystem and Biodiversity Conservation**

Biodiversity provides us with life-sustaining systems such as clean air, productive ecosystems, fresh water, and fertile soil. Business activities undoubtedly affect our ecosystems. Since individual business impacts vary considerably, you’ll need to consider the specific ecosystems and habitats where your business operates in order to accurately assess your related impacts.

In terms of measuring your impact, consider the annual value of charitable donations allocated toward environmental, ecosystem and biodiversity conservation or total number of hours of and/or volunteer contributions allocated toward conservation annually. You could also measure your performance based on the number of acres annually preserved from development.

**Land Use Planning and Management**

Exercising your ability to protect the environment and enhance the well being of local communities through land use planning and management will help to ensure that your business positively impacts both. Planning in conjunction with local stakeholders (like public land managers, developers, and planning boards) can minimize the risks of future environmental problems and improve your guest’s experience — leading to positive publicity and increased economic benefits for your business and the local community.

In terms of measurement, consider the amount of time spent meeting with stakeholders to develop land use planning strategies and/or management plans or the annual value of resources allocated to a) developing land use planning strategies and/or management plans; b)
environmental and socio-cultural impact studies and assessments; c) signage and educational materials related to proper land use of public and/or private lands.

Cultural and Community Preservation and Economic Welfare

Positive social/cultural impacts are achieved when you make a concerted effort to work with local people, help educate and train them, and maintain and protect their social structures, economies, and cultures. By being sensitive and educating your staff and clients on how to do the same, you can help to preserve cultural-heritage in the destinations you serve. Measuring these impacts can be difficult. One of the best ways to determine your impact is to set up focus group discussions with representatives from local communities which provide opportunities to exchange feedback.

By enhancing your business’ positive economic impacts in the communities where you operate, you can improve quality of life and help protect the health and well being of each community. This approach enhances employee morale and your business’ appeal to guests – ensuring their continued support and the longevity of your business.

Step 3: Management Action Plan

Once an impact assessment has been conducted, the next step is to create an action plan based on the results of the assessment. Known as a Management Action Plan – MAP (or Sustainability Management System – SMS), this step provides a management framework for coordinating, setting and achieving predetermined specific environmental, socio-cultural and economic goals and objectives. This system should be part of your overall management system, including organizational structure, activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining a sustainability policy.

The key elements of sustainability management, which integrate the previous two steps outlined above, include:

- **Create and implement an integrated management system** which embeds the aspects of sustainability into organizational processes, training and communication

- **Establish a baseline** for each of your impacts utilizing quantifiable variables that are based on current levels of impact (based on data from the impact assessment)

- **Set specific goals** and objectives and develop action plans for minimizing your negative impacts and enhancing your positive impacts

- **Appoint an employee** to monitor and execute scheduled activities as well as record and review the results, ensure goals and objectives are being met, and report the results to the appropriate decision makers
• *Educate your staff and clients* about the ways in which they can help you achieve your goals and objectives.

• *Track your performance* by using current impact levels as a benchmark and compare future levels to established targets or to similar businesses. Draft a standardized sustainability report and ensure it is validated. Consider controlling the process through internal and/or external audits.

• *Focus on continuous improvement.*

Creating a solid framework from which to manage your efforts will allow you to better concentrate on meeting the goals and objectives you have set for yourself.

Be sure to not miss out on important opportunities for educating and engaging your employees and getting their input. Taking a more participative approach requires a little more time and energy upfront, but results in a product that will be more useful and more widely supported. It’s not about the plan, so much as it is about those who create it.

Also, consider convening a planning committee that represents management and representatives from key departments: facilities, purchasing, human resources and operations. The primary purpose of this group is to create the sustainability plan and then monitor progress, troubleshoot the implementation, remove obstacles, advocate for resources, and report results.

Whether you are implementing an organization-wide initiative or just rolling out a few pilot efforts under the radar, taking the time to document your plan will lay a firm foundation for your efforts and increase the likelihood that they will take hold in the organization.

### 2.4 The Global Sustainable Tourism Criteria and Eco-Certification

Sustainability is not an end goal. Rather, it is a process, continually evolving and requiring attention. Ultimately though, eco-certification allows a company to fully integrate sustainability into their operations, and sets up a framework for continual improvement.

#### 2.4.1 The Global Sustainable Tourism Criteria

The tourism certification landscape has been rapidly evolving in recent years. At the time of publication, there were over 150 sustainable tourism-related certification programs globally, and over half of U.S. states have some sort of green travel certification program. In essence, all of these programs have been defining “green” for themselves, and historically there has been little attempt to consolidate or standardize these disparate efforts. However, this trend has changed with the development of the Partnership for Global Sustainable Tourism Criteria (GSTC). Directed by world leaders in sustainable...
tourism development, including the United Nations Foundation (UNF) and Environmental Program (UNEP), the Rainforest Alliance (RA) and the World Tourism Organization (UNWTO), the GSTC Partnership is a coalition of 32 organizations working together to foster increased understanding of sustainable tourism practices and the adoption of universal sustainable tourism principles.

In October 2008, UNF, RA, UNEP, and UNWTO announced the first-ever globally relevant sustainable tourism criteria. Based on thousands of best practices, the GTSC were developed to offer a common framework to guide the emerging practice of sustainable tourism and to help businesses, consumers, governments, NGOs and education institutions ensure that tourism helps local communities and the environment. In all, more than 4,500 criteria were analyzed, more than 80,000 people were invited to comment on the criteria, and comments were received from over 1,000 stakeholders.

Up to this point, the travel industry and consumers haven’t had a common framework to define what it means to be “green” or “sustainable”. But the GSTC has changed that. These 38 criteria will become the baseline standard for any company that wants to call itself “green.” They were selected because they are already represented in sustainable tourism certification programs, they’re universal, they’re achievable, and they’re readily subjected to measurement or verification because the bottom line is you can’t manage what you don’t measure. The GSTC represents a much needed common understanding of sustainable tourism, and will likely become the minimum global baseline for sustainable tourism that any tourism business should aspire to reach. Although the criteria were initially intended for use by the accommodation and tour operation sectors, they have applicability to the entire tourism industry.

The GSTC are organized around four main themes: effective sustainability planning; maximizing social and economic benefits for the local community; enhancing cultural heritage; and reducing negative impacts to the environment.

1. **Commitment to Sustainable Management** — Key considerations include an implemented long-term sustainability management system; compliance with health, safety, labor, and environmental legislation; adequate training; customer satisfaction and corrective action mechanism; design and construction of buildings and infrastructure; and accuracy of promotional materials providing natural and cultural heritage information to customers.

2. **Commitment to Local Social and Economic Community Benefits** — The focus is on active involvement in community development; local employment and training opportunities; local and fair-trade goods and services being used where available; code of conduct being developed with local and indigenous communities; creation of policy against commercial exploitation, especially of children; fair and equitable hiring practices; and demonstrated assurance that the activities of the organization do not compromise the basic services of neighboring communities.

3. **Commitment to Cultural Heritage Values** — These criteria center on guidelines for the conservation of cultural and historic sites; compliance with legislation regarding the sale, trade or display of artifacts; demonstrated contribution to the conservation and protection of cultural heritage sites; and the incorporation of local cultural heritage, art and architecture into the operation of their facilities while respecting intellectual property rights.
4. **Commitment to Environmental Respect** — These criteria evaluate the methods of reducing impacts and opportunities to improve the environment by policies that favor the use and purchase of environmentally friendly products; monitor and reduce energy and water consumption; monitor and reduce greenhouse gas emissions; facilitate effective treatment and re-use of wastewater; monitor and reduce solid waste; implement practices to eliminate or reduce all sources of pollution; ensure all use or consumption of wildlife is in compliance with applicable legislation and is sustainable; prescribe the use of native vegetation for landscaping and avoid invasive non-native species; support the conservation of biodiversity and natural heritage values; and reduce impacts to natural ecosystems and encourage rehabilitation and conservation efforts.

The Partnership for Global Sustainable Tourism Criteria and the Sustainable Tourism Stewardship Council (STSC) merged late in 2009. The result is the Global Sustainable Tourism Council, an international membership council that will offer a common understanding of sustainable tourism and the adoption of universal sustainable tourism principles and criteria. The Global Sustainable Tourism Council will bring together tourism businesses, governments, UN bodies, research and academic institutions, social and environmental NGOs, certification programs, and others.

The intent of the Global Sustainable Tourism Council is to:

1. Define sustainable tourism criteria for other sectors and the related indicators
2. Accredit certification standards to certify businesses
3. Create international recognition and build credibility around accredited sustainable tourism certification programs

For more information, see Appendix D: GSTC, and visit [www.sustainabletourismcriteria.org](http://www.sustainabletourismcriteria.org)

2.4.2 Eco-Certification

Although we now have the GSTC, and thus a common framework to work from, the industry’s certification market is extremely new. Because the majority of the existing eco-certification programs have been defining “green” for themselves, and with the “green” movement permeating nearly every aspect of consumer culture as of late, we’ve also witnessed a marked increase in greenwashing. As a result, 56% of U.S. travelers are skeptical of what companies are telling them about green practices. (PhoCusWright) Over one-third of LOHAS consumers would like to see other trusted sources endorse the claims made by companies, and further validation shows that 85% of those looking for verification would like the endorser to be a non-profit organization. (Natural Marketing Institute)

Certification provides a mechanism for validating a company’s sustainability claims as well as a method for consumers and industry professionals to identify a “green” company. Currently, no certification programs that have a triple-bottom-line focus can claim a level of certification for more than 100 businesses. Most certification programs that have certified more than 100 businesses are first-party
certification programs as opposed to second- or third-party certifications, which are considered by most stakeholders to be greenwashing.

- **First-Party Certified**: means a company has performed a self-assessment or First-Party certification of its sustainable tourism practices, thereby taking the first steps toward understanding its impact on one or more of the following: environment, community, cultural heritage, the local economy. The company's claims have not been independently verified by a second- or third-party certification program.

- **Second-Party Certified**: means a company measures and manages its impact on one or more of the following: environment, community, cultural heritage, the local economy. An assessment of a company's sustainable tourism practices has been performed at this business by an assessor or auditor that is employed by the certification program that the business or applicant wishes to get certified by.

- **Third-Party Certified**: means a company participates in a third-party certification program that has been independently certified. Third-party certification measures the company's impact on one or more of the following: environment, community, cultural heritage, the local economy. An objective assessment of a company's sustainable tourism practices has been performed at this business by an assessor or auditor who is not employed by or is independent of the certification program that the business or applicant wishes to get certified by.

Certification can be an educational, measurement, and management tool for companies looking to deepen their green commitment or to develop a sustainability framework if done properly and honestly, and by an accredited third party certification body. STI’s Sustainable Tourism Certification Program™ (STEP), endorsed by the National Tour Association (NTA), is the world's first comprehensive, global sustainable tourism eco-certification program offered by a non-profit organization, which is positioned to be aligned with the minimum baseline Global Sustainable Tourism Criteria (GSTC) and impending global accreditation through the Global Sustainable Tourism Council. STEP is designed with an educational focus, and with an end goal of industry and consumer recognition for certified businesses.

STEP entails three separate steps to Eco-certification, and it is not based on a pass / fail system:

- **Step 1 - Assessment.** STI’s project management and self-assessment license gives NTA members access to a Sustainability Planning and Reporting Kit, including a workbook, policy templates, benchmarking tables, and a half hour to one hour consultation. These tools will help you to self-assess your company and implement sustainable business practices. Although Assessment is a voluntary procedure, companies who complete an Assessment are encouraged to apply for Eco-certification.

- **Step 2 - Application.** Following the Assessment, you have the option to apply for Eco-certification. Applicants only need to submit the “Required” Policy and Documentation (PandD). STI will review and evaluate the information provided. This verification is defined as Second-
Party Certification. If your P and D is approved, you will receive 1 star Eco-certified logo that is valid for up to 12 months, and you can proceed with scheduling an on-site assessment.

- **Step 3 - Eco-certification.** Next, a STEP Lead Auditor will undertake an on-site assessment to verify compliance with STEP, and document and compare their findings with the information provided in your Application. This on-site assessment defines Third-Party Certification. STI's Evaluation Committee will then review the auditor's report and determine whether to Eco-certify your business and at what level. Successful applicants receive a 2-5 star Eco-certified logo that is valid for 24 months.

For more information on STEP, visit [www.ecocertification.org](http://www.ecocertification.org)
3. Responsible Purchasing — Supply Chain Management

One of the easiest and fastest ways to improve your company’s sustainable practices is to ensure that the products and services utilized are produced and sourced responsibly and sustainably. Purchasing local products and services is becoming more commonplace within the travel and tourism industry. Progressive companies recognize that eco-friendlier products and services may cost a little more than the traditional types, but these same companies have found that the positive public relations, productivity gains, and community-building benefits often outweigh any cost differences that might be incurred.

This section outlines:

- What defines a sustainable supply chain management
- How to go about making your supply chain more sustainable
- How to measure your success

Sustainable tourism is a level of tourism activity that can be maintained over the long term because it results in a net benefit for the socio-cultural, economic, and natural environments of the area in which it takes place.

In order to integrate sustainable values into your organization, you must encourage existing business suppliers to sustainably manage their business or bring like-minded businesses into your supplier network.

Supply chain management includes all actions related to the selection and contracting of service providers, or suppliers. A company can only be as sustainable as the sum of its suppliers and the products it offers. By selecting products and services based on their environmental impact, tour operators can oftentimes reduce costs and increase the quality of their offerings. (GreenSCOR)

Improving the sustainability of a tour operator’s supply chain involves:

- Measuring the current performance of service providers to establish priorities for action
- Developing a policy and standards for how to reduce impacts
- Setting targets and actions for achieving sustainable supply chain goals

A tour operator can support its suppliers in their efforts to be more sustainable by raising their awareness on sustainability issues, providing feedback on performance so that they can learn where and how to make improvements, and offering technical support for sustainability actions. Tour operators can help ensure that suppliers comply with sustainability standards by creating incentives for good performance and using contractual procedures to enforce requirements.

Always beware of greenwashing, which is the practice of disingenuously spinning products and policies.
as environmentally friendly. The term is generally used when significantly more money or time has been spent advertising being “green,” than on actually implementing environmentally sound practices.

3.1 Greening Your Supply Chain

Identifying responsible purchasing options and alternatives is not straightforward. To simplify the process consider asking the following questions:

1. Is the product or service produced or offered locally?
2. Does the product or service conserve energy, water and other natural resources?
3. Is the product made from recycled materials or does it contain recycled content? If so, what percentage comes from post-consumer waste?
4. Does the product or service prevent waste? Is the product durable, reprocessed, re-useable, or recyclable locally? Is the product or service less hazardous and more biodegradable than the alternative?
5. Does the manufacturer use renewable energy in processing the product and/or support philanthropic conservation or community development initiatives?

Step 1: Assess Your Current Supply Chain

The first step in creating a specific policy for supply chain management is to assess the supplier's current performance on sustainability issues, in order to determine priority targets and actions and to establish a baseline against which to measure future improvements. The review should assess all of the company’s main contracted products, services and suppliers.

The areas or performance indicators to be assessed will vary depending on the type of supplier, the resources available for the task and the number of suppliers. For example, for accommodation suppliers, a baseline assessment should cover at least the following issues:

- Electricity consumption per guest per night
- Source of electricity supply
- Energy efficiency measures, for instance insulation, light-bulbs
- Water consumption per guest-night
- Water saving measures
- Management of wastewater
- Management of solid waste
- Use of chemical cleaning products
- Food sourcing policies
- Information given to customers regarding sustainability measures
- Biodiversity conservation measures on the grounds of the hotel/resort
- Conservation measures in areas used by hotel guests
- Labor and employment policies
- Relations with the local community

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Once the initial baseline has been created, updated information can be collected regularly, so that performance can be monitored and assessed against earlier data.

Tip: If relying on suppliers to assess themselves on sustainability audits, and only a sample of the companies or the indicators can be verified, it is useful to agree and communicate what actions will be taken if a supplier is discovered to be reporting false information.

Step 2: Develop a Supply Chain Policy and Standards

Based on the information collected in the baseline assessment, a company can then develop a sustainability policy and standards for suppliers. A company’s standards should reflect the key issues that form the basis of its overall sustainability policy. These standards will provide criteria both for selecting new suppliers and for offering additional promotional opportunities and incentives to existing ones.

Standards should be set sufficiently high to represent a real contribution to sustainability by suppliers, but also at a level that is realistically achievable. They should also be flexible enough to accommodate different local socio-economic and environmental conditions and the diverse size and technical capacity levels of suppliers.

Tip: It is useful to involve not only staff but also suppliers in defining sustainability performance standards. This allows both staff and suppliers to feel a sense of ownership and participation, making them more likely to be committed to the program. In addition, suppliers can provide insights into local issues and conditions that may affect the potential to improve their sustainability performance.

Step 3: Set Targets and Define an Action Plan

Based on its sustainable supply chain policy and standards, a company can next set targets to achieve its sustainability goals. Targets will reflect both improvement by individual suppliers and the overall number or percentage of suppliers that meet the given standards in each year. Ideally this number will increase annually. Priorities can be set for which suppliers are to be involved in the first stages of the program, based on economic and managerial considerations. It may be more practical to begin with just a few destinations and/or selected suppliers, rather than trying to introduce the policy everywhere at once.

A sustainable supply chain action plan should include:

- Strategies for how to support suppliers in meeting the standards;
- A timetable for implementation of the overall plan and for each individual action;
- Specific responsibilities for each department; and
- The resources (such as training or technical information) needed to implement the plan.
Departmental action plans should be incorporated into regular company procedures for reviewing progress and staff appraisal.

Tip: The sustainable supply chain action plan can include three stages – short-term, mid-term and long-term – to allow for a realistic time frame for suppliers to meet the standards. It is important to remember that not all suppliers will be in a position to achieve the targets at the same pace.

Additional support can be found through networks of local, national and international advisers on sustainability and business issues, who can provide on-line and on-site assistance to suppliers. The Tour Operator’s Initiative, in partnership with the Center for Environmental Leadership in Business (CELB), has created a series of written guides to help support tourism product and service providers in improving their sustainability and to assist tour operators in integrating environmental and social issues into their contracting processes. The guides are available at www.toinitiative.org.

**Step 4: Measure Your Sustainability Success**

In addition to measuring your success against the targets you have set in your action plan, you might also want to consider some of the following ways to measure your ‘sustainability’:

- Total annual value of local products and services purchased from locally owned businesses versus the total annual value of products and services purchased from businesses that are not local to each area of your operations.
- Total annual value of services purchased from certified sustainable tourism service providers or from Green Travel Market (www.greentravelmarket.info) members versus the total annual value of services purchased from other tourism service providers.
- The percentage of your subsidiary operations that are certified out of the total number of your subsidiary operations.
- Total value of products purchased versus the total value of the following products purchased in the previous 12 months:
  a) Environmentally friendlier products
  b) Recycled content products
  c) Non-corrosive biodegradable chemicals/cleaning products

**In Summary —**

The fastest way to take the greatest step towards sustainable operations and responsible tourism is by greening your supply chain. Knowing how your different service providers produce and operate not only influences your operation’s decisions to partner with them, but also will in turn influence their perception of how they should be operating. Here are a few final summary suggestions for how to start greening your supply chain.
• Work with your service providers to identify eco-friendlier products that you would like to purchase from them.
• Ensure that your service providers have a sustainability policy and that they adhere to sustainable business practices.
• Develop a list of where to buy local and eco-friendlier products and services and educate your suppliers and staff about where they can purchase them.
• Open up discussion about sustainability with your suppliers and non-competing tourism providers—you may be able to learn as much (or more) from them as they can learn from you.
• Provide guests with information on locally produced alternatives to imported goods and a list of local products and services to support.
• Work for continuous improvement rather than immediate transformation.
4. Energy Efficiency, Conservation and Management

It is not surprising that tourism is a major contributor to energy consumption worldwide. The fundamental business of tourism involves transport, which in turn relies on the use of energy. Global tourism’s energy expenditures are estimated at 5 million GWh per year, a rough equivalent of Japan’s total annual energy supply. (UNEP/Grid, 2004) Carbon emissions caused by global travel point out a clear link between tourism and climate change, which is already threatening some of the most desirable destinations of the world.

At first it might be difficult to imagine a world where tourism does not involve immense energy consumption, but actually, that ideal is quickly becoming a reality, and we’re hoping to get you on board.

This section will outline the issues involved in unlimited energy consumption—what that means to the world, the tourism industry, and your own tour operation. We hope to provide you with a wealth of useful information to not only get you thinking about how to reduce your operation’s energy consumption, but to ensure that you understand the importance of this issue.

4.1 The Issues—

Not surprisingly, transportation accounts for the majority of the energy used in tourism. According to data from the European Environmental Agency (EEA) and the Environmental Protection Agency (EPA), 90% of all energy expenditures relating to tourism in Europe and the U.S. are spent on transportation to and from holiday destinations. For the United States, this translated into 791.3 billion kWh used for transportation in the year 2000. In addition, 76.2 billion kWh were used for activities directly related to tourism and recreation, with 73% of it spent on lodging services, mainly on refrigerating, heating, water used for consumption and pools, and food. With current energy sources, carbon emissions caused by tourism are responsible for 5 - 7% of global emissions (UNEP Switched On) which directly increases the rate of global climate change.

Scientists and leaders throughout the world agree that change is taking place in the global climate and that this change has been caused by human action. Through the consumption of vast amounts of energy and the pollution involved in this consumption, we have changed the world’s climate pattern. The International Panel on Climate Change, appointed by the United Nations to determine climate change science determined that “most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations,” which was caused by human action. (Solomon, et.al.) By increasing the amount of carbon in the atmosphere to the point at which the sun’s energy cannot break through the increasingly dense atmosphere, our global society has created the necessary conditions to gradually heat up the planet.

It has also been determined that climate change does affect some specific places and peoples before others, and often those places are the tourist destinations we all treasure. Low-lying coastal areas are particularly endangered, as increasing temperatures will cause ice in the arctic regions of the world to melt, gradually raising sea levels around the world. Fragile desert ecosystems are also greatly
endangered because of their tenuous relationship with water systems that will be severely altered through the course of climate change. (M.L. Parry, et. al.) The known effects of climate change are easily enumerated, but many scientists will also quickly admit that some of those effects are yet unknown.

As a tour operator, it may seem impossible to mitigate such a global issue when your business relies on the ability of customers to travel to a destination. However, by simply reducing the amount of energy your operation uses, turning towards alternative, more environmentally conscious sources of energy, and allowing your customers to offset their carbon footprint, you are taking a crucial step in the right direction. Tour operators are the “face” of the travel industry and can therefore play a leading role in implementing energy reduction practices. Reducing energy usage and taking greater advantage of renewable energy sources will greatly contribute to monthly savings on operational costs. But this is only one side of the coin. By gaining knowledge about how to reduce your own operation’s energy consumption and implementing policies to use alternative energy, you will positively impact your own local community and the world as a whole. In addition, you will likely attract the growing number of modern tourists who expect their tourism provider to consider the environment when planning a tour.

There are many areas in which tour operators can help reduce the energy consumption of the tourism industry. Possible ways to conserve energy and help minimize the carbon footprint of tourism on a global scale range from simply reducing energy use to applying energy efficient technologies or investing in renewable energy sources. And small changes can go a long way. Implementing sustainable business practices will not only have an immediate impact on business operations in the country where tour operators are working, but will also show its positive effect on businesses, organizations, and local communities in the destinations they visit.

4.2 Guidelines —

A crucial first step toward reducing your overall energy consumption is to be aware of your current usage by monitoring your monthly and annual energy consumption. Monitoring your energy data over a longer period of time will help you determine your best strategy for reducing your environmental footprint. Such a strategy may involve implementing practices that lower your energy usage, increasing the energy efficiency of your equipment, appliances, and buildings, or by switching to renewable energy sources. Many tour operators have even started offsetting their energy consumption through the purchase of carbon offsets that go to support renewable energy projects.

**Step 1: Monitor Your Energy Consumption**

Start with an inventory of your energy use that includes gas, electricity, and fossil fuel. You can calculate your monthly energy usage from past utility bills or you can install meters that allow you to directly measure the energy use of different departments, equipment, or appliances. Once you have identified your monthly energy consumption and key areas of energy use, you can assess your data against industry benchmarks of comparable businesses. Setting realistic goals for reducing your energy consumption is a valuable next step that will help you map out a feasible energy management plan and keep track of your environmental performance.
It is important to have your staff on board with you when monitoring energy use. Providing training sessions and encouraging them to assist with monitoring your energy data will actively engage them in the process of improving energy management and will be essential for your success.

Local utilities often provide assistance with energy audits and evaluating what measures you can take to make your business operations more energy efficient. These organizations can also provide information on tax benefits and other incentives offered by local and state governments for renewable energy and energy saving technologies.

**Step 2: Reduce Energy Use**

It is surprisingly easy to reduce your energy consumption. Often, the best way to achieve this is simply to become more aware of minor actions you can take that you might not normally consider. For example, not leaving the lights on when you are not in the room, or not letting your office computers run on stand-by mode all the time when not in use. The following energy-saving applications will help you further reduce your environmental impact and lower your monthly energy bill. These suggestions are broken down into three cost categories to help you identify first, second and later steps. The categories are: no-cost options, low-cost options, and investment considerations.

**Lighting—**

**No-cost Options:**
- **Switch it off:** Turn off lights when not in use or if you leave a room. Once you have trained yourself and your staff to do this, turning off the lights when you don’t need them becomes a habit that will substantially reduce your environmental footprint and your energy bill.
- **Maximize use of daylight:** Take advantage of the free light of the sun by keeping your windows unblocked, using sky lights wherever possible, and dimming/turning off the lights based on available daylight.

**Low-cost Options:**
- **Bi-level Switching:** Bi-level switching allows you to turn half of the lights in a room off when full illumination is not required.
- **Dimmers:** Dimming lighting systems are available for fluorescent and incandescent systems and allow you to control the amount of light and energy. Daylight dimmers are special sensors that automatically dim room lights based on the amount of free and natural daylight available.
- Investment considerations
- **Daylight Sensors:** An efficient solution for exterior lighting systems, these sensors contain light-sensitive controls that turn the lights on and off automatically based on daylight, thus preventing lights from staying on during the day.
- **Occupancy Sensors:** These sensors detect the motion of room occupants, turn off lights in unoccupied areas, and turn them back on when movement is detected. Occupancy sensors are an efficient option for hallways, storage rooms, and restrooms.

**Equipment—**

**No-cost Options:**
Switch it off: Turn off your office equipment (computers, monitors, printers, copiers, etc.) when not in use and unplug them during nights and weekends. This will result in substantial energy savings.

Unplug: Many appliances continue to draw a small amount of power even when switched off. These "phantom" loads can be avoided by unplugging the equipment or using a power strip to cut all power to the appliance.

Power management: Enable the energy-saver or power-management features if they are available on your copiers, computers, monitors, and other equipment.

Sleep mode: There is a common misconception that screen savers reduce energy use by monitors; they do not. Automatic switching to sleep mode or manually turning monitors off is always the better energy-saving strategy.

Battery chargers: Unplug battery chargers when the batteries are fully charged or the chargers are not in use.

Low-cost Options:

Regular maintenance: Check and maintain all equipment regularly to ensure it is functioning efficiently.

Heating/Cooling

No-cost Options:

Switch it off: Train your employees to turn off heating and air-conditioning when rooms are not in use. Try to avoid using air conditioning by having your employees dress for warmer temperatures and, if possible, cool the office by using natural air flow from outside.

Close the doors: Use heating and air-conditioning efficiently. Keep doors and windows closed while your heating, ventilation, and air conditioning (HVAC) systems are running.

Temperature control (cooling): During the cooling season, set your thermostat to 25°C/78F and close your blinds and shades on windows that are exposed to direct sunlight. Maximize natural airflow for cooling whenever possible. When nighttime temperatures are cool outside, shut off your fans during unoccupied hours and use ventilation to cool your facility. Keep window coverings closed during the day to prevent sunlight from entering and, if this is an option, consider shading sun-exposed windows on the outside of your facility using deciduous trees or awnings.

Temperature control (heating): During the heating season, set your thermostat to 20°C/68F and open your blinds and shades on your windows during daylight hours. Avoid using space heaters - they are extremely inefficient and can use as much electricity as 40 fluorescent light fixtures. Keep the draperies and shades on your south-facing windows open during the day to allow the sunlight to enter.

Temperature control (water): Check the temperature on your water heater. A setting of 50°C/120F, will provide sufficient hot water while keeping your energy consumption in an acceptable range.

Low-cost Options:

Regular maintenance: Regularly check HVAC pumps, fans, coolers, etc. for proper operation and maintenance needs. Clean or replace filters on furnaces once a month or as needed. Bleed trapped air from hot-water radiators once or twice a season. Clean warm-air registers, baseboard heaters, and radiators as needed; make sure they're not blocked by furniture, carpeting, or drapes.
Transportation/Commuting —

No-cost Options:

- **Sustainable commuting**: Change to more sustainable forms of transportation for your daily commutes and encourage your employees to do the same. Some examples are using public transport, carpooling, riding the bicycle, or walking. Many local governments provide financial incentives for sustainable modes of transportation.

- **Online meetings**: Avoid business travel wherever possible and use conference calling, online meetings such as Skype, Webex, and Go-to, or video conferencing instead.

- **Minimize car use during tours**: Plan tour routes that minimize travel distances and promote holidays that use biking, hiking and walking as the preferred methods of getting around. Many resorts offer bicycles to their guests and operate environmentally preferable vehicles around the resort (e.g. electric from renewable sources, hybrid or biofuels).

- **Maximize gas mileage**: Idling wastes fuel and increases emissions. Even on winter days no more than 30 seconds of idling is needed. You get best gas mileage at speeds around 55 mph (88 km/h), above 60 mph (95 km/h) gas mileage drops rapidly. Extra weight decreases gas mileage by 1% to 2% for every 100 pounds (45 kg) so clearing out excess items from your car will help improve your fuel efficiency.

Low-cost Options:

- **Regular maintenance**: Make sure that all vehicles utilized in company operations are serviced on a regular basis. Small repairs here and there will pay for themselves after a few times filling up your tank.

**Step 3: Improve Energy Efficiency**

Once you have successfully implemented energy saving practices and you are ready for the next step, investing into energy efficient equipment, appliances, and tools will make another big difference in your environmental impact. Many resources are available to help improve the energy efficiency of buildings, equipment, and appliances. A good starting point is the Energy Star Portfolio Manager (www.energystar.gov), an online tool that compares your energy usage with that of similar businesses.

**Lighting** —

**Low-cost Options:**

- **Energy-efficient fluorescent lamps**: Fluorescent lamps use only 25 to 30% of the energy consumed by incandescent lamps, while they provide the same amount of illumination and last about 10 times longer than incandescent lamps. Emerging systems such as the T8 (1” in diameter) and T5 lamps (5/8” in diameter) are said to have an even longer lifespan and higher efficiency.

- **Compact fluorescent lamps (CFL)**: Compact fluorescent lamps combine the energy efficiency of fluorescent lamps with the convenience and popularity of incandescent lamps. Energy Star qualified CFLs use 75% less energy than a standard incandescent bulb and last up to 10 times longer. Replacing a 100-watt incandescent with a 32-watt CFL can save approximately $30 in energy costs over the life of the bulb. The downside is that CFLs, like all fluorescent lamps, contain mercury, which is a very poisonous substance, so that precautions are required when handling and disposing of CFLs.
- **Light-emitting Diodes (LEDs):** LED light bulbs are extremely energy-efficient, using only 2-10 watts of electricity, are said to last up to 15 years before burning out, and do not contain mercury. LED bulbs are available with standard bases, which fit common household light fixtures.

**Investment Consideration:**
- **Energy Star:** Consider purchasing Energy Star-qualified fixtures. They are available in many styles, including table, desk and floor lamps, as well as hard-wired options for front porches, dining rooms, bathroom vanity fixtures, and more. Energy Star-qualified fixtures distribute light more efficiently and evenly than standard fixtures and they deliver convenient features such as dimming on some indoor models.

**Equipment—**

**No-cost Options:**
- **Evaluate:** Evaluate your needs and avoid purchasing more power than you’re likely to need. Keep this in mind especially when you consider buying a copier, due to the fact that they use more energy than any other equipment.
- **Investment consideration**
- **Energy Star:** When it’s time to replace your office equipment or when you are setting up new business operations, look out for energy-star labeled equipment.
- **Multifunction devices:** Machines that combine functions of several peripheral office devices (e.g., printing, scanning, faxing, and copying) are becoming increasingly popular, especially for small businesses. These machines offer significant energy savings by replacing three or four separate machines with one.
- **Power management:** Power management features initially available only in laptops are now fully integrated into many desktop computers and lower their energy usage by about 70% (EPA, 2003).
- **Laptops:** Consider buying a laptop for your next computer upgrade since they use much less energy than desktop computers. Keep in mind, however, that transformers in AC adapters for laptops draw power continuously, even when the laptop is not plugged into the adapter. To reduce energy usage, put the AC adapter on a power strip that can be turned off.

**Heating/Cooling—**

**Low-cost Options:**
- **Thermostats:** Fitting thermostatic radiator valves, using timed thermostats, and teaching people how to use them will greatly contribute to lowering your heating and cooling costs.
- **Insulate (pipes and walls):** Insulate your building including your pipes, interior and exterior walls, ceilings, and wall cavities.
- **Insulate (water heaters):** If you have an older water heater, buying a water heater insulation blanket can save energy and money. The water in the tank will stay hot longer, and the blanket will reduce the amount of energy needed to heat the water.
- **Investment considerations**
- **Energy Star:** Invest in Energy Star labeled heating and cooling equipment or thermostats.
- **Instantaneous water heaters:** Consider a tankless, “demand,” or “instantaneous” water heater when updating your system. These units eliminate the need for large storage tanks by heating water directly and only when required, and are especially suited to properties that have access...
to propane or natural gas and good access to water. Choosing a “demand” water heater with electronic ignition will further eliminate energy consumption.

- **Insulate (windows):** Consider applying a sun control window film to windows with heavy sun exposure. These films keep rooms cooler in the summer and warmer in the winter.
- **Insulate (roofs):** Consider “green roofing” your buildings. Green roofing is the use of vegetation as the weathering surface for a roof and can reduce cooling and heating costs by up to 40%, in addition to providing an added habitat for birds, insects and plants.

**Transportation —**

**Investment Considerations:**

- **Fuel-efficiency:** Invest into fuel-efficient vehicles for your personal or company needs, or trade in your cars for more efficient options. Many countries offer substantial tax breaks for fuel efficient cars, which help compensate for the higher initial cost.
- **Size matters:** Smaller cars are usually more energy efficient. And a roof rack or carrier provides additional cargo space and may allow you to buy a smaller car. A loaded roof rack, however, can decrease your fuel economy by 5% or more, so carefully evaluate your needs.
- **Alternative fuels:** Invest in vehicles that run with fuel from alternative energy sources (biofuels, for example). Keep an eye on the latest technological developments and on financial incentives that are available in many countries.

**Step 4: Increasing Your Use and Support of Renewable Energy**

If you are interested in installing a renewable energy system for your operations headquarter office or field offices, you can directly reduce your carbon footprint substantially or entirely. Renewable energy is cost-effective, clean, and available in abundance. According to the United Nations Environment Program (UNEP), renewable energy meets between 15 and 20% of total world energy demand and 24% of the world’s total electrical supply. (*Switched On, UNEP 2003*)

Green power programs offer one of the simplest solutions to power your business with renewable energy and improve its environmental performance. Green power is electricity produced from a subset of renewable resources, such as solar, wind, geothermal, bio mass, and small-scale hydro. Green power programs include renewable electricity products, which can be purchased directly from the utility; renewable energy certificates, which are credits you can purchase to offset your standard energy consumption and carbon footprint; and on-site renewable generation, which produces energy on your facility using alternative energy sources.

To view a complete list of the most common renewable energy applications for producing heat, electricity, and fuel, see Appendix III: Renewable Energy Power Systems.

**4.3 Best Practice Examples from the Field —**

*Natural Habitat Adventures* is a leader in the tour operator sector in energy efficiency and carbon neutrality, not only because of their efforts to offset 100% of their emissions from transportation and accommodation, but because of their carbon prevention programs as well.

*Natural Habitat Adventures* currently offsets 100% of their carbon emissions from fuel consumption...
involved in their trips, and provides their customers the option to do the same for the transportation emissions required to get to and from the starting point. In addition, all office energy use, as well as printing and shipping, is offset by the purchase of wind credits from their energy providers.

The company’s founder also started a “bike-to-work” program, through which staff members receive points for free Patagonia clothing and gear for each day they use alternative transportation to get to work.

NHA has also developed the world’s first hybrid safari vehicles, released in March 2008. It is their goal that this vehicle will not only reduce the company’s carbon footprint but also encourage the entire adventure travel industry to collectively move towards alternative and renewable energy options. (Renewable Energy in Tourism Initiative March 2008)
5. Air Quality Protection — Greenhouse Gas Emissions Reduction and Noise Management

The health of our environment and the quality of the air we breathe is essential for our own health and lives. Without air we cannot live. Air pollution, as a direct consequence of industrial pollution, traffic, and other human activities, however, has reached a level that is damaging our health and putting our lives and our planet at risk.

According to recent numbers, air pollution cuts 8.6 months off the life of the average European, causing 310,000 people to die before their time every year. (Kick the Habit, UNEP/GRID 2008) The World Health Organization states that worldwide three million people die every year because of outdoor air pollution. Main contributors to air pollution include: carbon monoxide (CO), nitrogen oxide (N2O), sulfur dioxide, particulate matter, and ground-level ozone. This pollution comes from human activities – vehicles, power stations, and factories – putting at risk people’s health and lives and damaging the natural world through acid rain and smog.

Human activities have also been releasing an increased amount of greenhouse gases into the atmosphere, which enhances the natural warming of the earth’s atmosphere, or the “greenhouse effect,” and ultimately causes global warming. The main gas contributing to global warming is carbon dioxide (CO2), accounting for more than 60% of the greenhouse gases (GHGs) emitted by human activities. CO2 is mainly released through burning of fossil fuels for industrial activity, energy generation, and vehicles. Additional GHGs include: methane (CH4), nitrogen oxides (N2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF6). The vast majority of global CO2 emissions (70%) are caused by energy production for electricity and heat, followed by transportation and manufacturing processes.

5.1 The Issues —

Climate change, as a direct consequence of increased greenhouse gas emissions, is already starting to show its impact on some of the most delicate ecosystems of our planet, which at the same time are often primary tourism destinations. The UNWTO states that “as climate defines the length and quality of tourism seasons, affects tourism operations, and influences environmental conditions that both attract and deter visitors, the sector is considered to be highly climate sensitive. The effects of a changing climate will have considerable impacts on tourism and travel businesses. In some parts of the world, these impacts are increasingly becoming evident. The Caribbean, Small Island Developing States, Southeast Asia and Africa are the tourism regions thought to be most at risk. Climate change adaptation, by the travel and tourism sector, will ensure that individuals, communities, and nations continue to receive the benefits of tourism.” (UNWTO 2009)

Tourism contributes about 5% to global CO2 emissions, a number that seems to be relatively small compared with emissions caused by energy for electricity and heat or transportation. This picture
changes slightly, however, when we consider that these emissions are caused over a rather short period of time. Tourists usually engage in recreational travel for a maximum of 4-5 weeks per year. According to the United Nations Environment Program, the amount of emissions caused by global travel is bigger than the emissions produced by billions of people living and working for one year in big industrialized countries or new emerging economies. If compared with emissions from countries, tourism could be seen as the fifth biggest polluter worldwide. (UNEP Climate Change, Adaptation and Mitigation in the Tourism Sector)

Transportation is said to contribute about 75% of CO2 emissions generated by global tourism, of which air traffic contributes 40%, car traffic 35%, and travel by bus or train 13%. (UNWTO 2008) Emissions from vehicle traffic not only contribute to global warming but also to other forms of air pollution, such as increased amounts of ground-level ozone and particulate matter, which affect us on a more immediate and tangible level.

Tour operators can play an important role in reducing the impacts of tourism on air pollution and climate change as they facilitate the sales of travel packages, including transportation, accommodation, and activities at the destination. By integrating “low-emission, low-carbon” business practices into their operations, developing a supplier network that follows global recommendations for reducing CO2 emissions, and offering tours that leave only a small environmental footprint behind, tour operators can influence the choices of their customers. Such sustainable choices not only keep the traveler’s individual CO2 profile low but, step by step and decision by decision, will reduce the negative impact of tourism on the environment in general and on global warming in particular.

5.2 Guidelines—

Minimize Outdoor Air Pollution

The majority of air pollution is generated by vehicles, power stations, and factories. Tour operators can minimize their contribution to air pollution by creating an environmentally friendly transportation policy. By managing the number and type of vehicles used for business travel, commutes to the office, and use during tours, tour operators can significantly reduce their contribution to outdoor air pollution.

Some options for more sustainable modes of transportation that will directly impact outdoor air quality are outlined below:

No-cost Options:

- **Sustainable Commuting:** Consider a more sustainable form of transportation for your daily commutes and encourage your employees to do the same, such as: using public transport, carpooling, riding the bicycle, or walking. Many local governments provide financial incentives for sustainable modes of transportation.

- **Sustainable Business Travel:** Support more sustainable methods for business travel instead of planes, such as trains or other public transportation or sharing of private cars whenever possible. This can result in a significant reduction in travel-related energy consumption and pollution production per employee.
• **Minimize Car Use:** Plan tour routes that minimize travel distances and promote holidays that use biking, hiking and walking as the preferred methods of getting around. Many resorts offer bicycles to their guests and operate environmentally preferable vehicles around the resort (e.g. electric from renewable sources, hybrid or biofuels).

• **Maximize Gas Mileage:** Idling wastes fuel and increases emissions. Even on winter days no more than 30 seconds of idling is needed. You get best gas mileage at speeds around 55 mph (88 km/h)—above 60 mph (95 km/h) gas mileage drops rapidly. Extra weight decreases gas mileage by 1% to 2% for every 100 pounds (45 kg) so clearing out excess items from your car will help improve your fuel efficiency.

• **Become a Clean Air Ambassador:** Share your knowledge about air quality and become involved in local/regional activities that aim to reduce air pollution and keep air quality at its best.

• **Online Meetings:** Avoid business travel wherever possible and use conference calling, online meetings such as Skype, Webex, and Go ToMeeting, or video conferencing instead.

• **Regular Maintenance:** Make sure that all vehicles utilized in company operations are serviced on a regular basis. Small repairs here and there will pay for themselves.

**Investment considerations:**

• **Fuel-efficiency:** Invest in fuel-efficient vehicles for your personal or company needs or trade in your cars for more efficient options. Many countries offer substantial tax breaks for fuel efficient cars, which help compensate for higher initial cost.

• **Size Matters:** Smaller cars are usually more energy efficient. And a roof rack or carrier provides additional cargo space and may allow you to buy a smaller car. A loaded roof rack, however, can decrease your fuel economy by 5% or more, so carefully evaluating your needs will pay off.

• **Alternative Fuels:** Invest in vehicles that run with fuel from alternative energy sources. Keep an eye on the latest technological developments and on financial incentives that are available in many countries.

• **Proper Cooling:** Appliances including window units, dehumidifiers, central air conditioners, air-to-air heat pumps, ground-source heat pumps, and ductless air-conditioners can contain HCFC-22 (also called R-22), which is an ozone-depleting substance. The use of R-22 is currently being phased out and non-ozone-depleting alternatives are being introduced to the market. A good source of information on alternatives with plenty of tips on how to maintain your old R-22 equipment is the EPA’s website at [www.epa.gov](http://www.epa.gov).

**Improve Indoor Air Quality**

Also of importance to our health is the quality of the air inside of planes, cars, homes, and offices. Research has indicated that in some cases the air inside of homes and offices can be much more polluted than the air in even large and densely populated cities. And while pollutants from one single source might not impose a major health risk, it is the amount of pollutants we are exposed to on a daily basis that will eventually impact our health.

Indoor air pollution comes mainly from sources such as oil, gas, kerosene, coal, wood, and tobacco products; building materials and furnishings, particularly deteriorated, asbestos-containing insulation, wet or damp carpets, and cabinetry or furniture made of certain pressed wood products; products for cleaning and maintenance; central heating and cooling systems and humidification devices; and outdoor sources such as radon, pesticides, and outdoor air pollutants that flow into your office. (UNEP, IHRA and
In response to the growing awareness of health impacts from poor indoor air quality, the building industry has focused more and more on greener designs and using healthier, less polluting, and more resource-efficient materials.

Even if you are not an owner or occupant of a green energy-efficient building, there are many things you can do to create an office environment that supports the health of your staff, your customers, and the planet. The most effective strategies to reduce indoor air pollution consist of a combination of source control, proper ventilation, and air cleaning devices and include things such as:

**No-cost Options:**
- **Stop smoking:** Plenty of scientific evidence indicates that smoking causes cancer. Prohibit smoking inside all your offices, create designated smoking areas for your staff and customers outside, and work with your health insurance provider on developing a smoking cessation program for your staff.
- **Ventilate:** Install exhaust fans in bathrooms, kitchens, and other wet rooms; keep closed off rooms thoroughly ventilated, and, if possible, open windows and doors on a regular basis to facilitate a flow of fresh air through your office.
- **Regular HVAC maintenance:** Make sure that all your ventilation, heating, and cooling equipment is well maintained with no leaks and with vents properly aligned without cracks or blocks.
- **Avoid pesticides:** Products to control insects (insecticides), termites (termicides), rodents (rodenticides), fungi (fungicides), and microbes (disinfectants) all include pesticides, which can have short and long-term impacts on human health. Avoid these products and opt for non-chemical ones.
- **Choose no-VOC paint:** Avoid lead-based paint or paint that contains high levels of VOCs. Use no- or low-VOC or water-based paint for the next re-design of your interiors.
- **Fragrances:** Many people are allergic to high-fragrance products so choosing natural and low-fragrance products throughout your office will be appreciated by many staff members and customers.

**Low-Cost Options:**
- **Control humidity:** Monitoring the humidity levels in your office, taking care of standing water, and thoroughly cleaning or removing wet carpets and damp materials or surfaces, will help minimize the amount of biological contaminants, such as bacteria, molds, mildew, house dust mites, and others.
- **Eco-friendly Cleaners:** Many cleaning supplies contain chemicals that can harm your health even after short, direct contact. Keep their use to an absolute minimum or avoid them altogether by opting for eco-certified products that get the job done without damaging the health of your staff and customers.
- **House Plants:** Maintaining healthy plants indoors can help rid the air of pollutants and toxins, counteracting out-gassing and contributing to balanced internal humidity.

**Investment Considerations:**
- **Test for radon:** The most common source of radon is uranium in the soil on which buildings have been built. When uranium breaks down, it releases radon, a colorless, odorless, radioactive gas, which after long-term exposure can cause cancer. The only way to detect radon is to measure it.
Inexpensive measuring devices are available from local contractors; for interpretation of your results you can refer to the EPA website at www.epa.gov. Consult a qualified radon mitigation contractor who can help you choose and set up the best radon reduction system for your facility.

- **Air Cleaners:** A number of air cleaners are available, using electronic, mechanical methods for removal of particle matter or gas-phase filters for the removal of gaseous pollutants. The effectiveness of an air cleaner depends on how well it collects pollutants from indoor air (expressed as a percentage efficiency rate) and how much air it draws through the cleaning or filtering element (expressed in cubic feet per minute). Although air cleaners might be very effective in particle removal, their ability to remove gaseous pollutants is limited.

### Reduce Noise Pollution

Noise (i.e. unwanted or disturbing sound) coming mainly from streets, traffic, and aircrafts affects the lives and health of millions of people. In the United States, noise is regulated by state and local governments with the EPA as partner for further research and investigation of noise impacts on public health. Noise caused by tourism-related activities becomes particularly annoying in destinations where tourists and local residents are looking for some peace and quiet. Although not always under your full control there are a few things you can do to keep the noise levels of your operations low. Inspiring and educating your customers to follow your example will add to further improvements of tourism-related noise pollution.

**No-cost Options:**

- **Local noise regulations:** Determine the laws and curfews in your region or community and stay within permitted hours for noisy activities.
- **Support noise control initiatives:** Support environmental and other groups working on noise pollution issues.
- **Schedule noise hours:** Schedule necessary construction work for a less air- and noise-sensitive time. Ensure noise- and air pollution reduction methods are used when performing work. Ask your local sanitation department if early morning garbage pickup can be rescheduled to another time.

**Investment Considerations:**

- **Limit amplified sound:** Minimize the use of noisy equipment, replace older appliances that tend to get louder the older they are, or use sound insulation around loud equipment and generators. Consider quiet modes of recreational vehicles for business or customer needs.
- **Silent yard work:** Consider electric or manual mowers and yard equipment that is quieter and emits almost no pollution. The quietest and most eco-friendly option is the reel or manual mower. Along with the rake, broom, and manual clippers, it offers a no-emission, no-gas, and quiet option for grounds keeping. Use hand tools as much as possible when doing work.
- **Use natural sound barriers:** Design landscaping with noise reduction in mind. Consider driveways and other pathways, water features, on-site wildlife, highway proximity, merchant delivery, and waste disposal pickup areas in your plan. Trees, shrubs, and hardscape designs can significantly reduce highway noises when placed in strategic locations.
Become Carbon Neutral

The UN defines carbon neutrality by “the entire set of policies that an institution or business uses when it estimates its known greenhouse gas emissions, takes measures to reduce them, and purchases carbon offsets to ‘neutralize’ those emissions that remain. Carbon neutrality for a business or institution signifies an entity (organization) that has a zero net contribution of greenhouse gases to the atmosphere. This includes all activities directly controlled by the organization, including travel, purchasing of goods and services, and daily behavior of staff.” (Source: “Climate Change Adaptation and Mitigation in the Tourism Sector, UNEP 2008”)

Step 1: Know Your Carbon Footprint

The first step toward carbon neutrality is to monitor all your activities that cause greenhouse gas emissions. Greenhouse gas emissions can be measured in the amount of CO2 released by activities, equipment, or products. As a tour operator, you not only have to take your own business operations (including staff commutes) into consideration, but also the amount of CO2 emissions caused by your products and services. This includes ground transportation, air travel, accommodation, restaurants, and any recreational activities at the destination. The results define your carbon footprint, a good indicator of the impact you have on global warming and climate change.

A great number of web sites, organizations, and businesses offer carbon calculators that help you measure your CO2 emissions and offer assistance with reducing your carbon footprint. Calculators measure different categories and might not be as comprehensive as you like them to be, not specific enough for your country, etc.

TIP: Keep in mind that STI is there to assist you in researching and choosing the optimum carbon calculator for your business. STI can also help you develop your own, tailor-made calculator that specifically addresses the requirements of your business through our Carbon Management Program. Designing such an online tool and making it available for your customers will greatly impact your customers’ capability to manage their CO2 emissions, underline your position as an expert in sustainable business operations, and contribute to minimizing greenhouse gas emissions caused by tourism.

Once you have found the calculator that meets your needs and you know your current carbon footprint, you are ready for designing and implementing an action plan that leads you on the path towards carbon neutrality. Measuring your carbon footprint on an annual basis will help you monitor progress and refine your strategies for achieving the CO2 reduction goals you have set.

Step 2: Mitigate Your CO2 Emissions

The four basic steps tour operators can follow to mitigate their CO2 emissions include:

1. Eliminate the emission of greenhouse gases by keeping away from certain activities or products that can be avoided without compromising the quality of services offered.
2. Reduce the emission of greenhouse gases by focusing on energy efficiency practices.
3. Replace practices that are responsible for a large amount of greenhouse gas emissions with practices that have a lower carbon footprint.
4. Offset remaining emissions to achieve full carbon neutrality.

These four steps can be applied across all areas of a tour operator’s business, including:

- Internal management – by measuring the carbon footprint of their own business and implementing more practices that eventually lead to carbon-neutral operations
- Supply chain management – by choosing vendors and partners based on their sustainable strategies and performance. (For more information see Section 3)
- Customer Outreach – by influencing your customers’ choices through your own activities and business practices

Eliminate/Reduce/Substitute

A number of energy saving practices, including reducing energy usage, increasing energy efficiency of your equipment, and switching to alternative energy sources, have been outlined in Section 4 (Energy Efficiency, Conservation and Management). Implementing these practices will greatly contribute to minimizing your carbon footprint. Following the guidelines for waste reduction in Section 5 (Waste) and the recommendations at the beginning of this chapter for reducing air pollution by minimizing fuel usage will help you make big steps toward a more sustainable and climate friendly performance.

Offset Your Carbon Emissions

Once you have done everything you can do eliminate and reduce CO2 emissions and implemented practices that substantially lower your operation’s carbon footprint, it is time to deal with the remaining emissions by neutralizing or offsetting them. Carbon offsetting allows you to compensate for the CO2 emissions you caused by investing into renewable energy, energy efficiency, or reforestation projects. These investments can enable someone else in a different part of the world to avoid or absorb the same amount of CO2 emissions that were released through your activities. This system works because greenhouse gas emissions are not a localized issue. They are distributed evenly throughout the atmosphere, so reducing them somewhere besides where they incurred will still effectively offset your impact on climate change.

Carbon offsetting programs have become increasingly popular in the past decade and are of two types: compliance or voluntary. Compliance programs are regulated under mandatory regional, national, or international carbon reduction agreements such as the Kyoto Protocol or the European Union’s Emissions Trading Scheme. Voluntary offset programs are developed outside of these compliance markets and allow businesses and individuals to voluntarily purchase carbon offset credits. The voluntary carbon market is much smaller than the compliance market because it was developed based on voluntary contributions. There are no established rules and regulations for the voluntary programs; they often serve as testing ground for new technologies and methods and are more open for innovation because projects can be implemented at lower cost than compliance market projects. Voluntary carbon offsets therefore tend to cost less than compliance market offsets. Each voluntary program has its own focus and projects that are accepted under its umbrella.
5.3 Best Practice Example from the Field —

*TUI Travel* is an industry leader, not only in tourism but in sustainable tourism as well. Of particular note is the strong commitment the company has made towards managing its carbon footprint. TUI Travel has a carbon management strategy in development to reduce this contribution, covering aviation, water transport, major premises, ground transport, and flagship hotel properties.

In 2007/2008, TUI Travel’s direct carbon footprint (from diesel, gas, kerosene and petrol) was 6,564,026 tons, a reduction of 8% since 2006/2007. This reduction is attributable to aircraft fleet consolidation following the September 2007 merger, as well as fuel conservation measures across the TUI Travel airlines. TUI has committed to reducing its direct carbon emissions by 6% by 2013/2014 in terms of total carbon emissions as well as relative carbon emissions, based on 2008/2009 operational structure and plans. The company aims to reduce the environmental impact of their fleet of aircraft by replacing older aircraft with new, more fuel-efficient models and by pursuing a fuel conservation program to ensure that their airlines are as fuel efficient as possible. In 2008/2009, TUI Travel airlines’ fleet average emissions were 78.1g of carbon dioxide per revenue passenger kilometer (CO2/RPK). TUI Travel airlines saved over 34,000 tons of carbon dioxide in 2008/2009 through the Groupwide fuel conservation program. The savings were made by implementing fuel efficiency measures in engineering, flight planning and management, maintenance and ground operations. In June 2009, TUI completed its second submission to its Carbon Disclosure Project (CDP) detailing its carbon impact, risk and opportunity, and its approach to carbon management. (TUI Website)

*Wilderness Safaris* offers a wide range of luxury expeditions and safari trips in southern Africa. The company employs 2500 people and operates within 60 camps in seven different African countries, and has converted 75% of all operations to run on some type of renewable energy, and in addition maintains and protects 2.7 million hectares of natural land as the company’s personal carbon sequestration project.

Some of the forms of renewable energy systems in use by Wilderness Safaris include:

- Solar water heaters
- Free-standing solar panels outside each room for lighting
- Sinewave inverters and accompanying battery packs and recharging generators to power primary energy consuming items, such as office and kitchen appliances, laundry facilities, and ice machines
- Hold over panels in freezers and refrigerators with slow-release technology to keep goods cold for long periods without the use of electricity

© 2010 Sustainable Travel International
• Wind generators to power water pumps

To date, the total estimated savings in fuel costs for all camps has been over $US500,000, and the company president estimates that a reduction in carbon production of two tons of CO2 per day has been achieved. (Renewable Energy in Tourism Initiative 2008)
6. Solid Waste Management

Tourism thrives because of the natural beauty of our planet; tourists enjoy – and expect – unspoiled beaches, pristine forests, clean cities, and clear water. But unfortunately tourists also tend to generate more waste when on vacation than they do at home. Recent data from the EPA documented that in 2008 the average amount of waste generated per person per day in U.S. was 4.5 pounds, leading to a total of 1,640 pounds (740 kg) of trash per year. Numbers from Europe draw a similar picture, with 3 pounds of waste per person per day, leading to 1,150 pounds (522 kg) of waste per year. Estimates from UNEP suggest that on average a tourist generates six times more waste when on vacation than at home. Considering the continuing growth of tourism, with an estimated number of 1.6 billion travelers to be expected by the year 2020, these numbers will give you a sense of the global dimension of waste generated by tourism and the pressure it puts on the environment.

Solid waste impacts the environment in a variety of ways. Improper waste disposal can directly impact the quality of ground water. Waste from disposal sites can leak into rivers and streams and pollute ponds, lakes, and wetlands. Dumped waste blown by wind can impact surrounding flora and fauna. Coastal areas are particularly sensitive to pollution in the forms of solid waste and wastewater. “Visual pollution” caused by these sources of waste and lack of proper waste management can significantly turn tourists away from these destinations, adding economic strain on tourist areas and their local communities.

6.1 The Issues

Waste generated by tourism usually comes from one of the four areas: accommodation, food and beverage, grounds keeping, and office administration. In addition to directly polluting the environment and showing an immediate impact, waste also accounts for about 3% of tourism-related CO2 emissions, an important greenhouse gas, which contributes to global warming and climate change.

Greenhouse gases are generated by waste in several ways:

- The transportation of waste to disposal sites produces CO2 from vehicle emissions.
- Anaerobic decomposition of waste in landfills produces methane, a greenhouse gas, which is 21 times more potent than carbon dioxide.
- The incineration of waste produces carbon dioxide.
- And, the disposal of materials means that they are being replaced by new products. Industrial production contributes to CO2 emissions by burning fossil fuels for energy.

In terms of climate benefits, waste prevention is generally the best management option with recycling being the next best approach. The EPA created a Waste Reduction Model (WARM) that helps track and voluntarily report greenhouse gas emissions reductions from several different waste management
practices. WARM is available for free download in Microsoft Excel and as an online calculator at www.epa.gov. (EPA)

As a tour operator, your ability to improve the waste management practices of destinations and other tourism businesses might be limited, but by implementing a number of practices in your own office, you will not only minimize your own environmental footprint, but you’ll also provide an example of good waste management that can positively influence not only your supplier and partner network, but also your customers.

6.2 Guidelines

Perform a Waste Assessment

Undertaking a comprehensive evaluation of the waste you generate will give you a good starting point for defining waste reduction strategies and implementing the waste management practices that work best for your office.

The first step of a thorough waste assessment will include an evaluation of the actual amount of solid waste that is being produced by your business, which includes your business office, and your tours while in operation. Depending on the size of your business, you can look at the overall amount of waste being generated or you can break it down into waste generation by department or activity. Going through this first step will help you answer the following questions:

- **How much waste does your office generate?**
  You can estimate the volume or, if you want exact numbers, you should be able to get those figures from your garbage collector. If this information is not available, check your waste disposal invoices from recent years. As a final solution, you may have to weigh your garbage yourself.

- **How much waste do your tours generate?**
  Measure the total volume of waste produced by your tours, whether they’re day-tours or multi-day excursions. Make sure to inform your clients about this assessment so that their waste is included in the measurement.

- **Where, how and why is waste being generated?**
  Is the waste being generated at the source, i.e. your vendors? Or is it being generated in your office? Answering these questions will help you determine whether you need to establish a better purchasing policy or if you need to revise your office management practices.

- **What types of materials are you throwing away?**
  Define categories for the waste you want to evaluate, e.g., metals, organics, paper, plastics, recyclables, other solid waste, hazardous materials, etc. Doing this will give you a clearer picture of your environmental impact and prepare you for the next step.

- **Where is your waste going and how is it managed?**
  Going through this step will help you estimate your current contribution to greenhouse gas
emissions and potential harmful impact on the environment through non-recyclable waste that is going to landfill sites.

- **What is the cost of your collection and disposal service?**
  A good waste collection service does not only have to be efficient and effective, it also needs to be financially sustainable for your business. Thoroughly research and evaluate all waste pick-up options that are available in your area before making a decision.

After you have gone through your waste assessment you can determine where and how you can best reduce the overall amount of waste you generate. The most effective strategies for implementing an efficient waste management system include reducing waste, using/reusing waste, and recycling waste.

*Prevent Waste through Green Purchasing*

The best long-term and economically viable approach to reducing waste is to avoid it in the first place. This requires a critical review of your purchasing policy and the way you manage your day-to-day business operations.

*Develop a green purchasing policy* — Purchasing green products can save money, minimize the release of toxic substances into the environment, conserve natural resources, and, by reducing the amount of solid waste generation, also lower the amount of greenhouse gas emissions. To implement a green purchasing policy, you will have to keep the following three aspects in mind when making purchasing decisions. (UNEP 2001)

*Environmental Impact*—

- Products should release no persistent toxic substances into the environment during production process, use and disposal.
- Products should conserve energy and resources during production, use, and disposal.
- Products should contain little or no toxic substances to avoid any harm to humans and the environment.
- Consider the life cycle cost of products. Purchasing fewer of the same products per year (such as buying reusable water bottles instead of one-time-use containers) reduces the waste, and environmental impact of production, transport, and disposal of that product.
- Substitute non-toxic cleaning products and try alternative methods of pest control.

*Recycling and Re-use*—

- Give preference to products made from recycled materials or renewable resources used in a sustainable way. Items with a recycled content include paper, packaging materials, plastic, glass and metal, and are often marked with the percentage of recycled materials used.
- Buy reusable products (i.e. refillable pens and pencils, reusable mugs and other dishes) as opposed to those that can only be used once.
- Encourage the use of reusable products on your tours. (i.e. reusable plastic or metal water bottles instead of disposable water bottles).
- Choose products that are easily recycled or composted, or are truly biodegradable.
Packaging—

- Choose products that have minimal packaging but enough to ensure protection.
- Purchase items shipped in bulk to avoid individual wrapping of items.
- Purchase from suppliers who are committed to environmental improvement to encourage the use of green products.
- Minimize non-recyclable packaging. Chicken, fish, and vegetables are often packaged in waxed cardboard. Facilities can reduce waste by asking vendors to pack materials in reusable or recyclable containers.

Green purchasing is your most effective strategy for waste reduction, but it might not always meet your requirements for certain products. Sometimes green alternatives are not available at all or can only be obtained at a price point that is not sustainable for your office. It is worth the investment, however, to become knowledgeable about green products and various purchasing options. Providing ongoing training for your staff, particularly for staff involved in procurement of products and services, and encouraging them to search for green alternatives will increase the likelihood of a successful and cost-effective purchasing strategy.

For more information on supply chain management, see Section 3: Responsible Purchasing —Supply Chain Management.

Reduce Waste

Not all waste can be avoided through green purchasing decisions, but there are many ways to minimize the amount of waste your operation produces. The following tips might help you minimize waste by slightly changing your operational practices:

No-cost Options:

- Utilize email to send information instead of printed paper and consider storing information on your computer rather than on paper.
- Eliminate all unnecessary reports and printings.
- Direct customer traffic to your website by creating interesting blogs, email newsletters, monthly updates, etc.
- Set your printers and/or copiers so that they automatically print on both sides of a page.
- Proofread documents carefully on the computer screen before printing.
- Do not use cover sheets for faxes.
- Utilize plain paper fax machines or a fax software program so that you can send and receive faxes through your computer.
- Print rough drafts on the unused side of paper that would otherwise be recycled.
- Use shredded paper instead of bubble wrap or foam for packaging purposes.
- Consider reducing the size of your brochure and other direct mailings for marketing.
- Replace your printed marketing materials and mailings of newsletters, catalogs, and other print materials with e-mail and online marketing only.
• Join a local “neighborhood clean-up” or other environmental clean-up program and encourage staff to participate. If no program is available through your local government agency, create your own program and provide necessary signs and safety materials for you and your staff. Also, encourage other local businesses and organizations to follow suit and participate in your program or create their own.

Low-cost Options:
• Follow the Leave No Trace Principles during all tour operations in the wild.
  ▪ Pack it in, pack it out. If camping, inspect your campsite and rest areas for trash or spilled foods, and pack out everything you took in.
  ▪ Deposit solid human waste in catholes dug 6 to 8 inches deep at least 200 feet from water, camp, and trails. Cover and disguise the cathole when finished.
  ▪ Pack out toilet paper and hygiene products.
  ▪ To wash yourself or dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.
• When purchasing food for tours, consider buying in bulk to minimize packaging waste, as well as modifying your menus to reflect those concerns.
• Purchase food items and other necessities that have biodegradable packaging or have a high recycled content in their packaging.
• Consider bulletin boards for memos, pamphlets, and brochures instead of circulating copies to all staff.
• Establish a regular maintenance routine for your computers, printers, copiers, etc to prolong their lives. This can reduce the number of times you will need to recycle them, or throw them out.

Reuse Waste

Reusing, i.e. repairing, selling, and donating products is your second best alternative if you cannot avoid waste or reduce it by implementing greener business operations. Examples for reusing products include:

No-cost Options:
• Reuse envelopes for inter-office mail.
• Cut up scrap paper to use as notepads.
• Reuse newspaper, shredded paper, and incoming packaging materials (bags, boxes, bubble wrap, foam packaging, even Styrofoam peanuts) to package goods for shipping to your customers.
• Reuse damaged towels and sheets as cleaning rags.
• Re-label and reuse cardboard boxes for shipping.
• Donate unused food to a community food bank or charity.
• Donate leftover soaps, toilet paper, tissue, and old linens to charity.
• Donate obsolete or unwanted equipment, furniture, drapes, and carpeting to charity.
• Donate old computers and equipment to schools or charities.
• Create a “trash to treasure” program, turn discarded materials into works of art, and generate additional revenue.
• Donate unwanted construction materials or other items to local artisans or craftsmen and display examples of their finished work at your business.
Low-cost Options:

- Purchase rechargeable batteries.
- Purchase cloth towels instead of paper towels. If this is not feasible, utilize perforated roll towels instead of folded paper towels; people use less paper with a roll towel system.
- Use refillable, reusable toner cartridges for laser printers.
- Place reusable mugs, glassware, plates, and utensils in your break room.
- Consider purchasing used furniture and equipment.
- Consider leasing furniture and equipment instead of purchasing them.
- Buy reusable air filters for your heating, ventilation, and air-conditioning systems.

Recycle Waste

What you cannot reduce or reuse you might be able to recycle. According to the EPA, the U.S. currently recycles approximately 32 percent of its waste, which saves an amount of greenhouse gases equivalent to removing 39.6 million cars from the road. Increasing the recycling rate to 35 percent would reduce greenhouse gas emissions by an additional 5.2 million metric tonnes of carbon dioxide equivalent. (EPA)

If a recycling program is available in your area, you might want to check with them to find out what types of recyclables they accept and how they must be prepared. Your local waste management provider will likely be very eager to let you know what they can and cannot recycle, as it will greatly increase their operational efficiency. Recyclables that are most commonly accepted include paper, plastics, glass, and metals. Not all recycling services accept organics, glass, or certain types of plastic. Motor oils and hazardous materials will almost always need to be transported to a special collection area.

Some other important considerations before entering a contract with a recycling service relate to pick-up schedules, maximum/minimum quantities for both the volume and weight of your trash, how the company will determine the weight, if they provide containers for recyclables, and monthly/annual cost for pick-ups and additional operational expenses that might incur.

If recycling pick-up is not available in your area, you might need to take your recyclables to a collection area. Check with your local governmental agency. Very often they provide free information, assistance and training on methods to eliminate, reduce, or recycle waste before it becomes a pollutant or requires disposal.

Recycling programs work best if they are convenient to use and designed in a clean, efficient manner. Keeping the following factors in mind will help you design a successful recycling program:

- Check in with your pick-up service regarding recycling of motor oils, antifreeze, paint, etc. used for maintenance, larger office equipment, toner cartridges, etc.
- Determine when recyclable materials will be collected.
• Ensure participation of all staff members in the collection of recyclables; every employee should have a recycling bin at his/her desk.

• Appoint one staff member who is accountable for and oversees the complete recycling process.

• Select the type and size of recycling collection containers needed and choose a location where collected recyclables can be stored.

• Inquire about local zoning and/or fire code requirements related to the type and location of storage containers.

• Place collection containers in a convenient and safe location and clearly label all containers to ensure they can easily be distinguished from trashcans.

• Investigate opportunities to join other businesses to pool your recyclables. This may offer better pick-up rates.

Once you have established your green purchasing policy, changed your operational business practices to reduce and/or reuse waste wherever possible, started a pick-up service with a local recycling service, and designed a recycling program in your office, you have taken care of the majority of your waste. What’s left over is waste that is not accepted by your recycling service. This usually includes office equipment, appliances, hazardous materials, and other miscellaneous non-recyclables. Here are some tips on how to deal with those items.

**Office Equipment**

**Investment Considerations:**

• **Computers**—consider the company’s recycling policies when purchasing new computers. Major manufacturers with recycling services include Apple, Dell, and HP. Dell now offers free recycling of any of its machines, regardless of whether their owners buy replacement systems from them. Many other companies will recycle their items for a nominal fee and some also provide discounts on new equipment for customers who send old equipment back for recycling.

• **Cell Phones**—Less than 1% of cell phones are recycled or reused, resulting in more than 500 million cell phones in landfills. To recycle or donate your old phone, visit the [US EPA website](https://www.epa.gov).

• **Ink Cartridges**—Research a local cartridge recycler, or re-fill supplier. In the U.S., drop off your empty cartridges at FedEx Kinko’s or Staples and they will recycle them for you. Staples will even donate the proceeds to charitable causes.

• If you must purchase disposable products, purchase biodegradable disposables.

• Consider purchasing recycled toner cartridges—they can cost up to 75% less than new ones.

**Universal and Hazardous Waste**

**Investment Considerations:**

• **Universal waste items** are products that are commonly thrown into the trash, such as batteries, pesticides, and thermostats or lamps that include mercury. Many companies have established collection programs for these items.

• **Hazardous waste** is categorized as such if it can catch fire under certain conditions, corrodes metals or has a very high/low pH, if it can explode or produce toxic fumes when it comes in contact with water, if it leaches toxic chemicals into the ground, or if it is harmful or fatal when
absorbed. All products containing hazardous waste come with Material Safety Data Sheets. Hazardous waste requires special treatment and disposal.

**Composting**

Not all recycling companies pick up organic waste, so you might consider composting as an alternative to sending it to landfill sites. Compostable materials include tea, vegetables, kitchen food scraps, indoor plants, and yard waste. Organic waste can be composted in a number of ways from backyard bins to large centralized facilities. Composting usually reduces the amount of original waste by 40 to 50% of the amount of solid waste sent to landfill, and it produces rich material for gardens and grounds.

6.3 Best Practice Examples from the Field —

**Royal Caribbean Cruises, Ltd. (RCCL)** — Royal Caribbean Cruises Ltd.’s Save The Waves® program evolved from a program focused on reducing, reusing and recycling waste to a companywide philosophy that is integrated into the daily operations onboard all its ships. The program incorporates a multitude of progressive efforts to improve the company’s overall impact, one of which is a detailed policy regarding waste and chemical management. Here are just a few things the company is doing through their Save the Waves® program:

- **Reduce Waste**: Per policy, RCCL is working to green their supply chain, reduce packaging and use more sustainable resources—As a result, RCCL reduced their total average passenger cruise day solid waste production by 32% from 2007 to 2008, and reduced their hazardous waste production by 65%.

- **Re-use Waste**: RCCL works with its vendors to establish a return container policy for cleaning supplies, food containers and other miscellaneous supply containers. In addition, RCCL has established a donation database through which other waste items such as used mattresses, sheets, towels and furniture can be donated instead of tossed out. If items are too soiled for donation, every attempt to reuse them is made. For example, soiled sheets are cut up into rags and used in the engine room and photo lab.

- **Recycle Waste**: All waste produced on board is hand-sorted by RCCL staff to ensure the highest level of recycling. Currently, across the board RCCL ships have maintained a 25% recycling rate, with some individual ships reaching 80%. Staff members and ships as a whole, are rewarded for their recycling efforts through crew welfare funds and award programs.

**Lindblad Expeditions (LEX)** is a conservation minded company that has been offering small, nature-oriented cruises and expeditions around the world since 1979. The company approaches cruising as a form of tourism that can make a difference in one’s life, and in the world.

At all times, reduction and prevention of waste production are considered. For example, the use of plastic is discouraged on all company trips. Meals are only served on china and drinks in reusable and recyclable glass bottles. The company also provides reusable water bottles to its guests. In addition, the
company only uses non-corrosive, biodegradable chemicals, detergents and cleaning products, and guests are provided with biodegradable soap and refillable soap and shampoo dispensers.

For what waste Lindblad Expeditions does create, they have a strong waste management plan. On all cruises, the total volume of organic, inorganic and recycled waste is measured and managed. Glass, most plastics and paper products are recycled. Organic waste is liquefied to accelerate the process of biodegrading. Cooking and engine oil is stored in steel containers and transported safely to be recycled.

Lindblad Expeditions has experienced a high rate of success in all of its sustainable initiatives because the emphasis is placed on employee training and participation. All employees are taught about the company’s commitment to sustainable tourism, and environmental policies are made available to them. This practice not only allows a high company success rate, but also has influenced employees to change their behaviors at home to reflect their sustainability trainings while at work. (World Travel and Tourism Council, Tourism for Tomorrow Case Studies)

In Summary—
As a tour operator, your ability to influence the waste management practices of destinations and other tourism businesses might be limited, but by implementing a number of practices in your own office, and demanding a higher standard from your suppliers, you will not only minimize your own environmental footprint, but also provide an example of good waste management for your supplier and partner network, as well as for your customers.
7. Freshwater Consumption Reduction and Wastewater Management

Water is essential for our health and our lives. We need clean water for drinking and fresh water for cooking, washing, and sanitation. However, access to fresh water is limited. Less than 3% of the world’s water is freshwater, the rest is seawater and undrinkable. Of the 3% over 2.5% is frozen, locked up in the Arctic, the Antarctic, and in glaciers, and therefore not available to people. That means that we rely on the remaining 0.5%, which has to fulfill all people’s and nature’s freshwater needs.

The majority of the 0.5% is stored in underground aquifers. Additional amounts are stored in rivers and lakes, in man-made storage facilities, or is only temporarily available as rainwater. Most of this accessible water (60-90%) is used by agriculture for irrigation. The rest is being used by industry and domestic households.

This remaining 0.5% of freshwater is becoming increasingly polluted, and with that comes serious health problems and fatal illnesses. According to the WHO, 3,900 children die each day due to dirty water or poor hygiene. 1.8 million people die every year from diarrheal diseases (including cholera). This is the equivalent of 15 killer tsunamis each year or 12 Boeing 747 crashes every day.

Changes in lifestyle lead to higher water usage and, as population increases as well, water usage has been on a constant rise over the last decade. But increased and inefficient use of water has not just reduced the amount of water available for human needs, agriculture, and industry. Pollution of freshwater resources has added to an environmental impact that has begun to damage freshwater ecosystems beyond their ability to regulate themselves. Half of the world’s wetlands have disappeared in the last century with over 20% of freshwater species now endangered or extinct.

This section will outline the various issues involved in water consumption and pollution. Beyond providing an understanding of the issues, this section outlines useful information about how to measure your operation’s water usage, reduce that use, and increase water efficiency; it also provides an overview of steps to becoming water neutral. (WBCSD)

7.1 The Issues

Tourism adds to global water usage as well as to the water stress caused by over consumption and environmental impacts. In the US tourism accounts for 946 million cubic meters of water per year (1 cubic meter = 264 gallons or 1,000 liter). The majority of it, 60%, is linked to lodging, mainly to guest consumption, landscaping, property management, and laundry. Another 13% is linked to food and beverages. Total annual water consumption in Europe relating to tourism is estimated at 843 million cubic meters. (UNEP 2003, EPA, EEA)

In developing countries, a tourist typically uses up to 10 times more water than a local inhabitant. (UNEP, 2001) Particularly luxurious resorts use large amounts of water, up to 211 gallons (800 liters) per person per day. Local resources are often not capable of handling such high water usage, which can lead
to serious consequences for both natural and social environment. The problem is especially acute on small islands, where fragile ecosystems usually contain only small amounts of freshwater. Desalination is very often the only solution for generating enough freshwater, but comes with serious environmental costs through noise and air pollution.

Pollution caused by tourism-related activities impacts marine and freshwater systems in many ways: sewage and waste released in aquatic environments introduces pathogens that are hazardous to human health and can speed up eutrophication of rivers and lakes; oil spills, heavy metals, and chemical run-offs from marinas and boats are highly toxic to aquatic life; removal of corals causes reefs to die. And these are just a few examples.

On the other hand, water is one of the most important resources of tourism. Tourists only like to visit clean beaches and swim in clear water. Clean water is good—even necessary—for business.

A thorough water management plan will have to consider water quality, storage and distribution, water consumption, water reuse, and waste water treatment. For tour operators, it will be important to keep an eye on the water management plans of the destinations visited. In addition to that, implementing water conservation practices will set a good example, lower monthly operating costs, and reduce environmental impacts.

7.2 Guidelines—

Conserving water conserves energy. In the United States, 4% of the nation’s electricity consumption is used to move or treat water or wastewater. Additional energy is used for heating water.

The more water is used, the more waste water is generated. Optimizing your water consumption can help minimize generation of waste water, reduce the amount of energy required to treat the water, and lower your monthly water bill.

As with energy and waste management, a good first step toward sustainable water management is to evaluate your water usage. After having gained a clear picture of how much water you use, where, and when, you can determine your best strategy for implementing water conservation practices, be it through reducing water usage, installing water efficient devices, reusing or recycling water, or by investing in water conservation projects elsewhere.

Measure your Water Usage

Performing a water audit will help you analyze your water consumption and identify any cases or practices where water gets overused, used in a non-efficient way, or gets wasted because of leaks or dysfunctional fixtures or appliances.

Recommendations for a comprehensive water audit include the following:
No-cost Options:
• **Identify your water source**: Do you get all the water from an offsite municipal supplier or an onsite community or private supply, from surface water, or a combination of all?
• **Review Costs**: Review your water bills from the past months and review your water usage, which is usually separated out from any operational fees. If possible review your statements from the past two years and pay special attention to seasonal differences or any unexplained increases in water usage.
• **Identify Water-using Equipment**: Identify all items that use water and note the number, location, operating times, and flow rates.
• **Compare and Contrast**: If possible, compare your monthly costs with industry benchmarks from businesses with comparable office/building size, number of employees, and location.
• **Monitor**: Keep an eye on your water usage on a regular basis by checking your bills and/or reading your water meters.

Low-cost Options:
• **Submeters**: Consider installing submeters so you can measure the water usage of dedicated office space. Keep in mind that water meters measure water in cubic meters. 0.1 cubic meters = 26 gallons (100 liters).
• **Other Costs**: Calculate any associated costs, such as energy for heating, pumping, or treating water, or maintenance costs.
• **Identify Easy Fixes**: Identify all opportunities for saving water, reusing water, and reducing the amount of wastewater.
• **Make a Plan**: Design a water conservation plan that engages all your staff, is feasible, with realistic and measurable goals.
• **Monitor**: Keep an eye on your water usage on a regular basis by checking your bills and/or reading your water meters.

*Reduce Water Consumption*

After having evaluated your monthly water usage you can identify the most efficient and cost-effective strategies for reducing your water consumption. As always, the easiest and least expensive thing to do is to use less water. Here are a few examples of how you can do it:

No-cost Options:
• **Turn it off**: Make sure that faucets are turned off immediately when not in use.
• **Focus**: Never let water run from the faucet while you are doing something else.
• **Leftover drinking water**: Use leftover drinking water to water your plants.
• **Garbage disposal**: If you have a kitchenette in your office, avoid running the garbage disposal. It uses gallons of water, which can be avoided if you compost instead.
• **Don’t water the street**: Check your irrigation system and make sure it waters the lawn only not the streets, sidewalks, or driveways.
• **Timed irrigation**: Water your lawn early in the morning or in the evening after sunset during the coolest hours of the day. This will prevent water from evaporating before it can soak into the ground.
• **Pull your weeds**: Remove weeds on a regular basis to prevent competition for water and avoid using fertilizers that require additional watering.
• **Mowing height**: Use a mowing height of 2-3 inches (50-75 mm) to reduce evaporation.
• **Aerate your lawn:** Aerating your lawn once a year will help water reach the roots instead of running off the surface.

• **Check the pressure:** Water systems with high pressures are prone to leaks and overuse of water due to high flow. Your water supplier will be able to help you check the water pressure of your system in various locations and adjust it accordingly.

• **Engage your staff:** Invite your staff members to think about creative ideas for reducing water usage, particularly staff members who frequently operate water-using appliances.

**Low-cost Options:**

• **Fix your leaks:** Leaky faucets that drip at the rate of one drip per second can waste more than 3,000 gallons (11,300 liters) of water each year and a leaky toilet can waste about 200 gallons (760 liters) of water every day. If you are not sure whether you have a leak, monitor your water meter before and after a time period when no water is used (e.g., at night) or place a drop of food coloring in the toilet tanks. If the color shows in the bowls without flushing, you have a leak. Regularly check your outside irrigation system for potential leaks.

• **Protect your pipes:** Make sure your pipes are well insulated since frost can cause them to burst or leaks can increase. Insulating your hot water pipes will also shorten the time water needs to run before it gets hot enough.

**Increase Water Efficiency**

Sometimes using less water is not good enough. Consider investing in some water saving accessories or water efficient products to further cut down on your water consumption.

The most commonly recommended water efficient products and practices include the following:

**Low-cost Options:**

• **Aerators:** Fitting low-flow aerators in your faucets may reduce the water flow to a third.

• **Native plants:** Choose native plants for your yard that require little water and fertilizers.

• **Use mulch:** Spreading a layer of mulch around your plants helps keep them moist and prevents water from evaporating too quickly.

**Investment Considerations:**

• **WaterSense:** Install WaterSense™ labeled toilets, faucets, and accessories that provide increased water efficiency and help not only save water but also lower your monthly expense. The EPA states that “if just 1 percent of American homes replaced an older toilet with a new WaterSense™ labeled toilet, the country would save more than 38 million kilowatt-hours of electricity – enough electricity to supply more than 43,000 households for one month.”

• **Low-flow:** Investing in low-flow or dual flush toilets will help save a lot of water and offer great savings on your water bill.

• **Motion sensors:** For high usage areas in large offices you might consider motion sensors for your faucets that automatically turn on and off when hands are placed under the spout. While this might be the most efficient and hygienic solution for reducing water consumption it comes at a higher price for initial investment and ongoing maintenance.

• **Timed flow:** Install button- or lever-operated timer tabs that allow water to run for 10 to 15 seconds only.

• **Drip irrigation systems:** Drip irrigation systems use 20 to 50% less water than conventional in-ground sprinkler systems and use only as much water as needed by your plants.
• **Rain sensors:** Installing a rain sensor on your irrigation system controller will prevent it from running when it is raining.

• **Instant water heaters:** Installing instant water heaters not only saves energy but also prevents water from flowing too long while you are waiting for it to reach the desired temperature.

**Re-Use Water**

In many cases it is possible to reuse water. Rain water can be collected and used for irrigation and non-drinking purposes. Grey water, (waste water from bathrooms, sinks, and kitchens) has less toxicity and can be filtered and re-used for flushing toilets or irrigation. Keeping your water as clean as possible increases its opportunities for re-use.

Black water, such as wastewater from toilets, contains pathogens and nitrogen and needs to be specially treated before it can be reused. Although most water re-use projects are larger in scale, and operate at the community or regional level, smaller scale opportunities for domestic households and businesses exist as well. Check your local regulations before you initiate any water re-use project to make sure you comply.

Some recommended options for reusing water include:

**No-cost Options:**

• **Avoid toxic chemicals:** Use only biodegradable detergents that do not contain chlorine bleach or phosphates. If you have to use products that contain such chemicals use as little as possible.

**Low-cost Options:**

• **Natural cleaners:** Choose environmentally safe cleaning products such as baking soda, vinegar, salt, lemon, or borax.

**Investment Considerations:**

• **Re-route grey water:** Check with your plumber about the possibility of having your grey water re-routed so it can be used for watering the lawn. Other options involve using wastewater from washroom basins and using it for flushing toilets or outside watering.

• **Rainwater:** Rainwater from roofs can be collected and stored for irrigation, flushing toilets, and even clothes washing. Rainwater is very soft and does not contain any chlorine. Check for local regulations relating to storing, filtering, and reusing rainwater.

• **Monitor soils and plants:** Most grey water is slightly alkaline because it contains remainders of soaps and other detergents. So be careful when you use it on plants that require a more acidic environment. Sometimes grey water use can lead to elevated sodium levels in soils, which can cause drainage problems and potential damage to your plants.

**Wastewater Treatments**

The goal of all wastewater treatments is to remove all contaminants from water that can harm human health or the environment. Some wastewater treatments can go as far as making treated water usable again as drinking water. Most treatment systems clean water up to a stage where it can be used again for non-drinking purposes or be disposed of free of harmful pollutants. Wastewater treatment systems can range from simple septic tanks to tertiary level treatment systems for water reclamation and water
reuse on a larger scale.

- **Engineered systems:** These systems use engineering principles to separate pollutants from wastewater and generally comprise four levels of wastewater treatment. Preliminary and primary treatment methods remove about 60% of suspended solids and 35% of biochemical oxygen demand (BOD). The use of screens or physical methods that sort sedimentation are the most common applications. Secondary treatment removes more than 85% of suspended solids and BOD. If more solids need to be removed or nitrogen and phosphorous levels have to be reduced, tertiary methods are applied. Tertiary processes can remove more than 99% of all impurities from wastewater, producing water quality almost up to drinking standards. These processes are expensive and are only used under special circumstances.

- **Natural systems:** These systems use natural features such as oil, vegetation, and water plants for the treatment of wastewater. Although less costly than engineered systems, they are labor intensive and require large areas of land.

- **Subsurface disposal systems:** In sparsely populated areas where it is not economical to build centrally located treatment plants, separate subsurface disposal systems can be used.

- **Wetlands:** Constructed wetlands are man-made systems that simulate treatment processes in natural wetlands by cultivating plants on sand, gravel, or soil. Treatment occurs when pretreated water flows slowly through the vegetation.

**Become Water Neutral**

The concept of being “water neutral” has been developed to encourage businesses and individuals to offset their negative impacts on the environment through water consumption and pollution by investing in projects that promote sustainable use and management of water in areas where it’s needed the most. Conceived in 2002 at the World Summit on Sustainable Development in Johannesburg, the concept has been further discussed recently and received growing acceptance from a number of international environmental organizations, such as World Wildlife Fund, the Nature Conservancy, Business Council for Sustainable Development, UNESCO, and the World Water Council. (WBCSD)

Becoming water neutral requires substantial reductions in one’s water footprint. The water footprint not only looks at the direct use of water but also takes into consideration the embedded water, i.e., the amount of water used to produce a certain product. About 65% of the embedded water we consume is hidden in food. It takes about 37 gallons (140 liters) of water to grow one cup of coffee and about 264 gallons (1,000 liters) to produce 2.2 pounds (1 kilogram) of wheat. For raising beef, about 15 times as much water is required because water is not only used to grow the crops that are then fed to animals, it is also used as drinking water for the animals. One 0.3 lb (150 g) hamburger contains 634 gallons (2,400 liters) of embedded water. The higher water cycles up into the product chain, the more water is embedded in our food. (Waterwise, Hoekstra, et. al.)

Industrial goods also contain embedded water. It takes about 2,900 gallons (11,000 liters) to produce a pair of jeans and about 106,000 gallons (400,000 liters) to build a car.
The global water footprint is 7,450 billion cubic meters per year, or about 327,573 gallons (1,240,000 liters) annually per person. These numbers vary greatly between nations; The U.S. has a water footprint of 655,675 gallons (2,482,000 liters) annually per person while the UK is at the global average of roughly half that, at 328,319 gallons (1,242,825 liters). (Hoekstra, et. al.)

Factors that impact the water footprint of a nation include the amount and type of consumption (which is often related to income), consumption patterns (vegetarian or meat-based diet), climate and growth conditions, and agricultural practices (mostly referring to water-efficient irrigation practices).

The water footprint of a business includes the water needed for day-to-day business operations and the supply-chain water footprint. By looking at the water usage along the production and supply chain, the water footprint concept draws a more realistic picture of the overall water consumption by people. Water footprints can mainly be reduced by implementing efficient water conservation plans and by a smart choice of products, i.e. by choosing products that require smaller amounts of water throughout their life cycle.

The water neutral concept implies that by undertaking all efforts that are “reasonably possible” to reduce the existing footprint and investing in projects that promote sustainable water consumption, nations, businesses, and individuals can become water neutral just as they can become carbon neutral.

7.3 Best Practice Examples from the Field —

Journeys Within — Journeys Within is a boutique tour company focused on unique tours in Southeast Asia. The company’s mission is to provide travelers with a comfortable, safe and memorable experience, while connecting them to the people, culture and daily life in Cambodia, Thailand, Laos, Myanmar and Vietnam.

After seeing child after child reach into a dirty pit of water to scoop a quick drink, Journeys Within seized the opportunity to make a positive impact and established the Clean Water Project. Focused on eliminating contaminants, Journeys Within organized and funded local construction to install water wells for villagers. The new wells provided a clean source of drinking water, but also water for cooking, cleaning, bathing and irrigating local produce. The Clean Water Project now helps improve living conditions of poor and rural villagers by replacing existing contaminated water sources with hand pump water wells. In addition, the project offers a clean water source to more rural villages that need support but cannot afford to establish their own system, while also providing travelers on tour with Journeys Within the opportunity to learn about these issues, and donate to help support this effort.

Asia Transpacific Journeys (ATJ) has set the standard for extraordinary travel in Asia and the Pacific, through offering their distinctive small group trips. Because of Asia Transpacific Journey’s deep connection with the people of Asia, they established the non-profit Asia Transpacific Foundation in 1997 to act as the company’s tool to promote education and conservation efforts. The Foundation is funded
with money donated by travelers of Asia Transpacific Journeys and by staff members who volunteer on their behalf.

One of the philanthropic projects of the Foundation is the **Clean Water Initiative** in Thailand and Myanmar, which has been successful for a number of years to date. By utilizing local leadership and resources, the Initiative has installed clay water filters in local households, schools, orphanages, monasteries and refugee camps. The Clean Water Initiative has saved lives and helped prevent diseases associated with contaminated water, inadequate sanitation and improper hygiene. (Sustainable Travel International, Dec. 2008)

**In Summary—**

The concept of water neutrality is still fairly new and a lot of questions remain to be answered. But being aware of one’s overall water footprint and keeping an eye on further developments of this concept by looking at trustworthy information sources will certainly be worth the effort.

Consider water neutrality a long-term goal, while in the meantime working to monitor your tour operation’s water usage, identify ways to reduce water usage, increase water efficiency, re-use water and research alternatives for wastewater treatments. And remember, every drop saved really does count.
8. Biodiversity and Ecosystem Conservation

As tourism has developed, its impact on the world's physical environment has become an issue of growing concern. The consequences of failing to respect and protect the earth's biodiversity and delicate ecosystems are unfortunately, already clear. Many animals and plants that once thrived on this planet are now threatened to the point of extinction or already gone. Entire ecosystems are balanced on the tipping point between ruin and recovery.

As a tour operator, often your business directly relies on the natural wonders of the world to attract travelers. Not only is it in your best interest to protect that natural beauty and wonder, but it also makes good business sense as well. More often than not, tour operators can in fact have a profoundly positive impact when it comes to protecting and preserving the environment as well as improving the experience of guests by integrating conservation practices into operations and seeking opportunities to support biodiversity. Not only is the earth's environment protected, but tourists' experiences are deeply richened. (Buckley & Pickering)

The purpose of this section is to explain the issues surrounding biological and ecosystem conservation in terms of tourism and tour operators specifically. In addition, information is provided based on the type of ecosystem your tour operation might operate within, so that you have some customized information to start implementing more sustainable business practices.

8.1 The Issues —

All forms of tourism rely on land use in some way or another. While the effects of land use by tourists is often less immediately clear than in other industries, tourism still impacts the environment of the destinations it relies on. While the effects of tourist travel vary greatly, it will help to consider how your tour operation affects the environment through specific lenses, or within certain aspects. This section will organize the issues involved in biodiversity and ecosystem conservation through: wildlife considerations, waste and camping considerations, water considerations, and transportation considerations.

Wildlife Considerations

One of the most attractive aspects of a nature tour is often the potential to see exotic wildlife up close and personal. It’s human nature to be curious about the beautiful and mysterious creatures on this planet, and as tour operators, you have the opportunity to share those wonders and teach others about them. Educating your guests is the single most important and long-lasting way you can help sustain biodiversity and ecosystem conservation. By training staff, and incorporating knowledge and respect for wildlife into your tour’s experience, your travelers’ experiences will be deeply richened.
In an effort to protect that ecosystem and its biodiversity, contributing to or pioneering a local conservation project is another excellent option. Beyond education, and the many small steps you can take during your tour’s operation, providing your travelers with the option to contribute, or even take part in that conservation project has shown itself to be very effective, and financially successful. If working with a conservation partner, find out from that organization how your guests can best be of help to their project. If pioneering your own project, utilize the knowledge of local specialists and scientists to ensure the highest level of positive impact. Giving your guests the option to contribute to conservation projects with either a portion of their trip payment, or an additional contribution – be it monetary or a gift of volunteering time – is a great way to get your guests involved in local ecosystem and biodiversity conservation issues.

Waste and Camping Considerations

Many tours incorporate camping or spending extended time in the wild. If your tour includes camping, consider the impact of your tour’s presence in that environment. The overuse of a campsite can impact a local ecosystem by introducing foreign wastes, creating a high level of noise pollution, and damaging vegetation and terrain through negligent hiking and unrestrained exploring. Wildlife can become dependent on leftover food scraps, which can fundamentally change their habits and behaviors. Natural resources can be depleted in these areas because wood is used to start campfires, and shells or plants necessary to wildlife are collected as mementos.

These are just some examples to consider. As a tour operator, you can educate your staff and travelers about the effects their presence in the wild has on your specific ecosystem. Simply being aware of that presence is a huge step in the right direction. In addition, smaller group sizes and a rotation of camping sites can help mitigate some of these effects.

Water Considerations

One of the easiest ways to mitigate your impact on the environment you operate in is to create and enforce a responsible transportation policy that ensures no damage will be done to the environment. By adhering to established roads, maintaining minimum speeds and driving during safe hours, your tour can reduce the risk of land and road erosion, vegetation and natural habitat damage and wildlife collisions. To take your commitment to sustainability one step further, consider switching to a more sustainable form of transport; hiking, biking and walking tours are becoming more popular, and renewable energy vehicles are more and more common and inexpensive.

Transportation Considerations

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8.2 Special Ecosystem Considerations

Understanding and respecting your local environment involves more than simply considering general issues. Educating yourself about the intricacies of the micro-ecosystem that you depend on for your operation's revenue is the best first step. Devote some time to researching your particular region of the world, and talk to specialists and local biologists to educate yourself and your staff about the history, wildlife, vegetation and natural cycles of life in your local ecosystems.

The following information outlines general considerations for the most popular ecosystem destinations worldwide, including: mountainous and volcanic ecosystems, desert ecosystems, forest ecosystems, freshwater ecosystems and marine and coastal ecosystems.

8.2.1 Mountainous and Volcanic Ecosystems

From outdoor adventure enthusiasts to individuals who seek the peaceful solitude of nature, mountain ecosystems have many things to offer. Due to the great popularity of these destinations, they often receive the brunt of the negative impacts of unsustainable tourism.

In addition, these ecosystems are particularly important for conservation purposes because of the high level of biodiversity they entail. The rapid changes in altitude, climate, vegetation, and soil over short distances produce that high level of biodiversity, as well as allow these regions to provide the world with much of its natural resources. 80% of the world's fresh water, food, hydroelectricity, timber, and mineral products are derived from mountainous and volcanic regions. Perhaps they deserve particular attention for these reasons. (UNEP *Tourism and Mountains* 7, 10)

*Guidelines for Operations: Mountainous and Volcanic Ecosystems*

There are many ways that tour operators can support and promote biodiversity and ecosystem conservation on mountain tours, and mitigate their impact. Here are a few suggestions to start with.

*Wildlife Considerations* —

*No-cost Options:*

- Learn the movement and life patterns of local wildlife — when wildlife is breeding or nesting, mitigate your tour's impact by altering your route to give those animals peace and quiet.
• Educate your guests about the harm of feeding and handling wildlife.
• Discourage guests from buying souvenirs made from endangered species.
• Try to minimize noise level, camera flashes, and the amount of brightly colored clothing, and open fires. (UNEP Tourism and Mountains 27)
• If your tour operates in the snow, try to frequently alter routes to avoid snow and soil compaction and the creation of unnatural water channels and drainages. (UNEP Tourism and Mountains 46)

Waste and Camping Considerations —
No-cost Options:
• Consider smaller group sizes, which have less of an impact on the environment.
• Use established campgrounds if available or alternate spike camp locations frequently to allow the ecosystem to recover. (UNEP Tourism and Deserts 18)
• Maintain a clean camp, and encourage tourists to leave nothing behind.
• Keep noise levels in camp to a minimum.
• Provide biodegradable bags for waste to your guests, and encourage guests to only bring the necessities to avoid excess waste. (UNEP Tourism and Deserts 23)
• When disposing of human waste use permanent toilets or portable chemical toilets when possible, or bury human waste at least 10 inches deep and 200ft from water sources and other campsites. (UNEP Tourism and Mountains 32)

Investment Considerations:
• If structures need to be built, work with local groups to design practical, efficient and culturally appropriate buildings.

Water Considerations —
No-cost Options:
• If using a natural water source, check with local specialists to decide which sources are most fragile, and which are available options for use.
• Conserve water whenever possible.
• Encourage your guests to always use re-usable water bottles, or provide them at the onset of the tour.
• Do not allow your travelers to disturb natural water sources (e.g. moving rocks and stirring mud in streams, creeks and springs). (UNEP Tourism and Mountains 28-29)

Low-cost Options:
• Make it a policy to use only biodegradable soaps to avoid contaminating natural water sources.

Investment considerations:
• Consider purchasing water purification systems instead of buying water prior to the trip.

Transportation Considerations —
No-cost Options:
• In general, try to minimize the use of vehicles or perhaps work out an agreement with other tour operators to share vehicle use.
• Train drivers to avoid skidding and rough driving to minimize land erosion.
• Keep speeds low to avoid accidents due to wildlife crossings.
• If possible, alter vehicle routes and travel times to minimize traffic levels, and to avoid the times of day when animals are moving (usually dusk and dawn).
• Keep vehicles clean and free of outside debris to avoid the introduction of non-native species.
• When hiking, biking or rock climbing in the mountains, encourage your travelers to keep to the center of paths and rock climbers should follow designated routes. (UNEP Tourism and Mountains 40-41)

Investment Considerations:
• Avoid vehicles with larger seating capacities or larger engines, both of which have a more disrupting presence in the wild.
• Consider switching your vehicles to newer more efficient models that rely on a renewable energy source.
• Purchase or re-paint vehicles to a natural or neutral color to avoid visual disturbances.

8.2.2 Desert Ecosystems

The desert draws travelers in search of something new and unique, a place unlike the familiar surroundings of the comfort of home. The possibilities are endless in a desert, as a traveler discovers a world that seems so empty of flora and natural resources and yet so capable of maintaining life. It is no wonder that the world’s deserts are so enthralling, but because of the extremely sensitive nature of this delicate ecosystem, it is crucial that tour operators have a comprehensive knowledge of this region.

In addition, tourism in desert regions is increasing, and so are tourism's negative impacts on the environment. Tourist activities are often concentrated during a certain season, which intensifies the effects of visitors during those times. (UNEP Tourism and Deserts 14) The demand for more permanent, comfortable camps is also increasing in these areas, but unfortunately the repeated use of the same campsite inevitably damages the environment, depleting natural resources such as water, wood, and grazing areas. (UNEP Tourism and Deserts 14, 26) Waste disposal is another major issue in desert tourism. Due to the fact that waste takes 10,000 times longer to decompose in deserts than in other ecosystems, the term "biodegradable" is almost meaningless in the desert. (UNEP Tourism and Deserts 25). And for perhaps obvious reasons, the use and treatment of natural water sources in deserts is of extreme importance.

Guidelines for Operations: Desert Ecosystems

Understanding the issues involved in desert tourism is one thing, but knowing how to mitigate your operation's impact is another. The following information will help you to develop a working knowledge of how to operate while in the desert.

Wildlife Considerations — No-cost Options:
• Educate your staff about the delicacy of the desert ecosystem by providing in-house trainings, inviting specialists to visit, or providing access to outside sources of education.
• Pass on the knowledge; make learning about the desert an integral part of the tour experience so that travelers also learn to appreciate their unique surroundings.
• Make it a policy that your travelers not collect samples from the desert. (UNEP Tourism and Deserts 18, 20)
• Educate your guests about the harm of feeding and handling wildlife.

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• Discourage guests from buying souvenirs made from endangered species.

Waste and Camping Considerations —
No-cost Options:
• Consider smaller group sizes, which have less of an impact on the environment.
• Alternate camping sites frequently to allow the ecosystem to recover. (UNEP Tourism and Deserts 18)
• Maintain a clean camp, and encourage tourists to leave nothing behind.
• Manage camp waste by using a dry toilet system, burning toilet paper, or packing it out.

Low-cost Options:
• Try to use gas for cooking, rather than firewood collected in the desert.
• Provide biodegradable bags for waste to your guests, and encourage guests to only bring the necessities to avoid excess waste. (UNEP Tourism and Deserts 23)

Water Considerations —
No-cost Options:
• Ensure that enough water is brought along for the entire length of the tour, so as to avoid use of scarce water sources.
• Educate your guests about water issues in the desert, and ensure they do not disturb any natural water sources or systems.

Low-cost Options:
• Use only biodegradable soap and cleaning supplies, or carry out all dish water and excess soap to avoid water contamination of natural sources.

Transportation Considerations —
No-cost Options:
• In general, try to minimize the use of vehicles — or perhaps work out an agreement with other tour operators to share vehicle use.
• Eliminate as many legs of the tour that must be taken in a vehicle as possible.
• Always drive on maintained roads to avoid land erosion and degradation.
• Keep vehicle speeds to a minimum to avoid wildlife collisions and vegetation damage.
• Keep vehicles free of outside debris to avoid the introduction of nonnative species.
• Educate travelers and staff on the impact of inappropriate vehicles use in the desert.

Investment Considerations:
• Consider switching to a more delicate form of transport than vehicles. The use of animals is an excellent option in the desert, as they are more suited to the terrain and have less of an impact than overland trucks.
  Note: If using animals in your tour, identify areas where overgrazing occurs and whether the quantity of water is limited to help prevent deforestation and desertification. (UNEP Tourism and Deserts 18)
• Purchase or re-paint vehicles to a natural or neutral color to avoid visual disturbances.

8.2.3 Forest Ecosystems

Forest ecosystems around the world attract tourists for many of the same reasons that mountainous regions are appealing; travelers in search of an adrenaline rush can certainly find the most adventurous
activities in the forest, but travelers looking for a peaceful walk through a quiet forest to view birds and other wildlife can also find exactly this in any forest. Note that forest ecosystems include many different types of forests, ranging from moist tropical rainforests to dry lowland broadleaf forests, mountain forests, mangrove forests and coniferous forests. Knowing your forest in particular is especially important for this reason.

When considering issues relevant to forest ecosystems, many of the same strategies can be implemented as those described for mountain and volcano ecosystems, because mountain ecosystems often include micro forest ecosystems, and many of the same tourism activities take place in both ecosystems. Forest ecosystems have an extremely high level of biodiversity, particularly rainforests, which are home to many of the world’s species and produce a majority of the world’s oxygen. (UNEP A Practical Guide to Good Practice for Tropical Forest-Based Tours 4, 5)

Proper planning of infrastructure is a key issue for forest ecosystems. Pathways, fences, bird hides, viewing platforms, bridges, suspended walkways, toilets, and signs are some examples of structures that can be planned in order to contribute to the conservation of these areas and ensure that wildlife and vegetation is not disturbed but rather experienced from a respectful distance. (UNEP A Practical Guide to Good Practice for Tropical Forest-Based Tours 15)

Vehicles and other recreational modes of transport are commonly used during tours in forest ecosystems, which can create noise disturbance, landscape damage, and pollution. (UNEP A Practical Guide to Good Practice for Tropical Forest-Based Tours 32) Hiking, nature walks, camping, rock climbing and mountain biking are some examples of activities popular in forest tourism.

Guidelines for Operations: Forest Ecosystems

Because the activities involved in this arena of tourism often involve individual adventure activities that might not include a close-watching guide, education is particularly important. Educating visitors is one of the first steps a tour operator can take to begin implementing guidelines for having a positive rather than negative impact on conservation and biodiversity in forest ecosystems. Visitor education provides tour operators with an excellent opportunity to share environmental education and to promote more responsible visitor behavior. Tour operators can include information on identifying species or areas of high conservational importance as well as how to avoid pollution and damage to the environment. (UNEP A Practical Guide to Good Practice for Tropical Forest-Based Tours 9, 11)

Wildlife Considerations — No-cost Options:
- Educate your staff about the delicacy of forest ecosystems by providing in-house trainings, inviting specialists to visit, or providing access to outside sources of education.
- Pass on the knowledge; make learning about the forest an integral part of the tour experience so that travelers also learn to appreciate their surroundings.
- Learn the wildlife patterns of local fauna. When wildlife is breeding or nesting, mitigate your tour’s impact by altering your route to give those animals peace and quiet.
• If possible, avoid tours during times of breeding or nesting for local bird species.
• Educate your guests about the harm of feeding and handling wildlife.
• Try to minimize noise level, camera flashes, and the amount of brightly colored clothing, and open fires. (UNEP A Practical Guide to Good Practice for Tropical Forest-Based Tours 27)
• If your tour operates in the snow, try to frequently alter routes to avoid snow and soil compaction and the creation of unnatural water channels and drainages. (UNEP Mountain Tours 46)
• Discourage guests from buying souvenirs made from endangered species. (UNEP A Practical Guide to Good Practice for Tropical Forest-Based Tours 37)

Waste and Camping Considerations —
No-cost Options:
• Consider smaller group sizes, which have less of an impact on the environment.
• Use established campgrounds if available or alternate spike camp locations frequently to allow the ecosystem to recover. (UNEP. Tourism and Deserts 18)
• Maintain a clean camp, and encourage tourists to leave nothing behind.
• Keep noise levels in camp to a minimum.
• When disposing of human waste use permanent toilets or portable chemical toilets when possible or bury human waste at least 10 inches deep and 200ft from water sources and other campsites. (UNEP Mountain Tours 32)

Low-cost Options:
• Provide biodegradable bags for waste to your guests, and encourage guests to only bring the necessities to avoid excess waste. (UNEP Tourism and Deserts 23)

Investment Considerations:
• If structures need to be built — work with local groups to design practical, efficient and culturally appropriate buildings and structures. These structures can contribute to conservation, by allowing tourists to enjoy the forest in a safe and manageable way; without harming vegetation underfoot, or getting too close to wildlife. (UNEP UNEP A Practical Guide to Good Practice for Tropical Forest-Based Tours 15-17)

Water Considerations —
No-cost Options:
• Learn which freshwater resources are most productive and healthy and use those rather than disturbing other more delicate water sources.
• Encourage your guests to always use re-usable water bottles, or provide them at the onset of the tour.
• Do not allow your travelers to disturb natural sources (e.g. moving rocks and stirring mud in streams, creeks and springs). (UNEP Tourism and Mountains 28-29)

Low cost Options:
• Make it a policy to use only biodegradable soaps to avoid contaminating natural water sources.

Investment Considerations:
• Consider purchasing water purification systems instead of buying water prior to the trip, if the forest ecosystem has abundant freshwater resources.
Transportation Considerations—

No-cost Options:
- In general, try to minimize the use of vehicles—or perhaps work out an agreement with other tour operators to share vehicle use.
- Train drivers to avoid skidding and rough driving to minimize land erosion.
- Keep speeds low to avoid accidents due to wildlife crossings.
- If possible, alter vehicle routes and travel times to minimize traffic levels, and to avoid the times of day when animals are moving locations (usually dusk and dawn).
- Keep vehicles clean and free of outside debris to avoid the introduction of nonnative species.
- When hiking, biking or rock climbing in the mountains, encourage your travelers to keep to the center of paths and rock climbers should follow designated routes. (UNEP Tourism and Mountains 40-41)

Investment Considerations:
- Purchase or re-paint vehicles to a natural or neutral color to avoid visual disturbances.
- Avoid vehicles with larger seating capacities or larger engines, both of which have a more disrupting presence in the wild.
- Consider switching your vehicles to newer more efficient models that rely on a renewable energy source instead of oil.

8.2.4 Freshwater Ecosystems

Lakes, rivers and all other bodies of freshwater are not only elements of many different ecosystems, but have become very popular destinations for recreational tourists. Freshwater activities include but are not limited to river rafting tours, adventure kayaking, canoeing, sailing, fishing, and lakeside house or camping retreats.

The most important issue to consider when operating in this environment involves the level of disruption caused by these various recreational activities on the water system involved, noting that the ecosystem adjacent to the water source is equally important. The main disturbances in this region involve motorized boats that can cause vegetation damage on riverbanks due to repeated dragging, transport, and launching, as well as marine vegetation damage from anchors, and collisions with boat bottoms, paddles and engines. Marine wildlife can also be injured from these collisions, as well as from discarded fishing equipment, and toxic chemicals from cleaning chemicals, oil and fuel spills, and discharge of wastewater. In addition, noise pollution from loud motors can be incredibly disturbing to local birds and animals.

When not managed properly, recreational fishing in freshwater areas may result in the depletion of native fish stock. Also, these types of activities may lead to the introduction of exotic diseases or species, such as non-native fish, resulting in competition with the local species. (UNEP Tourism and Mountains 44-45)

Not only is clean fresh water essential to the success of fish, other water-dwelling animals, and wildlife in surrounding ecosystems, but often these freshwater ecosystems also provide water for local communities. Getting to know the many uses of your water system is a great way to start.
Guidelines for Operations: Freshwater Ecosystems

In order to be able to overcome the issues and negative impacts of tourism on freshwater ecosystems, tour operators can keep the following guidelines in mind when developing operational standards. And remember, these are just first steps.

Wildlife Considerations —
No-cost Options:
- Minimize group size when running a tour in freshwater areas; this will reduce the number of watercraft in non-motorized tours as well as the number of passengers per guide, which will enable guides to implement all other necessary steps to reduce negative impacts on the environment. (UNEP Tourism and Mountains 45)
- If possible, avoid tours during times of breeding or nesting for local fish and bird species.
- Follow all fishing regulations and/or encourage responsible catch and release fishing which will maintain the local fish populations.
- Discourage fishing of species that are struggling to maintain a healthy population.

Low-cost Options:
- Use only mooring buoys instead of anchors to minimize damage caused by anchors on marine flora and fauna. (UNEP Tourism and Mountains 45)

Waste and Camping Considerations —
No-cost Options:
- Keep waste from campsites as far from bodies of water as possible.
- Human waste should be buried at least 10 inches deep and 200 feet from any water source and campsite.
- Wastewater, trash, fishing lines, and tackle should be packed out and properly disposed of or recycled, if possible. (UNEP Tourism and Mountains 32, 45)
- As always, maintain a clean camp and pack out everything brought in.

Water Considerations —
No-costs Options:
- Be sure your tour departs with sufficient drinking water for the duration of trip.
- Conserve use of water whenever possible.

Low-cost Options:
- Encourage the use of only biodegradable soaps and cleaning products

Investment Considerations:
- If water must be used for drinking, consider a water purification system instead of buying water in bulk prior to departure.
- Maintain clean watercraft equipment (clear of dirt, seeds, moss and algae) to help prevent the introduction of invasive species and water contamination.

Transportation Considerations —
Low-cost Options:
- Minimize the use of motorized boats and watercraft whenever possible.
• Regular boat maintenance should be performed and areas that are susceptible to potential leaks of toxic substances should be regularly inspected.
• If you provide transport on land, try to decrease the length and frequency of on-land trips as much as possible.
• When driving on land, be sure to maintain slow speeds to avoid wildlife collisions, and stay on maintained roads to avoid land degradation and erosion problems.
• Keep vehicles clean and free of outside debris to avoid the introduction of nonnative species.

Investment Considerations:
• Consider switching your land-based vehicles to newer more efficient models that rely on a renewable energy source instead of oil.
• Consider replacing old motorized boats with newer more efficient ones that use biodiesel.

8.2.5 Marine and Coastal Ecosystems

Marine and coastal ecosystems include many of the popular vacation getaways; tropical islands with idyllic beaches and sparkling waters and countless colorful fish and corals might come to mind. These ecosystems involve a vast number of species, often all delicately relying on the many attributes of coral reefs. Healthy coral reefs are among the most biologically diverse and productive ecosystems in the world.

The Great Barrier Reef off the coast of Australia was listed as a world heritage site and one of the Seven Wonders of the World because of the incredible magnitude of its impact on the planet. It provides a source of food for millions; protects the coastline from storms and erosion; provides habitat, spawning and nursery grounds for economically important fish species; provides jobs and income for local economies; and is even a source of new medicines. (NOAA) In addition, the Great Barrier Reef is home to some 820 tour operators – a clear sign of the success of this ecosystem's tourism industry. (Great Barrier Reef Web Magazine)

Guidelines for Operations: Marine and Coastal Ecosystems

From large marine mammals to microscopic corals, all species relying on coral reefs are influenced by tourism. By acquiring a working knowledge of the intricacies of this type of ecosystem and of the damages that can be done, tour operators in marine and coastal ecosystems can mitigate the numerous issues involved in this particular sphere of tourism. Here are a few starting suggestions.

Wildlife Considerations — No-cost Options:
• Educate your staff about the delicacy of marine and coastal ecosystems by providing in-house trainings, inviting specialists to visit, or providing access to outside sources of education.
• Pass on the knowledge; make learning about the coral reef an integral part of the tour experience so that travelers also learn to appreciate their surroundings.
• Instead of using tactics to attract wildlife that may be detrimental or disruptive to the wildlife (such as corolling with boats, or feeding), learn the animals’ natural movement patterns to encourage responsible wildlife viewing as a part of your tour. (UNEP 2004, 35)
• When approaching animals, use very low speeds and approach from the side.
• On fishing tours, catch-and-release fishing should be practiced, and spear fishing should be avoided. (UNEP 2004, 48-49)
• If scuba diving and snorkeling are part of your tours’ attraction, emphasize a “no-contact” policy. Teaching your guests about the safe and respectful way to enter the marine ecosystem will enhance their experience, and protect the local environment. (UNEP 2004, 39)
• When hiking or trekking near marine ecosystems, be sure to stick to maintained trails and routes. Wandering and exploring can lead to vegetation damage, and the introduction of nonnative invasive species. (UNEP 2004, 31)
• When providing local seafood to your customers, research what fish and seafood are in danger of being over-fished, and alter menus to reflect a decrease in those species.
• Encourage your customers to learn about responsible fish consumption as well to prevent the over-fishing and over-harvesting of certain popular seafood and fish species. (UNEP 2004, 40, 47)
• Discourage guests from buying souvenirs made from endangered species.

Waste and Camping Considerations —
No-cost Options:
• At all times, ensure that no waste is directly deposited into the ocean. Waste can come from boat fuel and discharge, and from human activity. (UNEP 2004, 23)
• When camping near a shore, ensure that human waste is disposed of properly, at least 200 feet away from the shore line and any other body of water, and buried 10 inches deep.
• As always, pack out everything that is carried in to a campsite.
• Avoid refueling at sea to prevent spills. (UNEP 2004, 5)
Low-cost Options:
• Absorbent sponges can be kept onboard boats to clean chemical spills. Dispose of these wastes at the marina.
• Use nontoxic antifouling paints made of biodegradable substances on boats, as well as biodegradable cleaning agents. (UNEP 2004, 18)

Water Considerations —
No-cost Options:
• Often freshwater resources are very limited on land areas near marine and coastal ecosystems. Whenever possible, conserve water.
• Encourage the use of reusable plastic or metal water bottles by your guests; using one-time-use plastic bottled water creates unnecessary costs and waste.
• Maintain a strong waste management policy while on tour to ensure that freshwater sources on land are not contaminated.
• Educate your guests about the problems small islands face in terms of their freshwater resources.

Transportation Considerations —
No-cost Options:
• Minimize the use of motorized boats and watercraft whenever possible.
• If motorized boat usage is necessary, keep speeds to a minimum, to avoid unnecessary disturbance of the marine ecosystem. (UNEP 2004, 4)
• Keep boats within marked borders and beyond the furthest visible reef patch in unknown or unmarked areas.
• Whenever possible, use mooring buoys instead of anchors and chains, which can scar corals, muddy waters, block light, and increase algae. (UNEP 2004, 2)
• If an anchor must be used, drop the anchor away from coral and reefs to avoid damage.
• If you provide land transport, try to decrease the length and frequency of on-land trips.
• When driving on land, be sure to maintain slow speeds to avoid wildlife collisions, and only drive on maintained roads to avoid land degradation and erosion problems.

Investment Considerations:
• Create a regular maintenance schedule for your boats and boating equipment.
• Consider replacing old motorized boats with newer more efficient ones that can use biodiesel.
• Consider switching your land-based vehicles to newer more efficient models that rely on a renewable energy source instead of oil.

8.3 Best Practice Examples from the Field —

Metropolitan Touring is an Ecuadorian tourism company founded in 1953, whose commitment to sustainability includes certifications for its ships and hotels, a corporate environmental policy for the entire company, and the company’s private NGO, Fundación Galápagos, which was created in 1998 to support Galápagos conservation and community benefits projects.

Fundación Galápagos was the first initiative by a private tourism company in Ecuador to help the islands preserve their fragile ecosystems. The core mission is to minimize human impact and maximize waste management, particularly on the islands with local inhabitants.

A few of the Fundación’s programs include:
1. Environmental Education — This includes door-to-door campaigns to teach locals about the benefits of recycling, local radio and TV campaigns promoting environmental awareness, and sponsoring local student educational expeditions and trips that focus on ecosystem awareness
2. Solid-waste Recycling — With cooperating local government agencies, the Fundación created the Fabricio Valverde Center for managing solid waste, the only recycling center in the Galápagos islands
3. Coastal Clean-Up — In an effort to clean litter and waste from the shores of these fragile coastal ecosystems, the Fundación sponsors local fishermen and volunteers to collect litter, which is then processed at the recycling facility. As part of the project, fishermen are paid for their efforts, engaging them more in supporting and understanding natural resources.

In Summary

All of these suggestions are ways to start mitigating the impacts of tour operations on the local ecosystems they visit. By adopting good practices, communicating these practices to guests, and providing guests with literature on conservation, tour operators are taking an important step toward the ultimate goal of conservation.
9. Culture and Community Preservation and Economic Welfare

People travel for many different reasons. Often they simply want to experience something new and different, or they just want to take a relaxing break from their normal lives. They may want to go hiking in the Andes, rest on a beach in the Caribbean, or learn how to make tortillas by hand from a local in a rural village in the Guatemalan highlands. Recognizing that a place’s culture is just as much a tourist attraction as the place itself provides a little more perspective on how sustainable tourism applies to all aspects of travel. Many indigenous peoples and cultural traditions are vulnerable to the wide array of negative impacts of unbounded tourism, and need protection just like the Andes Mountains and the Amazonian rainforest. Sustainable tourism includes protecting and sustaining socio-cultural destinations in addition to preserving the natural wonders of the world.

This section will outline the various issues surrounding the threats that uncontrolled tourism poses to the communities we like to visit. We hope that by reading this section you will both learn to recognize the issues when it comes to protecting cultural heritage destinations, and gain useful information on how to best mitigate the effects of your tour operation’s impact. Ultimately, the goal is to understand that respect for local communities and support for social development is a key part of sustainable tourism.

9.1 The Issues –

Cultural heritage tourism includes travel for the purpose of experiencing the places and activities that authentically represent the stories and people of the past and present. (Cultural Heritage Tourism) Tourists travel to see the exotic, and to experience what life is like for different people around the world. They want to buy street food, meet a local, and maybe even learn a few words of the native language. As tour operators, you have the opportunity to provide tourists with that experience by exposing them to people and places off the beaten track, and introducing them to customs that might not be so readily accessible if they were traveling independently. At the same time, it also your responsibility to know the issues involved when incorporating cultural tourism into your travel packages.

According to the statistics, tourists are increasingly interested in traveling to places, “off the beaten track.” International tourist arrivals in developing countries rose from 31% in 1990 to 45% in 2008. (UNWTO Tourism Highlights) East Asia and the Pacific, Asia, the Middle East and Africa are forecasted to experience record growth at rates of over 5% per year by 2020. (UNWTO, Tourism 2020 Vision) Tourists are increasingly demanding to see those most remote and “authentic” indigenous communities where cultural traditions are exotic and vibrant.

Unfortunately these sought out regions are also those most sensitive to outside influences. Western society has the potential to dilute indigenous cultures by influencing values and blending ways of life to the extent that communities which were once exotic and unique can become socially destabilized and dependent on foreign cultural concepts. For example, tourists can introduce foreign values that impact dress, food, etiquette, and ways of living. Often this may not be intentional, but simply a side effect of travelers demanding certain comforts and amenities that other cultures are not attuned to. In addition,
tourists can disrupt a community’s balance and flow by hampering access to culturally significant sites, invading sacred or spiritually significant places, infringing upon community privacy, and demeaning cultural ceremonies or traditions.

A focus on preserving the social norms and cultures of local and indigenous communities is extremely timely. According to the United Nation’s Environmental Program, there are close to 7,000 documented languages worldwide. Of these, 2,500 are in danger of extinction and up to 5,000 belong to indigenous people who represent the most culturally and linguistically diverse peoples of the world. Only 5% of languages are “safe,” meaning they are spoken by at least a million people and receive financial backing. And at least half the world’s 7,000 languages will probably die out in the next century, a threat now recognized as a worldwide crisis. (Krahenbuhl and Mullis 2002-2009, 38)

"Language isn't just a body of vocabulary or a set of grammatical rules; it's a flash of the human spirit, the vehicle through which the soul of each particular culture comes into the material world. When you and I were born there were 6,000 languages spoken on Earth. Now, fully half are not being taught to schoolchildren. Effectively, they're already dead unless something changes. What this means is that we are living through a period of time in which, within a single generation or two, by definition half of humanity's cultural legacy is being lost in a single generation. Whereas cultures can lose their language and maintain some semblance of their former selves, in general, it's the beginning of a slippery slope towards assimilation and acculturation and, in some sense, annihilation." (Wade Davis)

In addition to cultural infiltration and destruction, unrestrained economic development that is caused by increased tourism can also bring about negative results on a community if not managed sustainably. Communities destabilized by tourism can experience increased tension as a result of unequal benefits, a new or increased dependency on begging, prostitution, drug and alcohol abuse and even increased crime.

In response to the urgency of these issues, world leaders have already come together to discuss social and cultural tourism and a guideline code of ethics for the world tourism industry to follow.

In 1999, the United Nations adopted The World Tourism Organization’s Global Code of Ethics for Tourism. (Baker, 300) This code provided a foundation on which those involved in tourism could guide their practices towards more environmental, economic and socially responsible operation. This code was created using the Universal Declaration on Human Rights, as well as other internationally accepted declarations. In summary, the UNWTO Code guides the tourism industry to:

- Contribute to mutual understanding and respect between peoples and societies
- Be a vehicle for individual and collective fulfillment
- Enable sustainable development
- Contribute to the enhancement of cultural heritage
- Benefit host countries and communities

The UNWTO Global Code of Ethics for Tourism can be achieved, “when businesses make a concerted
effort to work with local people to help build capacity and maintain and protect the social structures, economies, and cultures of the communities where they operate. By being sensitive and supportive, involving locals, and educating your staff, clients, and service providers on how to do the same, you can greatly reduce (if not eliminate) your negative impact on a community. Research suggests that operating in a sustainable manner can even increase your business’ new guest base.” (Krahenbuhl and Mullis 2002-2009, 38)

In addition, sustainable tourism has the potential to actually support community development, by providing jobs, educational and professional training opportunities, health care, an improved infrastructure, and enhanced environmental stewardship. This level of community economic health is achieved, in part, when businesses actively contribute to the economic well being of the local communities where they operate without adversely affecting other aspects of local people’s daily lives. By enhancing your business’ positive economic impacts on local and indigenous communities, you can improve their quality of life and help protect the health and well being of each community as a whole. This, in turn, enhances employee morale and your business’ appeal to guests — ensuring their continued support and the longevity of your business. (Krahenbuhl and Mullis 2002-2009, 43)

9.2 Guidelines—

As a tour operator, being cognizant of the complex issues involved in cultural tourism will allow you to recognize areas of concern within your own operation and act upon them appropriately and responsibly. Here are a list of best practices that might help identify areas you could work on, or provide next steps if your tour operation already is aware of these issues.

Connect with Local People —
No-cost Options:
• Establish cooperative structures, such as a local tourism board that engages different community leaders and innovators. This will allow the local community to participate in their tourism industry, and will grant you insight into the needs and desires of the host community.
• Allow the use of your facilities for important community events.
• When possible, employ local staff. This will provide economic benefits to the local community, and involve community members in your operation.

Be Culturally Sensitive —
No-cost Options:
• Treat local culture with dignity and respect. Inform guests about historical context, local customs and appropriate behavior.
• Talk to local community leaders about what is appropriate: What activities are acceptable? What size groups are appropriate for tours? What sites should have restricted access? Is it appropriate for tourists to visit local people’s homes? Are photographs and videotapes inappropriate?
• Educate your employees and clients about local customs and social norms. Prejudices will be reduced and mutual understanding will develop when there is a cultural exchange between host communities and travelers.
• Integrate appropriate and authentic cultural elements from the local regions where you operate into your product offerings.
• Provide opportunities for clients to engage in one-on-one reciprocal interaction with local and indigenous people.

Support Community Development—

No-cost Options:
• Utilize local administration bodies to identify the community’s greatest development needs. Perhaps the community needs help stocking the local school library, or building a neighborhood park.
• Contract with local businesses for goods and services. This will ensure that the tourism industry’s economic benefits stay within the host community.
• Invest in locally-made crafts and products and support local restaurants, and encourage your travelers to do the same.
• Designate an area where local organizations and artisans can display their tourism projects, culture, handicrafts, and other initiatives.
• Set-up profit sharing schemes with the local community.
• Encourage clients to visit cultural attractions, and publicize and promote local cultural activities that are open to the public.
• Discourage clients from giving money to beggars. This only reinforces a "we are poor, tourists are rich" mentality. As appropriate, tell clients who want to support local people economically that donating to a local philanthropic initiative is their best option.

Low-cost Options:
• Provide health and education trainings for local staff (HIV/AIDS and malaria prevention seminars, and literacy classes).
• Pay a fair or above average wage.
• Create a philanthropic project, foundation, or giving-back program that supports the people and places you visit. Creating your own foundation for a philanthropy project provides an outlet for the public to contribute and further enhances your sustainability-related goals.

Measuring your Community Role and Local Impact

In order to know your operation’s presence and impact in your community, it is important to measure or gauge that presence in some way. While something like water usage lends itself well to measurement, often quantifying and measuring a business’ impact in a community is less straightforward. Here are some gauges by which travel-related companies can measure their socio-cultural performance:

• The feedback provided by and the amount of time spent meeting with community leaders to ensure their needs are met and that they have a stake in tourism operations and development.
• The educational information you provide your guests about local culture, language and the like, and the total amount of time spend training your guides to deliver this type of information.
• Total contributions toward cultural-heritage preservation e.g., total hours participating in the restoration or maintenance of a historic building.
In addition, there are many ways to measure how your business directly impacts local communities economically:

- The number of employees living within a certain radius of your workplace, or the number of guides you employ who are local to your regions of operation
- Basing wages on or above the current cost of living index
- Annual value of charitable donations to community development projects
- Annual hours of in-kind or volunteer contributions to local communities
- A measure of indirect economic benefits to host communities would be the total annual value of locally produced items and/or services purchased from locally owned businesses

9.3 Best Practices from the Field—

_GAP Adventures_ is a leader in the adventure travel industry, offering trips around the globe. As part of their giving back efforts, GAP Adventures offers training courses to people from four local communities just outside of Cuzco, Peru, to provide them with work opportunities and prepare them for the chance to be porters and cooks on the Inca Trail.

The porter training courses were developed as a way to provide job -skills training and educate community members about relevant social and environmental issues. Lessons are provided that demonstrate practical techniques to use to avoid back injuries from carrying relatively heavy loads for multiple days. Other topics include First Aid and English language lessons, training on proper disposal of organic and inorganic waste, the importance of responsible tourism, and trust building exercises. Participants are also given a copy of the Porter Law, which is reviewed and discussed so that each person is aware of their rights as a porter.

A training course for cooks is also offered to teach participants how to prepare food for GAP Adventures’ travelers on the Inca Trail. This course covers food preparation and presentation of the Gap Adventures menu. The cooks are then provided with an opportunity to cook and serve food for the porters, guides, teachers and Gap Adventures Cuzco office staff during the two -day training course.

In order to receive further training and work experience, 165 participants from these courses have been hired to work for GAP Adventures on the Inca Trail. GAP Adventures ensure that their porters and cooks are paid fair wages in accordance with the Porter Law and are provided with adequate food and camping equipment. They also pay for accident and life insurance, and all travel expenses to and from the point of departure. Porters are also provided with special belts to protect their backs from injury and carry a load limit of 20kg or less. (GAP Adventures Website: [www.gapadventures.com](http://www.gapadventures.com))

_Micato Safaris_ is an award-winning tour operator focused on destinations in East Africa, Southern Africa and India. Micato established AmericaShare in 1986, as the non -profit foundation through which Micato
guests, corporate donors, industry friends and staff can support sustainable change in East Africa. The company is deeply committed to helping disadvantaged populations affected by the HIV/AIDS epidemic through its programs. Micato pays 100% of the administrative costs of AmericaShare — so all money donated goes directly to the people and projects AmericaShare supports.

Micato’s projects through AmericaShare focus on three key areas of community preservation: education, community development and economic empowerment.

- **School Sponsorship Program** — the project places vulnerable children in reputable boarding schools with the help of sponsors, underwriting the entire cost of school fees, tuition, books, uniforms, room and board and all the basic items a student needs. Currently the program supports over 300 orphaned and vulnerable children.

- **Harambee Center** — the program is developing institutions that are creating a stronger sense of community, starting with the Harambee Center. This multi-purpose facility — built by generous donations of Micato travelers — is an oasis of hope for the people of the Mukuru slum. The buildings serve as a community centre, allowing residents to gather for lectures, educational sessions and meetings. Micato Safaris and AmericaShare also drilled a borehole next to Harambee Centre, and it is now one of the few places in Mukuru with a regular supply of fresh water.

- **Economic Empowerment** — in addition to working with a local microfinance organization to secure loans for small businesses, AmericaShare partners with several cooperatives to give the residents of Mukuru more economic opportunities. For example, AmericaShare has helped organize a cooperative of women who make and sell handicrafts. The proceeds help the women support their families and provide much-needed services to many people in the village living with HIV/AIDS and its effects. In fact, some of the women have been trained and licensed to provide home-based care to those with the virus. ([www.americashare.org](http://www.americashare.org) and [www.micato.com/about-micato/how-we-give-back/amERICA-share/](http://www.micato.com/about-micato/how-we-give-back/amERICA-share/))

**In Summary**

Ensuring that the communities and cultures your tour operation relies upon for its business continue to grow and develop in a sustainable way is just as important as ensuring the land used is protected and conserved. This section outlined some of the issues involved in socio-cultural tourism and provided detailed information on how to best make connections with locals, act within cultural sensitivity boundaries, and support community development.
10. Travel Philanthropy — Giving Back to the Places You Visit

There are a growing number of conscientious consumers and responsible travel companies who are donating financial resources, time, and talent to protect and positively impact the people and places they visit. This voluntary movement has been dubbed travel philanthropy. It helps to support community development and biodiversity conservation, and provides jobs, professional training, health care and much more.

In general, travel philanthropy is about creating mechanisms for travelers to donate their time or money. Providing these types of opportunities is becoming more and more important to travelers. In the U.S. alone, 89% of households give on average $1,620 annually and more than 55 million travelers exhibit a high degree of commitment to travel that protects the local environment, engages visitors in the local culture, and returns benefits to the community (National Geographic Traveler and the U.S. Travel Association).

Travelers who give back have a healthy curiosity about other people and places. They want to get to know local people and learn about their lives, and their everyday living environment. These travelers tend to attach strong value to seeking and experiencing the authenticity of a place. Meeting and interacting with local people and communities lead them to opportunities to become immersed in local culture and to connect with the local people in a more profound way.

Travelers that have these experiences and opportunities are more likely to make a donation than those who don’t. Therefore, travel providers that have successful giving back programs make elaborate efforts to incorporate unique cultural attributes into their programming, like visiting philanthropic projects and featuring, for example, traditional dances and meals on their tours.

Your business will also benefit. Corporate philanthropy improves market differentiation and helps to preserve destinations and cultures for future generations, which in turn protects the very wellspring our industry depends upon.

10.1 Establishing a Program

In general, travel philanthropy programs provide travelers and travel companies with opportunities to make small donations to local grassroots projects that are designed to enhance the environment and well-being of local residents. Some companies choose to establish their own foundations or make in-kind or monetary donations to non-profits like Tourism Concern and Sustainable Travel International to fund existing projects or underwrite new projects.

Travel philanthropy programs are most likely to succeed when they’re focused on individual achievement, and when they reward beneficiaries for personal initiative and self-reliance. Since many tourism providers don't have development experience, it may be difficult to identify local needs and implement programs that don’t foster dependency.
To address these issues, most companies that have successful giving back programs partner with credible non-profits that have proven track records. They require buy-in and in-kind support from their beneficiaries. And they establish systems of checks and balances to avoid corruption and ensure that lessons learned are shared and tangible results are achieved.

10.2 Giving Back Mechanisms

The most popular giving back mechanism is to request a voluntary donation from your clients during their visit. To incentivize them, many companies match their donation or provide a travel voucher. Donations can be included in your pricing as well. Guest bookings are not adversely affected by the introduction of a levy, as long as the reason for the levy is clearly explained at the time of booking, and it is used for their benefit. Generally, travelers understand that good tourism destinations need to be sustained and that funding is required to facilitate this process and enhance their experience.

An increasing number of tour operators are providing their guests with opportunities to support their giving back programs at the time of booking or upon check-in. Including the donation as a voluntary opt-out is considered a best practice (90 - 95% uptake) versus offering the opportunity as a voluntary opt-in (5-10% uptake). Let your guests know that a donation has been included in the price of their trip or lodging to support conservation efforts, for example. Then, if they want to opt out of the program, the fee will be taken off of their invoice.

One of the easiest options for implementing a giving back program for most tour operators and hoteliers is through a Dollar-a-Day or Dollar-a-Night program. Some companies match each donation dollar for dollar, so that each donation is doubled. This matching component is typically built into the cost of goods sold or into existing profit margins. It’s a great way to demonstrate the fact that your company shares a commitment to destination stewardship.

10.3 Ensuring Success

Successful travel philanthropy programs work when all qualified front-line staff and other key employees are educated and informed about how to positively communicate the program – without being overbearing. They need to understand how the program works, and they need to be able to explain the process, the reasons, and the benefits.

In addition, the program should be integrated into your company’s booking and sales systems so that guests are educated about the program when they book or upon arrival. Your guests should also be provided with opportunities to immerse themselves in the local culture, make meaningful connections, and perhaps most importantly, visit (or be invited to visit) the projects they have an opportunity to support.
Last but not least, be sure to make it a point to follow up with each guest after their trip and provide post trip donation opportunities or ongoing reports detailing how their donations are being used.

10.4 Best Practice Example from the Field

**GAP Adventures** is a leader in the adventure travel industry, offering authentic, award-winning adventure trips focused on culture, nature and active travel on all seven continents. Each year, more than 70,000 travelers participate in trips that focus on adventure, responsibility and sustainability.

In 2003, the founder and CEO of GAP Adventures Bruce Poon Tip recognized that the company’s success was largely due to its focus on responsible travel and created the non-profit, Planeterra in an effort to increase the company’s philanthropic initiatives. Planeterra focuses on giving back to the people and places the company visits, by supporting local community development projects, non-profit organizations, international charities that focus on health, education, community development, environmental conservation and employment skills training.

Some of the projects include:

- **Dollar-A-Day-Program**—This program provides travelers with the opportunity to donate US $1.00 per day for the duration of their tour to give back to host communities. GAP Adventures matches every donation dollar-for-dollar and pays all administration costs so that 100% of donations go to support Planeterra projects worldwide.

- **Volunteer Tours**—In 2008, GAP Adventures offered fifteen volunteer tours in Africa, Asia and Latin America. These tours are designed to give travelers the opportunity to see the highlights of the country while helping to improve the basic living conditions of local people and contribute to a sustainable environment. There are five categories of volunteer trips offered by GAP Adventures: Education, Health, Social Work, Conservation and Sustainability. (STI Dec. 2008)
Section 11. Special Case Study

Since 2002, Panoramic Journeys has operated tours in Mongolia, one of the least visited countries in the world. The company offers travelers the opportunity to immerse themselves in the warm hospitality, vast landscapes and rich cultural and natural heritages of this country. Travelers with Panoramic Journeys are not considered to be tourists, but privileged guests of Mongolian citizens.

11.1 Background Information on Sustainable Initiatives

Panoramic Journeys operates in a delicate travel climate. Tourism is relatively new to Mongolia, requiring the need for cultural awareness and sensitivity to cultural and ecological realities and vulnerabilities. It is important for Panoramic Journeys to maintain an appropriate balance between host and guest, with minimally invasive practices, and by recognizing the needs of the community and the traveler.

Panoramic Journeys recognizes that there are many areas where they can provide assistance. It is their goal to support local people and help them realize their earning potential. Encouragement is an important aspect in the work that Panoramic Journeys does in Mongolia. The company offers skills training and acts as an advisory support council to those in need. The company is committed to strengthening awareness of issues in Mongolia, resisting common tendencies to focus on negative stories. Positive investments of time and money in the Mongolian countryside help diminish rural-urban migration patterns and give people in rural areas a needed source of income and reason to reside there.

Key words the company uses in operations are "balance" and "education". The encouragement and interest of Panoramic Journeys in local initiatives allows the Mongolian people to continue constructive work, while the company’s presence brings financial support to rural areas of Mongolia, contributing to a slowdown in rural-urban migration. While Panoramic Journeys has supported several projects in the past, the company is now working actively to build a fund for ongoing support for sustainable, ethical,
environmental and social projects. The Sustainable Projects Fund is connected to several local projects, including a tree-planting project in Southern Mongolia, a kindergarten project in Western Mongolia, establishing a vegetable garden in Central Mongolia, and a quilting center in the capital Ulaanbaatar. In addition to these projects, Panoramic Journeys sponsors the CamelFestival in the Mongolian Gobi desert.

11.2 Steps to Implementation

Panoramic Journeys offers several types of support. It sponsors existing projects that were spearheaded by local people. This includes ongoing sponsorship of the Gobi Oasis project and a tree-planting project with unpredictable government funding. With the support they received from Panoramic Journeys, the projects are now self-sufficient. Panoramic Journeys also supports one-off purchases of equipment and resources for projects, such as the purchase of a water filtration pump to allow families in camp access to fresh local water, and the construction of a community greenhouse for local produce.

Panoramic Journeys consults the community to identify imminent needs. After funding a project, the company focuses attention on follow through to ensure successful completion of the project. An additional resource for the people in Mongolia is the exchange of ideas and specialty skills. The company recently sent two midwives to Mongolia to provide educational work shops. The midwives will visit twelve communities and create a dialogue with local midwives. They bring specialist knowledge which provides further training and new skills to the local midwives. Panoramic Journeys also offers opportunities for guests to volunteer for projects. The company has organized opportunities for its clients to visit orphanages, craft projects and participate in a tree planting project in the Gobi desert.

Panoramic Journeys provides economic support, commissioning a percentage of trip sales to projects that support women with no means of income and commits to spending a specific amount on these groups on an annual basis. Clients of Panoramic Journeys receive a gift made by the women involved in
the project. In addition, quilts made by the women are available for purchase and many clients agree to buy these products to support the cause. In order to ensure effective use of time and resources, the company collaborates and consults with several people and organizations, including GreenTraveler’s Richard Hammond, who advises the company on how to best continue their philanthropic efforts.

11.3 Resources Required

The funding for Panoramic Journeys giving back projects varies dramatically, but a certain amount is obtained through a percentage of the cost clients pay for their trip. The company also produces annual calendars to fundraise for the Sustainable Projects Fund, which has proved to be an effective strategy in garnering monetary support. In addition, Panoramic Journeys hosts fundraising events that support giving back initiatives. These events have been a reliable source of funding through donations. Guests of Panoramic Journeys often become invested in certain projects and choose to stay involved by making financial contributions and taking initiative to promote awareness. The most important resources include donations of time and skills offered by volunteers, as well as local participation from communities that are served.

11.4 Indicators for Monitoring and Evaluation

Panoramic Journeys measures success in terms of project involvement and continued growth, and the invaluable support and generosity of clients who give back in order to make a difference in the lives of others. Through the company’s follow-up, travelers see the results of their support for a project. This is obtained by providing feedback, photos and success stories that reinforce the need for and speak to the success of the project. Panoramic Journeys believes that this personal approach helps ensure future involvement and is often more effective than a simple graphic or statistic. The company feels they have a direct obligation to the people who donated time, resources and funding to support the company’s projects.
11.5 Challenges

A challenge and pitfall for many organizations working in developing countries is the expectation that rural communities will be immediately open to foreign aid and giving back initiatives. Different social and cultural systems result in diverging ideas of travel philanthropy and projects. Furthermore, it takes time to reach a consensus in regard to work methods, resources, gaining local opinion and trust, as well understanding the most effective ways and means to give back to these communities.

It is also important to fully understand local traditions and customs that may hinder acceptance. For instance, Mongolians do not traditionally plan for the future or speak of things that may be considered unpleasant. Cultural differences can be stark and difficult to navigate, so it is beneficial to understand not only the issues, but also the obstacles that must be overcome. It makes sense as well to avoid possible duplication of efforts by local authorities. A priority – and the best means to achieve success – is full collaboration with the community, with respect for the local citizens, NGOs and entrepreneurs.

When Panoramic Journeys supports certain communities, other communities can become envious of the attention and the support, which can become problematic for the people who received the donations or services. Furthermore, repeated visits to the same local families can cause envy among others in the community. Additionally, sometimes it is hard not to create expectations before knowing what will actually be allocated to a community base on needs. To ease these kinds of tensions, Panoramic Journeys develops itineraries that vary from trip to trip, and works to ensure that an element of surprise and discovery is built-in to each of its offered trips. Therefore, tours will involve as many local families as possible.
11.6 Lessons Learned

Giving back programs require listening to local individuals and their needs. Each project should be initiated, designed, developed and maintained by locals as opposed to visitors who more than likely do not fully understand the needs or cultural differences. Panoramic Journeys has an "umbrella program" that annually reviews current projects and decides which projects require additional or ongoing support and which projects may be turned over to local authorities or the community for any further maintenance. Panoramic Journeys seeks a balance between different projects and the regions in Mongolia that need support and determines the best way to advance their cause. (Karina Moretonxii, Representative - Panoramic Journeys)
Appendix A: Useful Resources & Links

1. An Introduction to Sustainable Tourism
   - Sustainable Travel International: www.sustainabletravelinternational.org
   - United Nations World Tourism Association (UNWTO): www.unwto.org
   - United Nations Environment Program (UNEP), Tourism & Environment Program: www.unep.fr/scp/tourism/
   - Global Sustainable Tourism Criteria (GSTC): http://www.sustainabletourismcriteria.org/
   - Tour Operator’s Initiative (TOI), Sustainable Tourism Development: www.toinitiative.org/
   - Wiser World Travel, LLC: http://wiserworldtravel.com/
   - The International Ecotourism Society: www.ecotourism.org

2. Integrating Sustainability into your Business—Economics, Policy & Management
   - ATG Oxford: a summary of the ATG Environmental Policy, emphasizing a focus on sustainability and conservation: www.atg-oxford.co.uk/articles.php?ID=9
   - Wildland Adventures: information on the company’s conservation initiatives and small-scale community development projects: www.wildland.com/about/giving_back.aspx

3. Responsible Purchasing—Supply Chain Management
   - Eco-Labels:
     a) Sustainable Travel International: STI’s website features a partial list of eco-labels for the travel and tourism industry: www.sustainabletravelinternational.org/documents/gi_ecolabels.html
     b) Consumer Reports’ website features a comprehensive list of consumer eco-labels: www.greenerchoices.org
     c) The European Eco-labeling Board administers the European Union Eco-label “Flower” which is designed to assist European consumers in distinguishing greener, more environmentally friendlier, products and services: www.eco-label.com
     d) The EcoLogo program certifies products that have met a specific set of environmental performance criteria: www.ecologo.org
     e) The Forest Stewardship Council (FSC) is an international certification and labeling system for paper and wood products that originate in either responsibly managed forests or verified recycled sources: www.fsc.org
     f) Conservatree (insider information about environmentally sound paper - envelopes, toilet tissue, coated printing and writing paper, etc.): www.conservatree.org/paper/PaperMasterList.shtml
     g) Global Ecolabelling Network: www.globalecolabelling.net
   - GreenSCOR created the Supply Chain Operations Reference (SCOR) model: www.lmi.org
   - Green Seal: www.greenseal.org
   - Energy Star®: www.energystar.gov
• Avalon Organics: www.certifiedorganic.org
• Green Travel Market: www.greentravelmarket.info

4. Energy Efficiency, Conservation and Management

• Energy Efficiency:
  a) Environmental Protection Agency: www.epa.gov
  b) US Department of Energy: www.energy.gov
  c) American Council for an Energy Efficient Economy: www.aceee.org
  d) Energy Saving Trust: www.energysavingtrust.org.uk/
  e) Energy Star Rating: www.energystar.com
  f) The Electric Power Research Institute: my.epri.com/portal/server.pt?
  g) The Alliance to Save Energy: www.ase.org/section/_audience/consumers
  h) The Energy Trust of Oregon, Inc.’s “Efficient Home Products” program: www.energytrust.org/residential/index.html

• Insulations:
  a) 3M Films: www.emswindowfilm.com
  b) Vista Window Film: www.vista-films.com

• Green Roofing & Building:
  c) Green Roofs for Healthy Cities: www.greenroofs.org
  d) Green Roofs.com: www.greenroofs.com
  f) BuildingGreen.com: www.buildinggreen.com
  g) U.S. Green Building Council: www.usgbc.org
  h) Global Green USA: www.globalgreen.org

• State Incentives:
  a) Database of State Incentives for Renewables & Efficiency: http://www.dsireusa.org

• Alternative Energy:


• General Air Quality and Greenhouse Gas Emissions Issues:
  a) The US EPA’s Global Warming site provides a wealth of information on GHG emission impacts and actions: epa.gov/climatechange/index.html
  b) Global Carbon Project: www.globalcarbonproject.org
  c) Earth Charter Interaction: www.earthcharterinteraction.org
  d) Science Direct: www.sciencedirect.com

• Indoor Air Quality:
  a) EPA’s indoor air quality guide: www.epa.gov/iaq/pubs/insidest.html
  b) EPA’s Air Quality Index cfpub.epa.gov/airnow/index.cfm?action=airnow.main
  c) The Indoor Air Quality Association: www iaqa.org/
  d) The Foundation for Clean Air Progress: www.cleanairprogress.org/

• Noise Management:
  a) The Noise Pollution Clearinghouse: www.nonoise.org/
  b) Earth 911’s noise management tips: earth911.org/
c) Campanella Associate: www.campanellaacoustics.com/faq.htm

- **Carbon Calculators:**
  a) Sustainable Travel International: www.ecocertification.org
  b) Earth Charter Initiative: www.earthcharterinaction.org

- **Carbon Offsets:**
  d) Sustainable Travel International: www.ecocertification.org
  f) Carbon Emissions Offset Directory: www.ecobusinesslinks.com
  g) MyClimate™ and Climate Care: Reduce GHG emissions through investments in energy efficiency projects in developing countries: www.my-climate.com or www.climatecare.org.
  i) Native Energy: Invest in Native American, farm-owned, renewable energy projects: www.nativeenergy.com

6. Solid Waste Management

- **Recycling:**
  a) Earth 911: www.earth911.org
  b) National Recycling Coalition: www.nrc-recycle.org
  c) Zero Waste America: www.zerowasteamerica.org
  f) Solid Waste & Recycling Magazine: www.solidwastemag.com
  g) International Universal Recycling Codes: en.wikipedia.org/wiki/International_Universal_Recycling_Codes
  h) Earth Odyssey (recycling codes for USA, Japan, Australia, and New Zealand): www.earthodyssey.com/symbols.html

- **Green Office Equipment:**
  i) EPEAT: www.epeat.net

- **Cell Phone Recycling:**
  k) www.ripmobile.com
  l) www.ecocell.org
  m) http://www.charitablerecycling.com/CR/home.asp
  n) www.pawsplace.org
  o) www.collectivegood.com
  p) www.wirelessfoundation.org

- **Ink Cartridge Donations:**
  a) www.fundingfactory.com or www.recyclefund.com to help fund schools
b) www.recycle4charity.org

c) http://www.earthtonessolutions.com/

- Videoconferencing:
  a) Regus: www.regus.com/
  b) LifeSize: www.lifesize.com
  c) Proximity: www.proximity.com

- Teleconferencing:
  a) Free Conference: www.freeconference.com/
  b) Unlimited Conferencing: www.unlimitedconferencing.com
  c) WebEx: www.webex.com
  d) ACT Teleconferencing: www.acttel.com/

7. Freshwater Consumption Reduction and Wastewater Management

- Water Conservation Issues:
  a) WWF’s global freshwater program provides detailed information on water problems and solutions: www.panda.org/about_wwf/what_we_do/freshwater/index.cfm
  b) The Pacific Institute: www.pacinst.org/
  c) World Water Council: www.worldwatercouncil.org
  d) WaterWise: www.waterwise.org.uk
  e) Water Quality Association: www.wqa.org/

- Water Conservation Options:
  a) EPA: www.epa.gov/owm/water-efficiency/index.htm
  b) Green Culture: http://www.watersavers.com/
  c) WaterSense products: www.epa.gov/watersense
  d) Conserve H2O: www.ConserveH2O.org
  e) The Nature Conservancy’s Sustainable Waters Program: www.nature.org/initiatives/freshwater/
  f) Watershed Experience, offers an online water consumption calculator: www.watershedexperience.com/ish_water_calculator.html

- Water Footprint:
  a) Water Footprint Network: www.waterfootprint.org

- Alternative Water Systems:
  o The American Council for an Energy Efficient Economy (alternative water heaters): www.aceee.org/consumerguide/topwater.htm#compare

- Biodegradable & Eco-friendly Cleaning Products:
  o Seventh Generation: www.seventhgeneration.com
  o Ecover: www.ecover.com/
  o Bio-Kleen: www.biokleen.com/

- Wastewater Treatment:
  a) EPA’s wastewater management website: www.epa.gov/owm
  b) Thermo Electron Corporation (testing wastewater): www.thermo.com
  c) International Finance Corporation Environmental Health and Safety (IFC EHS) Guidelines for Wastewater Reuse:
     www.ifc.org/ifcext/enviro.nsf/Content/EnvironmentalGuidelines
8. Biodiversity and Ecosystem Conservation

- **General Conservation Issues**:
  d) The Nature Conservancy (TNC): [www.nature.org/](http://www.nature.org/)
  e) The American Museum of Natural History’s Center for Biodiversity and Conservation Center’s website contains links to information on how you can learn more about protecting and conserving biodiversity: [research.amnh.org/biodiversity](http://research.amnh.org/biodiversity)
  f) UNEP’s Ecosystem Management website: [http://www.unep.org/ecosystemmanagement/](http://www.unep.org/ecosystemmanagement/)
  g) Leave No Trace: [http://www.lnt.org/programs/principles.php](http://www.lnt.org/programs/principles.php)

- **Mountainous & Volcanic Ecosystem Conservation**:
  a) Yellowstone to Yukon Conservation Initiative (Y2Y): [www.y2y.net/](http://www.y2y.net/)
  c) Bureau of Land Management, Rocky Mountain Ecosystems: [www.blm.gov/education/00_resources/articles/mountains/mountains1.html](http://www.blm.gov/education/00_resources/articles/mountains/mountains1.html)

- **Desert Ecosystem Conservation**:

- **Forest Ecosystem Conservation**:

- **Freshwater Ecosystem Conservation**:
  b) UNEP: [www.unep.org/ecosystemmanagement/](http://www.unep.org/ecosystemmanagement/)

- **Marine & Coastal Ecosystem Conservation**:
  a) The Hawaii Department of Land and Natural Resources (coastal marine ecosystem management): [www.hawaii.gov/dlnr/chair/pio/piocountips.htm](http://www.hawaii.gov/dlnr/chair/pio/piocountips.htm)
  b) The Monterey Bay Aquarium’s Seafood Watch: [www.mbayaq.org/cr/seafoodwatch.asp](http://www.mbayaq.org/cr/seafoodwatch.asp)

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9. Culture and Community Preservation & Economic Welfare

- **Cultural and Community Preservation:**
  - a) Tourism Concern: [www.tourismconcern.org.uk/](http://www.tourismconcern.org.uk/)
  - b) Indigenous Tourism Rights International: [www.tourismrights.org](http://www.tourismrights.org)
  - d) Blue Earth Alliance (photographic projects that educate the public about threatened cultures, endangered environments, and other social concerns): [www.blueearth.org/](http://www.blueearth.org/)
  - e) The Foundation for Endangered Languages: [www.ogmios.org](http://www.ogmios.org)
  - g) Sustainable Travel International: [www.sustainabletravelinternational.org](http://www.sustainabletravelinternational.org)
  - h) United Nations World Tourism Association (UNWTO): [www.unwto.org](http://www.unwto.org)
  - i) Tour Operator’s Initiative (TOI), Sustainable Tourism Development: [www.toinitiative.org/](http://www.toinitiative.org/)
  - k) Earth Foot: [www.earthfoot.org](http://www.earthfoot.org)

- **Economic Development & Welfare:**
  - a) Community-based Tourism information and resources: [www.sustainabletourism.travel/communitybasedtourism.html](http://www.sustainabletourism.travel/communitybasedtourism.html)
  - b) Pro-poor Tourism Network: [www.propoortourism.org.uk/](http://www.propoortourism.org.uk/)
  - c) Brighter Futures (fair trade goods): [www.sustainabletravelinternational.org/documents/op_buylocal.html](http://www.sustainabletravelinternational.org/documents/op_buylocal.html)
  - d) Plowsharing Crafts: [www.plowsharing.org](http://www.plowsharing.org)

10. Travel Philanthropy—Giving Back to the Places You Visit

- Sustainable Travel International’s Travelers Giving Back Program: [www.travelersphilanthropy.com](http://www.travelersphilanthropy.com)
- The Center for Responsible Travel: [www.responsibletravel.org](http://www.responsibletravel.org)
- GoPhilanthropic: [www.gophilanthropic.com](http://www.gophilanthropic.com)
- GAP Adventure’s Planeterra Foundation: [www.gapadventures.com/planeterra/](http://www.gapadventures.com/planeterra/)
- Community-based Tourism information and resources: [www.sustainabletourism.travel/communitybasedtourism.html](http://www.sustainabletourism.travel/communitybasedtourism.html)
Appendix B: Glossary

This section provides a glossary of some of the more frequently used terms in the field of sustainable tourism development.

**Accommodation:** Accommodations are defined as facilities designed for transient occupancy to house overnight visitors or travelers. Accommodations typically include, but are not limited to bed and breakfasts, campgrounds, condominiums, cottages, eco-lodges, home-stays, hostels, hotels, inns, lodges, motels and resorts.

The accommodation may offer air, land, or water-based transportation and or tours as separate services, but these services are to be assessed separately. Swimming pools, golf courses, or restaurants associated with the properties are not included in Eco-Certification.

Small- to Medium-sized Accommodations are defined as properties that have less than 60 rooms.

Large-sized Accommodations are defined as properties that have more than 60 rooms.

**Aerators:** Aerators are various devices used for aeration, or mixing air with another substance, such as soil or water.

**Attraction:** Attractions are defined as facilities and or natural areas with fixed infrastructure that offers entertainment and or educational experiences for the public.

Attractions typically include, but are not limited to aquariums, heritage centers, museums, parks (city, state, regional, or national), theme parks, visitor centers and zoos. Please note, however, that the animal care operations for aquariums and zoos associated with the attraction are currently not included in Eco-Certification.

The attraction may offer overnight accommodations, tours, and or air, land, or water-based transportation as separate services.

**Audit:** A systematic, documented, periodic and objective evaluation and verification of how well a particular entity (company, product, program, individual, destination, etc.) is doing compared with a set of standards.

(Source: Ecotourism and Certification, Martha Honey)

**Baseline:** The starting point against which a program’s outcomes are measured.

**Benchmarking:** The process of comparing performances and processes within an industry to assess relative position against either a set industry standard or against those that are "best in class." Benchmarking is not synonymous with baselining which establishes the existing level of performance within an operation.

(Source: Ecotourism and Certification, Martha Honey)
**Biocides:** A biocide is a chemical substance capable of killing living organisms, usually in a selective way. Some substances used as biocides are also employed as anti-fouling agents or disinfectants under other circumstances.

**Biodegradable:** Capable of being decomposed or broken down by natural biological processes, such as living microorganisms like bacteria or fungi, into simpler, more stable organic compounds.

**Biodiversity:** The diversity of living organisms in all of their forms and levels of organization including the diversity of genes, species, and ecosystems as well as the evolutionary and functional processes that link them.
(Source: British Columbia Ministry of Sustainable Resource Management)

**Capacity Building:** Efforts aimed to develop human skills or societal infrastructures within a community or organization needed to reduce the level of risk. In extended understanding, capacity building also includes development of institutional, financial, political and other resources, such as technology at different levels and sectors of the society.
(Source: International Strategy for Disaster Reduction)

**Carbon Calculators and Protocols:** Nationally and internationally accepted carbon calculators or protocols include: Sustainable Travel International's MyClimate™ carbon offsets calculator, The GHG Protocol - Corporate GHG Accounting and Reporting, Climate Neutral Network's greenhouse gas calculator, and The Java Climate Model.

**Carbon Dioxide Equivalent (CO2e):** The universal unit of measurement used to indicate the global warming potential (GWP) of each of the seven greenhouse gases. It is used to evaluate the impacts of releasing (or avoiding the release of) different greenhouse gases
(Source: The Greenhouse Gas Protocol Initiative)

**Carbon footprint:** A carbon footprint is a measure of the impact our activities have on the environment, and in particular climate change. It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating and transportation etc.

The carbon footprint is a measurement of all greenhouse gases we individually produce and has units of tonnes (or kg) of carbon dioxide equivalent.
(Source: carbonfootprint.com)

**Carbon Offset:** The result of any action specifically undertaken to reduce carbon emissions or increase carbon sequestration. Each carbon offset equals one metric ton of carbon delivered over a specified period of time
(Source: SGS U.K.)

**Carbon Offsetting:** Carbon Offsetting is the term given to a mechanism which seeks to counter-balance carbon emissions through either the sequestration of carbon in biomass or through the purchase of ‘carbon credits’ on the international market.

**Carrying Capacity:** The maximum number of individuals of a given species that a site can support during the most unfavorable time of year, without causing deterioration of an ecosystem, habitat, or protected
natural area. In recreation management, carrying capacity refers to the amount of use an area can
sustain without degrading the environment or significantly decreasing the quality of the experience.

**CCBA standards:** The Climate, Community and Biodiversity Alliance (CCBA) is a partnership between
leading companies, NGOs and research institutes seeking to promote integrated solutions to land
management around the world. With this goal in mind, the CCBA has developed voluntary standards to
help design and identify land management projects that simultaneously minimize climate change,
support sustainable development and conserve biodiversity.
(Source: climate-standards.org)

**Certification:** Certification is a voluntary procedure that assesses, monitors, and gives written assurance
that a business, product, process, service, or management system conforms to specific requirem ents. It
awards a marketable logo or seal to those that meet or exceed baseline standards, i.e., those that at a
minimum comply with national and regional regulations and, typically, fulfil other declared or
negotiated standards prescribed by the program.
(Source: Ecotourism and Certification, Martha Honey)

**Certified Emission Reduction (CER):** CERs are Certified Emission Reductions, an example of 'carbon
credits', or 'carbon offsets'. They are issued in return for a reduction of atmospheric carbon emis sions
through projects under the Kyoto Protocol's Clean Development Mechanism (CDM). One CER equates to
an emission reduction of one tonne of CO2.
Holders of CERs are entitled to use them to offset their own carbon emissions as one way of achieving
their Kyoto or EU ETS emissions reduction target.
(Source: carbonpositive.net)

**Certified Organic:** A certification process for producers of organic food and other organic agricultural
products. In general, any business directly involved in food production can be certified, including seed
suppliers, farmers, food processors, retailers and restaurants. Requirements vary from country to
country, and generally involve a set of production standards for growing, storage, processing, packaging
and shipping that include but may not be limited to: avoidance of synthetic chemical inputs (e.g.
fertilizer, pesticides, antibiotics, food additives, etc) and genetically modified organisms; use of farmland
that has been free from chemicals for a number of years (often, three); keeping detailed written
production and sales records (audit trail); maintaining strict physical separation of organic products from
non-certified products; and undergoing periodic on-site inspections. Certified organic producers are also
subject to the same agricultural, food safety and other government regulations that apply to non-
certified producers.
(Source: Wikipedia)

**CFO:** The chief financial officer (CFO) of a company or public agency is the corporate officer primarily
responsible for managing the financial risks of the business or agency. This officer is also responsible for
financial planning and record-keeping, as well as financial reporting to higher management. (In recent
years, however, the role has expanded to encompass communicating financial performance and
forecasts to the analyst community.)

**Chlorofluorocarbons (CFCs):** Chlorofluorocarbons or CFCs (also known as Freon) are non-toxic, non-
flammable and non-carcinogenic. They contain fluorine atoms, carbon atoms and chlorine atoms. CFCs
are widely used as coolants in refrigeration and air conditioners, as solvents in cleaners, particularly for
 electronic circuit boards, as a blowing agents in the production of foam (for example fire extinguishers),
and as propellants in aerosols. Man-made CFCs however, are the main cause of stratospheric ozone depletion. CFCs have a lifetime in the atmosphere of about 20 to 100 years, and consequently one free chlorine atom from a CFC molecule can do a lot of damage, destroying ozone molecules for a long time. Although emissions of CFCs around the developed world have largely ceased due to international control agreements, the damage to the stratospheric ozone layer will continue well into the 21st century.
(Source: ace.mmu.ac.uk)

Climate Change: This term is commonly used interchangeably with "global warming" and "the greenhouse effect," but is a more descriptive term. Climate change refers to the buildup of man-made gases in the atmosphere that trap the sun's heat, causing changes in weather patterns on a global scale. The effects include changes in rainfall patterns, sea level rise, potential droughts, habitat loss, and heat stress.
(Source: National Safety Council)

Community: In biological terms, a community is a group of interacting organisms sharing an environment. Traditionally a "community" has been defined as a group of interacting people living in a common location.

Community-based Tourism: Socially sustainable tourism that is initiated and almost always operated exclusively by local people. Shared leadership emphasizing community well-being over individual profit, balances power within communities, and fosters traditional culture, conservation, and responsible stewardship of the land.

Company: The entity who has applied for eco-certification, including each of the regions in which it offers its programs and/or services.

Composting: Process whereby organic wastes, including food wastes, paper, and yard wastes, decompose naturally, resulting in a product rich in minerals and ideal for gardening and farming as soil conditioners, mulch, resurfacing material, or landfill cover
(Source: Natural Resources Defense Council)

Corporate Social Reporting (a.k.a. Sustainability Reporting): Reporting by companies of financial information as well as socio-cultural and environmental information. This type of reporting often includes but is not limited to value added statements, employment reports, fair trade and business practices, energy and other natural resource consumption, waste minimization, product safety, and community involvement and development.

Corporate Social Responsibility: A company's obligation to be accountable to all of its stakeholders (i.e., employees, customers, service providers, etc.) in all its operations and activities with the aim of achieving sustainable development not only in the economical dimension but also in the socio-cultural and environmental dimensions.
(Source: Wikipedia)

Cryptobiotic Soil: A type of soil found throughout the world in arid regions. These living soil crusts are dominated by cyanobacteria - a class of bacteria commonly referred to as blue green algae which make use of oxygen producing photosynthesis - and also include soil lichens, mosses, green algae, microfungi.
and bacteria - all of which play an important role in the ecosystems in which they occur.
(Source: National Park Service)

**Cultural Imperialism:** The practice of promoting the culture or language of one nation in another. It is usually the case that the former is a large, economically or militarily powerful nation and the latter is a smaller, less affluent one. Cultural imperialism can take the form of an active, formal policy or a general attitude.
(Source: NationMaster.com)

**Culture or Cultural:** The accumulated habits, attitudes, languages, and beliefs of a group of people that define for them their general behavior and way of life.

**Developed:** To make available and effective to fulfill a particular end or need.

**Durable Goods:** Manufactured items that have a long life expectancy of three years or more. Examples include but are not limited to automobiles, furniture and equipment.

**Eco-certification:** A voluntary procedure that utilizes a set of criteria designed to assist travel providers in mitigating their negative environmental, economic, and socio-cultural impacts and maximizing the benefits they provide to the environment, local and indigenous people and their communities.

**Eco-friendly:** As related to the travel industry, having a beneficial effect on the environment and or on local and indigenous people and their communities.

**Eco-label:** A logo or seal that indicates that a product has met a set of environmental, socio-cultural and or economic standards.

**Ecological Footprint:** The Ecological Footprint has emerged as the world’s premier measure of humanity’s demand on nature. It measures how much land and water area a human population requires to produce the resource it consumes and to absorb its wastes, using prevailing technology.
(Source: footprintnetwork.org)

**Economic Impact:** There are three types of economic impacts - direct, indirect, and induced. In the travel industry, direct impacts are those directly related to tourism. These include the profits of travel providers and the wages earned by employees. Those that offer tourism also purchase goods and services from other companies. The additional profits or wages associated with providing these goods and services are indirect economic impacts. Finally, employees in the travel industry spend their wages on food, cars, homes, and other goods and services and thus induce additional economic activity for the providers of these goods and services. The resulting economic activity is an induced impact of tourism.

**Ecosystem:** All living organisms and their physical surroundings found in a particular environment, such as a forest, a desert, or a coral reef.

**Eco-tourism:** Environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features - both past and present) that promotes conservation, has low negative visitor impact, and provides for beneficially active socio-
economic involvement of local populations.
(Source: The World Conservation Union)

**EHS:** Environmental, Health and Safety

**Endemic:** Endemic in biology and ecology means exclusively native to a place or biota. It is in contrast to any one of several terms meaning "not native" (e.g., adventive, exotic, alien, introduced, naturalized, non-native). However it is also differentiated from indigenous. A species that is endemic is unique to that place or region, found naturally nowhere else. A species that is indigenous is native, but not unique because it is also native to other locations as well.
(Source: Wikipedia)

**Energy conservation:** Energy conservation is the practice of decreasing the quantity of energy used. It may be achieved through efficient energy use, in which case energy use is decreased while achieving a similar outcome, or by reduced consumption of energy services. Energy conservation may result in increase of financial capital, environmental value, national security, personal security, and human comfort. Individuals and organizations that are direct consumers of energy may want to conserve energy in order to reduce energy costs and promote economic security. Industrial and commercial users may want to increase efficiency and thus maximize profit. (Source: Wikipedia)

**Energy Efficient:** Requiring a minimal amount of energy to produce a maximum yield. Where available, energy efficient products may be identified by bearing the U.S. Environmental Protection Agency's Energy Star® label, or otherwise indicate energy efficiency when compared with other similar equipment using established, industry-standard testing methods.
(Source: Green Seal)

**Energy Star®:** A voluntary energy-efficiency program sponsored by the U.S. Department of Energy (DOE) and the Environmental Protection Agency (EPA) which rates products that save energy by meeting strict guidelines.

**Environment:** The components of the Earth, including but not limited to land, water and air; all layers of the atmosphere; organic and inorganic matter; living organisms; and the interacting natural systems.
(Source: Government of Canada)

**Environmental Emergencies:** The spill or unexpected discharge of a hazardous material to water, air or land that threatens the life, health or safety of citizens or the environment is considered an environmental emergency.
(Source: dep.ky.gov)

**Environmental Impact:** Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.
(Source: Government of Canada)

**Environmental Management Plan:** A developed scheme, program, or method that sets forth standards and procedures, responsibilities, performance criteria, resources and work practices that protect human health and the environment.
(Source: Global Development Research Center)
**Environmental Management System:** A management approach that enables an organization to identify, measure, monitor and control its environmental impacts. An environmental management system is part of the overall management system that includes organizational structure, activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining an environmental policy. *(Source: PEER Center)*

**Environmental Policy:** Statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental goals, objectives and targets as well as its environmental management plans and environmental management systems. *(Source: PEER Center)*

**Environmental Professional:** Someone who possesses sufficient specific education, training, and experience necessary to render expert advice on environmental issues. Qualified environmental professionals have: a state or tribal issued certification or license and three years of relevant full-time work experience; or a Baccalaureate degree or higher in science or engineering and five years of relevant full-time work experience; or ten years of relevant full-time work experience. *(Source: U.S. Environmental Protection Agency)*

**Environmentally Additional Offsets:** Based on the Kyoto Protocol, additionality refers to offset projects that achieve greenhouse gas reductions or removals in addition to what would have occurred in their absence, so environmental additionality refers to emission reductions that represent a physical reduction or avoidance of emissions over what would have occurred. *(Source: World Resource Institute/World Business Council for Sustainable Development)*. Organizations that currently or in the near future plan to certify Environmentally Additional Offsets or have offset project protocols include: Climate Neutral Network, World Wildlife Fund, Clean Development Mechanism climate change mitigation projects, and the Project GHG Accounting and Reporting protocol.

**Equipment:** Any owned or leased tangible personal property that is capitalized. Examples include but are not limited to the following (where applicable): air conditioners, boilers, computers, copiers, dishwashers, dryers, fax machines, freezers, heat pumps, monitors, ovens, printers, refrigerators, stereos, televisions, VCR or DVD players, washers, water heaters.

**Ethics Policy:** Statement by the organization in relation to its overall behavior and conduct regarding its intentions, moral principles, and values as they relate to its respect for its employees, clients and local communities.

**Facility:** Buildings, structures and other properties that are located on a single site or on adjacent or multiple sites that are owned, rented, leased, occupied or operated by the same company (e.g., accommodations, administrative offices, outbuildings, warehouses, etc).

**Fair-trade:** Fair-Trade is a trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing their rights of, disadvantaged producers and workers – especially in the South. *(Source: Fair Trade)*
Faucets: In the U.S. the word faucet is used for water outlets, taps. A tap is a valve for controlling the release of a liquid or gas.

Flora and fauna: Flora and fauna refer to plant and wildlife, respectively. The indigenous plant and wildlife of a geographical region is often referred to as that region’s flora and fauna. Both are collective terms, referring to groups of plant or wildlife specific to a region or a time period.

Flow Rate: Rate of water flowing from faucet, shower, etc., which can be measured with a bucket and timer (2.5 gpm = 2.5 gallons per minute).

Fossil fuel: Fossil fuels are formed by the anaerobic decomposition of buried dead organisms that lived up to 300 million years ago. These fuels contain high percentage of carbon and hydrocarbons. Fossil fuels range from volatile materials with low carbon:hydrogen ratios like methane, to liquid petroleum to non-volatile materials composed of almost pure carbon, like anthracite coal. Methane can be found in hydrocarbon fields, alone, associated with oil, or in the form of methane clathrates. It is generally accepted that they formed from the fossilized remains of dead plants and animals by exposure to heat and pressure in the Earth's crust over hundreds of millions of years. (Source: Wikipedia)

Freshwater: Water with very low soluble mineral content; sources include lakes, streams, rivers, glaciers, and underground aquifers. (Source: Geographic.org)

Fuel Efficient: Relating to the efficiency of conversion to kinetic energy from energy contained in a carrier fuel, specifically in a transportation vehicle, such as an automobile. Improved fuel economy relates to a decrease in the amount of fuel required to move a vehicle over a given distance, resulting in monetary savings, strengthening of national security, protecting the environment and conserving resources. (Source: Wikipedia)

G/I: Grams per litre.

Global Reporting Initiative (GRI): a multi-stakeholder process and independent institution whose mission is to develop and disseminate globally applicable Sustainability Reporting Guidelines. Within the travel and tourism sector, the Tour Operators Initiative (detailed below) offers the relevant protocol.

Global Warming: Increase in the overall temperature of the earth’s atmosphere, oceans, and landmass. It is widely believed that human activities, notably the burning of fossil fuels, are responsible for the recent fluctuations and overall increase in global temperatures. See also Climate Change, above.

Gray Water or Grey water: Wastewater composed of wash water from kitchens, bathrooms, tubs, sinks, laundry tubs and or washers that contains chemical or chemical -biological ingredients such as soaps, detergents, etc. It’s distinct from wastewater that has been contaminated with sewage, which is referred to as black water.

Green Purchasing: Purchasing that places preference on products or services which have a reduced environmental impact in their life cycle (i.e., the producer is responsible for the product from cradle to grave), which are designated as environmentally friendly by an eco-label (compared to those that are conventionally farmed or produced), which are locally produced by locally owned businesses, or which are fair trade certified.
**Green Purchasing:** Purchasing that places preference on products which have reduced environmental impact in their life cycle (development, manufacturing, use, recycling, and disposal), or which are designated as eco-friendly by firms that are active proponents of environmental preservation. (Source: Australian Government, Department of the Environment and Heritage).

**Green Tags:** Green Tags are created when wind power or other renewable energy is substituted for traditional power. The result is a shift away from dependence on burning fossil fuel to produce electricity. Using clean renewable energy is eco-friendly, reducing greenhouse gases emissions. However, it’s still a little more expensive than buying traditional power, so Green Tags can be purchased in addition to the electricity that you use. Buying Green Tags has the same effect as buying green power. Both replace fossil fuel generators with clean renewables, and both have exactly the same environmental benefits (Source: Bonneville Environmental Foundation).

**Green-e:** In the U.S. Green-e is the nation’s leading independent consumer protection program for the sale of renewable energy and greenhouse gas reductions in the retail market. Green-e offers certification and verification of renewable energy and greenhouse gas mitigation products. (Source: Green-e)

**Greenhouse Gases:** Gases such as water vapor (H2O), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF6) in the atmosphere that absorb heat radiated from the surface of the Earth and trap heat from the sun. The increase of these gases in the atmosphere contributes to global warming and is caused by the burning of fossil fuels, emission of pollutants and deforestation. An increase in energy efficiency can lead to a decrease in greenhouse gas emissions.

**Greenwashing:** The falsification of objective requirements for environmental conservation, ecological sustainability, and/or socio-cultural responsibility so as to present an environmentally responsible public image (Source: Green-Travel.com)

**Guides:** A guide is a person who leads people through unknown or unmapped country, or conducts travellers and tourists through a place of interest.

**Hazardous Materials:** Materials such as chemicals, combustible liquids, compressed gases, controlled substances, corrosives, explosives, flammable materials, oxidizers, poisons, radioactive materials, and toxic materials that are capable of posing a significant risk to health and the environment.

**Heat Loss:** The transfer of heat from inside to outside by means of conduction, convection, and radiation through walls, windows, and other building surfaces. Heat loss prevention technology includes but is not limited to double-paned and or energy-efficient windows, window films, curtains and or blinds, insulated roofs, insulated walls (in cooler climates), insulated hot water pipes, and building materials that assist with heat absorption.

**Heavy Metals:** Metallic elements including antimony, arsenic, cadmium, chromium, hexavalent, lead and mercury that tend to accumulate in the food chain (sometimes exponentially) and can damage living organisms even at very low concentrations.
**Impact Assessment:** Impact assessment is the process of identifying the future consequences of a current or proposed action. It is used to ensure that projects, programmes and policies are economically viable, socially equitable and environmentally sustainable. *(Source: Convention on Biological Diversity)*

**Implemented:** To put into practical effect; carry out.

**Indigenous People:** People who are the descendants of the original inhabitants of a geographic region prior to colonization who have maintained some or all of their linguistic, cultural and organizational characteristics.

**Integrated Pest Management:** An ecologically based approach to pest control that relies on natural mortality factors, such as natural enemies, weather, and crop management that is designed to produce a healthy crop in an economically efficient and environmentally sound manner.

**Invasive species:** A non-native species which becomes established in natural or semi-natural ecosystems or habitats, is an agent of changes, and threatens native biological diversity (or has the potential to do so). An alien species whose introduction and/or spread threaten biological diversity.

**Key Issues:** Important environmental, socio-cultural and/or economic concerns or problems that exist on a local, regional, national or international level.

**Land Use Management:** means establishing or implementing any measure to restrict or regulate the use of land.

**Land Use Planning:** Land-use planning is the systematic assessment of land and water potential, alternatives for land use and economic and social conditions in order to select and adopt the best land-use options. Its purpose is to select and put into practice those land uses that will best meet the needs of the people while safeguarding resources for the future. The driving force in planning is the need for change, the need for improved management or the need for a quite different pattern of land use dictated by changing circumstances. *(Source: fao.org)*

**Latrine:** A latrine is a structure (usually small, holding a single person, and freestanding) for defecation and urination. Latrines allow for safer and more hygienic disposal of human waste than open defecation. They are used in rural areas and low-income urban communities, with significant use in the developing world. Many variations exist, but at its simplest, the reason for using a latrine is that waste is controlled and decomposed into safer by-products. May be called a bathroom or toilet, regardless of how modern or primitive it is.

**Leave No Trace:** The Leave No Trace Center for Outdoor Ethics is an educational, nonprofit organization dedicated to the responsible enjoyment and active stewardship of the outdoors by all people, worldwide. *(Source: Leave No Trace)*

**LEED:** The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), provides a suite of standards for environmentally sustainable construction.
**Life Cycle Cost:** The cost of a product or service which takes into account the cost of manufacturing, transportation and distribution, operating, maintaining and disposing of a product or service over its economic or useful life as set forth by industry standards. **(Source: Green Seal)*

**Life Cycle Thinking:** Manufacturing processes which address a product's entire life cycle i.e., the producer is responsible for the product from cradle to grave, including reducing resource use and greenhouse house gas emissions while improving the social performance in various stages of a product's life in an effort to achieve products and processes that are more sustainable.

**Life Cycle Thinking:** Manufacturing processes which address a product's entire life cycle i.e., the producer is responsible for the product from cradle to grave, including reducing resource use and greenhouse house gas emissions while improving the social performance in various stages of a product's life in an effort to achieve products and processes that are more sustainable.

**Light Pollution:** Unwanted, harmful or offensive light that is unreasonably intrusive and that is typically human induced.

**Local People:** Residents who have lived in an area long enough to take an active role in shaping and defining their community and its cultural identity in a positive way.

**Long Haul-Short Stay:** A flight or drive over a distance of 5000 miles or more away from the point of origin in which the duration of visitation is three days or less, or a flight or drive over a distance of 7500 miles or more away from the point of origin in which the duration of visitation is seven days or less.

**Low Impact:** A modifier term used to identify practices and or activities that minimize actual or apparent changes to the environment.

**Luxury Accommodation:** An accommodation specific travel provider generally characterized by having a four star deluxe or five star quality classification.

**Market Driven Conservation Model:** Protects bio-diversity through capacity building and promotion of sustainable tourism while linking resources to markets and monitoring and managing impacts. *(Source: Mesoamerican Ecotourism Alliance)*

**MARPOL:** Marpol 73/78 is the International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" is short for marine pollution and 73/78 short for the years 1973 and 1978.) Marpol 73/78 is one of the most important international marine environmental conventions. It was designed to minimize pollution of the seas, including dumping, oil and exhaust pollution. Its stated object is: to preserve the marine environment through the complete elimination of pollution by oil and other harmful substances and the minimization of accidental discharge of such substances.

**Material Recovery Facility (MRF):** Specialized plant that separates, processes and stores recyclables that have been collected either separately from waste (a ‘clean’ MRF) or co-mingled with it (‘dirty’ MRF). Recycled materials are then sent on to reprocessors and any residual material not suitable for processing is disposed of.
**Methodology:** A set or system of methods, principles, and rules for regulating a given discipline, as in the arts or sciences.

**Minimal Impact Code:** The Minimal Impact Code is the practice of decreasing by as much as possible the amount of damage one does to the environment. This includes many factors, the foremost being education. *(Source: kmleague.org)*

**Minimal Impact:** Planned behavior or activities that focus on reducing or mitigating the negative impacts of human beings on the environment to minimum levels.

**Mission Statement:** A mission statement defines the core purpose of an organization (i.e., why it exists) and reflects employees' motivations for engaging in the company's work. Effective mission statements are inspiring, long-term in nature, clear, concise and easily communicated.

**Mitigate:** To cause a lessening or alleviation of negative behavior or activities.

**Native Species:** Species that have evolved in, are indigenous to, or occur naturally in a specific area or habitat.

**Natural Steps Four Conditions of Sustainability:** The scientific consensus principles on which the Natural Step Framework (NSF) is based were used by Swedish physicist Dr. John Holmberg and NS founder and Swedish medical doctor and oncologist Dr. Karl-Henrik Robert to generate four basic “system conditions” or conditions for sustainability that are the focus of the NSF and have been modified as stated below:

The Natural Step Framework holds that in a sustainable society, nature won’t be subject to systematically increasing:

1. Concentrations of substances extracted from the earth’s crust;
2. Concentrations of substances produced by society;
3. Degradation by physical means; And, in that society,
4. human needs are met worldwide.
*(Source: Natural Step US, naturalstep.org)*

**Net Revenue:** Calculated as the total income from sales minus returns, discounts, allowances, and overhead expenses.

**New Urbanism:** A term used to describe development which focuses on the restoration of urban centers and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of neighborhoods and diverse districts, the conservation of natural environments, and the preservation of the built legacy. *(Source: SmartGrowth.org)*

**Nitrilotriacetic acid:** Nitrilotriacetic acid (NTA) is easily biodegradable and is almost completely removed during wastewater treatment.
**Noise Abatement:** Noise abatement or mitigation is a set of strategies to reduce noise pollution. The main areas of noise mitigation or abatement are: transportation noise control, architectural design, and occupational noise control. Roadway noise and aircraft noise are the most pervasive sources of environmental noise worldwide, and remarkably little change has been effected in source control in these areas since the start of the problem.

**Noise Pollution:** Unwanted, harmful or offensive sounds that are unreasonably intrusive. It is recommended that humans not be exposed to noise levels exceeding 85 decibels for a maximum period of six continuous hours.

**Non degradable:** not subject to or capable of degradation or decomposition.

**Non-native species:** A species that has been introduced directly by human agency (deliberately or otherwise) to an area where it has not occurred in historical times and which is separate from, and lies outside, the area where natural range extension could be expected. The species has become established in the wild and has self-maintaining populations.

**Non-point Source Pollution:** Pollution that occurs when rainfall, snowmelt, or irrigation runs over land or through the ground, picks up pollutants, and deposits them into rivers, lakes, and coastal waters or introduces them into ground water. *(Source: U.S. Environmental Protection Agency)*

**Nontoxic:** Product does not exhibit potentially harmful characteristics as defined by the Consumer Product Safety Commission regulations found at 16 CFR Chapter II, Subchapter C, Part 1500 and is not required to be labeled Toxic or Highly Toxic. *(Source: Green Seal)*

**OMRI:** The Organic Materials Review Institute (OMRI) is a national nonprofit organization that determines which input products are allowed for use in organic production and processing. OMRI Listed—or approved—products may be used on operations that are certified organic under the USDA National Organic Program. *(Source: OMRI)*

**Operational permits:** Operational permits allow for extra requirements to be placed on certain activities or processes that present a greater hazard to life or property.

**Organic Agriculture:** Agriculture that does not use chemicals, genetic modification, or irradiation, using only natural products.

**Organic:** These products contain at least 95–99% organic ingredients (by weight). The remaining ingredients are not available organically but have been approved by the NOP. These products may display the USDA Organic seal. Refer to USDA national organic program.

**Organic insecticides:** An organic insecticide is derived from a living organism, such as a plant or an animal. Organic insecticides are thought to be environmentally sound, causing no harm to the earth, humans, or animals. They often consist of such things as fatty acids and plant oils.

**Passive Solar:** A category of solar energy that takes advantage of building design and positioning to maximize the effects of natural processes such as evaporation, shading, ventilation and heat flow.
Plan Vivo: The Plan Vivo system is a set of standards, processes and tools used to develop and register payments for ecosystem services (PES) projects in developing countries. Project activities include afforestation and agroforestry, forest conservation, restoration and avoided deforestation, and are implemented by small-holders or communities on their own land, or land where they have user rights. (Source: Plan Vivo)

Point Source Pollution: Pollutants and or contaminants that are discharged from or can be traced to a single point or location, including but not limited to pipes, ditches, channels, containers and vessels.

Policy: A policy is typically described as a deliberate plan of action to guide decisions and achieve rational outcome(s). However, the term may also be used to denote what is actually done, even though it is unplanned.

Pollution: The contamination of ecosystems (e.g., soil, water, living organisms) and the atmosphere by artificial means through the discharge of harmful substances as a consequence of human activities.

Post Consumer Recycled Content (PCRC): Post-consumer is an end product or material that has completed their life cycles as consumer items and have been recovered or diverted from the waste stream for recycling that would have otherwise been disposed of as solid wastes. Recycled-content products may contain some pre-consumer waste, some post-consumer waste or both. A product does not have to contain 100 percent recovered materials to be considered “recycled,” but clearly the higher the percentage of recycled content, the greater the amount of waste that is diverted from disposal. (Source: oregonmetro.gov)

Post-consumer: End products or materials that have completed their life cycles as consumer items and have been recovered or diverted from the waste stream for recycling that would have otherwise been disposed of as solid wastes.

Potable Water: Water that meets applicable quality standards for drinking water, or is safe for consumption in drinking, eating and cooking by humans.

Pre-consumer: Any recovered products or materials, other than post-consumer products or materials, including some waste from manufacturing, converting, and printing processes.

Principles of sustainable tourism: Increasing evidence shows that an integrated approach to tourism planning and management is now required to achieve sustainable tourism. It is only recently that there has been a growing recognition of the importance of combining the needs of traditional urban management (transportation, land use planning, marketing, economic development, fire and safety etc.) with the need to plan for tourism. (Source: gdrc.org)

Procedures: A procedure is a specified series of actions, acts or operations which have to be executed in the same manner in order to always obtain the same result under the same circumstances.

Professional Development: Professional development refers to skills and knowledge attained for both personal development and career advancement. Professional development encompasses all types of facilitated learning opportunities, ranging from college degrees to formal coursework, conferences and
informal learning opportunities situated in practice. It has been described as intensive and collaborative, ideally incorporating an evaluative stage.

**Protected Natural Area:** Private or public bodies of land and or water that are set aside and maintained in such a way as to protect biodiversity, cultural heritage, natural heritage, or recreational values.

**Puron:** Puron is a chlorine free replacement refrigerant. Under the 1990 Clean Air Act, R-22—the long time industry standard refrigerant used in most air conditioning and heat pump systems—must be phased out by 2010 because it is an ozone-depleting substance. Puron Refrigerant is superior to R-22 not only in environmental safety, but in performance and cost-saving energy efficiency. *(Source: bryant.com)*

**R-value:** A measure of thermal resistance used in insulation. A higher R-value number indicates greater insulating value.

**Recycled:** Products that may include post-consumer and or pre-consumer materials. If the contents of a product are only labeled "recycled," without specifying post-consumer content, the product may contain only pre-consumer materials.

**Recycling:** Process by which products or materials that would otherwise become solid waste are collected, separated or processed and returned to the economic mainstream to be reused in the form of raw materials or finished goods. *(Source: Global Recycling Network)*

**Refrigerant:** A refrigerant is a compound used in a heat cycle that undergoes a phase change from a gas to a liquid and back. The two main uses of refrigerants are refrigerators/freezers and air conditioners. *(Source: Wikipedia)*

**Regenerative Design:** Approaching design in terms of using the activities of design and building to restore the capability of local natural systems to an entry state of self-organization and continual evolution. *(Source: Natural Logic)*

**Renewable energy:** Renewable energy quickly replaces itself and is usually available in an never-ending supply. Renewable energy comes from the natural flow of sunlight, wind, or water around the Earth. With the help of special collectors, we can capture some of this energy and put it to use in our homes and businesses. As long as sunlight, water and wind continue to flow and trees and other plants continue to grow, we have access to a ready of supply of energy. *(Source: re-energy.ca)*

**Resource Manager:** An individual that oversees, watches over or assists in the management of land, soil, energy and or fresh water resources and or directs activities and or business operations on public or private lands.

**Responsible Purchasing:** Purchasing that places preference on products or services which have a reduced environmental impact in their life cycle (i.e., the producer is responsible for the product from cradle to grave), which are designated as environmentally friendly by an eco-label (compared to those that are conventionally farmed or produced), which are locally produced by locally owned businesses, or which are fair trade certified.
**Responsible Tourism:** A type of tourism that is practiced by tourists who make responsible choices when choosing their vacations. These choices reflect responsible attitudes to the limiting of the extent of the sociological and environmental impacts their vacation may cause. *(Source: Pearson Education, The Business of Tourism Management)*

**Risk management:** A systematic approach used to identify, evaluate, and reduce or eliminate the possibility of injury or accidents by either mitigating the risks or applying cost effective controls.

**Sediment Control:** A sediment control is a practice or device designed to keep eroded soil on a construction site, so that it does not wash off and cause water pollution to a nearby stream, river, lake, or bay.

**Self-propelled:** Moved by its own force or momentum.

**Service Providers:** Independent individuals, businesses or contractors who do work for hire in the form of products that are made or services that are performed (e.g., accommodations, conservation and community development projects, food vendors, printers, public service companies, rental car agencies, restaurants, contracted tour operators, transportation providers, etc.).

**Sexual exploitation:** Sexual exploitation is the sexual abuse of children and youth through the exchange of sex or sexual acts for drugs, food, shelter, protection, other basics of life, and/or money. Sexual exploitation includes involving children and youth in creating pornography and sexually explicit websites. *(Source: jibc.ca)*

**Sexual Harassment:** Harassment of a sexual nature that is deliberate, uninvited, unwelcome, oftentimes repeated and is perceived by the recipient to be embarrassing, offensive, demeaning or compromising. *(Source: The Tasmania, Australia Department of Education)*

**Soaker Hose:** A hose that leaks water all over—made of permeable material that soaks the ground, rather than spray it.

**Social Norm:** In sociology, a norm or social norm, is a pattern of behavior expected within a particular society in a given situation. The shared belief of what is normal and acceptable shapes and enforces the actions of people in a society. The very fact that others in one's society follow the norm may give them a reason to follow it. Important norms are called mores. *(Source: Wikipedia)*

**Social Structure:** Ordered interrelationships that are characteristic of particular societies, such as its class structure or system of economic or political relations. *(Brunel University, Researching Society and Culture)*

**Socio-cultural Impact Study:** Identifying the impact of change on a social and or cultural environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

**Socio-cultural Impact:** Any change to the social and or cultural environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.
Solid Waste Reduction: A systematic approach used to decrease solid waste resulting from industrial and commercial operations, or from community activity.

Solid Waste: Any garbage, refuse, sludge and other discarded material, including solid, liquid, semi-solid or contained gaseous material, resulting from industrial and commercial operations, or from community activity.

Speleology: The exploration, description and study of caves and related phenomena.

Stakeholder: An individual or group with an interest in the success or failure of an organization in delivering intended results and maintaining the viability of the organization’s products and services. Stakeholders influence programs, products, and services.

Supply Chain Management: Defined in the scope of the Sustainable Tourism Eco-certification Program™ (STEP), an approach for ensuring that service provider’s products and services are offered in the right quantities, in the right locations, and at the right time, in order to maximize resource productivity and minimize system-wide costs, waste, and other negative socio-cultural, environmental and economic impacts while satisfying customer needs.

Sustainability Management Plan: A developed scheme, program, or method that sets forth standards and procedures, responsibilities, performance criteria, resources and work practices that protect the environmental, socio-cultural and economic needs of a community, ecosystem, habitat, or protected natural area.

Sustainability Management System: A management approach that enables an organization to identify, measure, monitor and control its environmental, socio-cultural, and economic impacts. A sustainability management system is part of the overall management system that includes organizational structure, activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining a sustainability policy.

Sustainability Policy: Statement by the organization of its intentions and principles in relation to its overall environmental, socio-cultural and economic performance which provides a framework for action and for the setting of its environmental socio-cultural and economic goals, objectives and targets as well as its sustainability management plans and sustainability management systems.

Sustainable Agriculture: An approach to growing pesticide and antibiotic free food and fiber which is profitable, uses on-farm resources efficiently to minimize adverse effects on the environment and people, preserves the natural productivity and quality of land and water, and sustains vibrant rural communities. (Source: Union of Concerned Scientists)

Sustainable Building Practices: Building practices that consider environmental and human health and well-being, in addition to the traditional criteria of function, cost and aesthetics. Conservation and continuous cyclic use of materials, methods, water, natural resources and energy are major considerations when designing and building sustainably. (Source: GreenBuilder.com)
**Sustainable Development:** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. *(Source: World Commission on Environment and Development - the Brundtland Commission)*

**Sustainable Tourism:** Envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems. *(Source: World Tourism Organization)*

**Tour Operator’s Initiative (TOI):** A network of tour operators that are associated with the Global Reporting Initiative (see above) who are committed to sustainable development by incorporating an accounting system that takes into account a tour operator's triple bottom line.

**Tour Operators:** are defined as companies whose main business is taking individuals or groups of people to one or several places. Tours typically combine multiple vacation elements such as walking and driving and viewing and interacting with the environment. This category encompasses both in-bound and out-bound tour operators as well as tour wholesalers and travel agents.

Tour operators may offer air, land, or water-based transportation and or overnight accommodations as separate services.

Small to Medium-sized tour operators are defined as tourism providers that have less than 20 full time employees.

Large-sized tour operators are defined as tourism providers that have more than 20 full time employees.

**Tour:** Activity involving taking individual or groups of consumers or clients on a trip or an excursion to one or more places.

**Toxic Organic Substances:** Toxic Organic Substances or Persistent organic pollutants (POPs) are more commonly known are a class of chemicals that persist in the environment, are capable of long-range transport, bioaccumulate in human and animal tissue, and have significant impacts on human health and the environment. They include such substances as dioxin, PCBs, DDT, brominated flame-retardants or tributyltin (TBT). POPs released to the environment can travel through air and water to regions far distant from their original source. For more in formation on the elimination and minimization of production, use and release of persistent organic pollutants, visit www.pops.int.

** Tradable Renewable Certificates (TRC):** A TRC is a way to buy and sell renewable electricity that divides the generation into two separate products, "electricity" and "renewable energy attributes."

**Transportation Service Providers:** Transportation Service Providers are defined as companies whose main business is offering tourism-related, air, land or water-based transport services to individuals or groups of people. This category encompasses taxi, shuttle and charter services as well as small airlines, scenic cruises, off-road vehicle tours and the like.

The transportation service provider may offer overnight accommodations and tours as separate services, but these services are to be assessed separately.
Travel Philanthropy or Altruistic Travel: A voluntary movement of conscientious consumers and responsible travel companies who are donating financial resources, time, talent and economic patronage to protect and positively impact the cultures and environments they visit.

Triple Bottom Line: An expanded baseline for measuring performance, adding social and environmental dimensions to the traditional economic benchmark. Though there is interdependence between each aspect of the triple bottom line, ideally, each cost and benefit is assessed independently, so companies are not in the black unless all three bottom lines are positive. (Source: Ecological and Carbon Footprints)

USDA national organic program: The United States Department of Agriculture, the National Organic Program (NOP) develops, implements, and administers national production, handling, and labeling standards for organic agricultural products. The NOP also accredits the certifying agents (foreign and domestic) who inspect organic production and handling operations to certify that they meet USDA standards. (Source: National Organic Program)

Verified Emission Reduction (VER): A unit of greenhouse gas emission reductions that has been verified by an independent auditor, but that has not yet undergone the procedures and may not yet have met the requirements for verification, certification and issuance of CERs (in the case of the CDM) or ERUs (in the case of JI) under the Kyoto Protocol. Buyers of VERs assume all carbon-specific policy and regulatory risks (i.e. the risk that the VERs are not ultimately registered as CERs or ERUs). Buyers therefore tend to pay a discounted price for VERs, which takes the inherent regulatory risks into account. VERs are carbon credits which are not certified under the Kyoto Protocol but which can be used to compensate carbon emissions. 1 VER corresponds to one metric ton of CO2 equivalent. (Source: orbeo.com)

Volatile Organic Compounds (VOC): VOC’s are hydrocarbons released from burning fuel such as gasoline and oil, as well as vapors from paints and cleaning solvents. These vapors are released into the atmosphere and are acted upon by the sun and heat and combine with Nitrogen Dioxide (NOx) to form ozone.

Voluntary Carbon Standard (VCS): The Voluntary Carbon Standard provides a robust, new global standard for voluntary offset projects. It ensures that carbon offsets that businesses and consumers buy can be trusted and have real environmental benefits. (Source: Voluntary Carbon Standard)

VolunTourism: Volunteer tourism describes a field of tourism in which travelers visit a destination and take part in projects in the local community. Projects are commonly nature-based, people-based or involve such things as restoration or construction of buildings, assisting archeologists in digging up artifacts, etc. (Source: Volunteer Tourism: Experiences that Make a Difference, S Wearing, University of Technology, Sydney, Australia)

Waste Management: Products, systems and services for the collection, handling, treatment (including recycling) and disposal of municipal, commercial and industrial wastes. Examples include landfill liners and composters (products), landfill gas extraction (systems), and collection and disposal (services). (Source: Envirolink UK)

Waste Stream: Aggregate flow of waste material from generation to treatment to final disposition.

Waste-to-energy: The burning of municipal solid waste to produce energy.
**Wastewater:** Water with waste materials or pollutants dissolved in it, containing waste including gray water, black water or water contaminated by contact with waste, including process-generated and contaminated rainfall runoff, water that has been used in sewage systems, and in industries and businesses that is not suitable for reuse unless it is treated. *(Source: British Columbia Ministry of Water, Land, and Air Protection)*

**Xeriscape:** A drought-tolerant, low water-usage landscape style designed for water and energy efficiency and lower maintenance that was developed by the Denver, Colorado Water Department.

**Yard Waste:** Green (yard) waste is biodegradable waste that can be composed of garden or park waste, such as grass or flower cuttings and hedge trimmings, as well as domestic and commercial food waste. The differentiation green identifies it as high in nitrogen, as opposed to brown waste, which is primarily carbonaceous (i.e., wood).
Appendix C: Renewable Energy Power Systems

Passive Solar Design: Using the sun’s energy for heating and cooling buildings, passive solar design systems are simple to install, cost-effective, and require little maintenance. They work in combination with the building itself (windows, insulation, and use of heavy materials such as bricks and concrete) and natural energy characteristics created by exposure to the sun.

Solar Thermal Systems: These systems provide heat or hot water for applications where temperatures of less than 100°C (212°F) are needed. They usually work in a combination of solar collectors, a pump/controller, and storage. Solar water heaters are an option widely used in the hospitality industry where water heating accounts for approximately 12% of total energy costs (20% of energy use) and solar water heaters can provide a cost-effective, low-maintenance solution for lowering electricity bills.

Geothermal Heating Systems: These systems use the heat of the Earth, which can be recovered at temperatures ranging from 35°C (95°F) to 150°C (302°F), to heat buildings and, at higher recovery temperatures, to generate electricity. One of the most widely used geothermal technologies is the geothermal heat pump, which can be used for heating and cooling buildings and water heating. Although they can have higher initial costs, geothermal heating pumps are said to be one of most energy efficient and cost effective cooling and heating system available, using much less energy than conventional heating/cooling systems and delivering 3 to 4 times the energy they consume. (Switched On, UNEP 2003)

Biomass Systems: Biomass can be used in a variety of heating applications. The main sources of sustainable biomass include industrial and agricultural wastes and residues, organic wastes, energy crops, and domestic and municipal wastes. The most commercially developed process for generating energy from biomass is direct combustion. Other processes in use are gasification and biological, chemical, or biochemical conversion.

Biogas: A methane-rich gas called biogas can be used to produce heat and electricity. Methane digesters convert plant and animal waste, sludge, and wastewater into biogas through a process called anaerobic digestion. On average, each dry kilogram of input will produce 8 mega joules of energy, which equals the amount required to boil 250 liters (66 gallons) of water.

Wind power: Generating electricity from the wind is gaining worldwide popularity as a large scale energy source. Wind turbines offer an attractive energy option for large business operations, require little maintenance, and do not emit greenhouse gasses or other airborne pollutants. Since installing a wind turbine is not an option for every business, using wind power offered as an alternative energy source through your utility provider might be a more practical solution.

Geothermal Electricity Systems: This technology converts geothermal energy into electricity by extracting steam from geothermal wells and using it to drive an electrical turbine and generator. Again, using geothermal electricity is a more likely option for large scale operations and not feasible for smaller business or areas without significant geothermal resources.

Small-Scale Hydro (SSH): In the past, hydropower stations were often built as a part of large dam projects. Hydro developments today are increasingly focused on smaller-scale projects which convert
energy in falling water into electrical energy or mechanical energy. Small Scale Hydro is a well proven but very site specific technology which might not be an option for every business.

Bioenergy Electricity: Bioenergy electricity projects generate electricity via conventional steam combustion technology. Such projects can be built in a wide range of sizes, and while many bioenergy plants are large-scale and owned by developers or municipalities, smaller scale applications are also available.

Solar Photovoltaic (PV): Photovoltaic cells, also called “solar cells,” are semiconductor devices that convert solar energy directly into electricity without causing water or air pollution. Photovoltaic production worldwide is said to have increased by an average of 48% each year since 2002, making it the world’s fastest-growing energy technology. 90% of this generating capacity consists of grid-tied electrical systems, in which PV panels generate electricity and interconnect with a utility’s power line. As policies in the US and other countries encourage solar power and installation, costs continue to decline, making photovoltaic systems more and more popular.

Bioethanol: Used for transportation, bioethanol is produced through the fermentation of high carbohydrate crops such as sugar cane, potatoes, maize, and sweet potatoes. During the fermentation process, yeast and heat are used to break down complex sugars into more simple sugars, creating ethanol. Bioethanol is handled in a manner similar to that of petrol and used as a low percentage blend to save on fuel costs, mostly in a blend of E10 (10% ethanol and 90% petrol) and E85 (15% ethanol and 85% petrol). Although bioethanol does release CO2 when being burnt, it is considered by many as more of a recycling process as plants absorb CO2 during photosynthesis. Use of bioethanol as alternative fuel continues to increase and, because of lower taxation, it is often available at lower cost than conventional petrol.

Biodiesel: As another alternative to conventional petrol, biodiesel is produced in a process in which plant seeds are crushed to release oils. After combining the plant seeds with ethanol or methanol during a chemical process, the resulting product is biodiesel. It can be used in any conventional diesel engine, either alone or combined with petroleum diesel. The most common blends are B20 (20% biodiesel and 80% petroleum diesel), B30 (30% biodiesel), and B50 (50% biodiesel). Using biodiesel as fuel is said to reduce carbon dioxide and hydrocarbons emissions by up to 80% and eliminate exhaust odors.

Non-Motorized Options: For many people, walking and cycling can be an advantageous, cost-effective transport option with the lowest environmental impact. Additional benefits of non-motorized commuting include improved air quality, reduced congestion, safer streets, and a more active, healthier population. Some local governments offer incentives to boost bike riding and walking for employees. In tourism destinations, bike rides and walks can be a refreshing alternative for exploring cities, and many resorts offer a fleet of bicycles their guests can use.
Appendix D: Global Sustainable Tourism Criteria (GSTC)

A. **Demonstrate effective sustainable management.**
   A.1. The company has implemented a long-term sustainability management system that is suitable to its reality and scale, and that considers environmental, sociocultural, quality, health, and safety issues.
   A.2. The company is in compliance with all relevant international or local legislation and regulations (including, among others, health, safety, labor, and environmental aspects).
   A.3. All personnel receive periodic training regarding their role in the management of environmental, sociocultural, health, and safety practices.
   A.4. Customer satisfaction is measured and corrective action taken where appropriate.
   A.5. Promotional materials are accurate and complete and do not promise more than can be delivered by the business.
   A.6. Design and construction of buildings and infrastructure:
      A.6.1. comply with local zoning and protected or heritage area requirements;
      A.6.2. respect the natural or cultural heritage surroundings in siting, design, impact assessment, and land rights and acquisition;
      A.6.3. use locally appropriate principles of sustainable construction;
      A.6.4. provide access for persons with special needs.
   A.7. Information about and interpretation of the natural surroundings, local culture, and cultural heritage is provided to customers, as well as explaining appropriate behavior while visiting natural areas, living cultures, and cultural heritage sites.

B. **Maximize social and economic benefits to the local community and minimize negative impacts.**
   B.1. The company actively supports initiatives for social and infrastructure community development including, among others, education, health, and sanitation.
   B.2. Local residents are employed, including in management positions. Training is offered as necessary.
   B.3. Local and fair-trade services and goods are purchased by the business, where available.
   B.4. The company offers the means for local small entrepreneurs to develop and sell sustainable products that are based on the area’s nature, history, and culture (including food and drink, crafts, performance arts, agricultural products, etc.).
   B.5. A code of conduct for activities in indigenous and local communities has been developed, with the consent of and in collaboration with the community.
   B.6. The company has implemented a policy against commercial exploitation, particularly of children and adolescents, including sexual exploitation.
   B.7. The company is equitable in hiring women and local minorities, including in management positions, while restraining child labor.
   B.8. The international or national legal protection of employees is respected, and employees are paid a living wage.
   B.9. The activities of the company do not jeopardize the provision of basic services, such as water, energy, or sanitation, to neighboring communities.

C. **Maximize benefits to cultural heritage and minimize negative impacts.**
C.1. The company follows established guidelines or a code of behavior for visits to culturally or historically sensitive sites, in order to minimize visitor impact and maximize enjoyment.

C.2. Historical and archeological artifacts are not sold, traded, or displayed, except as permitted by law.

C.3. The business contributes to the protection of local historical, archeological, culturally, and spiritually important properties and sites, and does not impede access to them by local residents.

C.4. The business uses elements of local art, architecture, or cultural heritage in its operations, design, decoration, food, or shops; while respecting the intellectual property rights of local communities.

D. Maximize benefits to the environment and minimize negative impacts.

D.1. Conserving resources

D.1.1. Purchasing policy favors environmentally friendly products for building materials, capital goods, food, and consumables.

D.1.2. The purchase of disposable and consumable goods is measured, and the business actively seeks ways to reduce their use.

D.1.3. Energy consumption should be measured, sources indicated, and measures to decrease overall consumption should be adopted, while encouraging the use of renewable energy.

D.1.4. Water consumption should be measured, sources indicated, and measures to decrease overall consumption should be adopted.

D.2. Reducing pollution

D.2.1. Greenhouse gas emissions from all sources controlled by the business are measured, and procedures are implemented to reduce and offset them as a way to achieve climate neutrality.

D.2.2. Wastewater, including gray water, is treated effectively and reused where possible.

D.2.3. A solid waste management plan is implemented, with quantitative goals to minimize waste that is not reused or recycled.

D.2.4. The use of harmful substances, including pesticides, paints, swimming pool disinfectants, and cleaning materials, is minimized; substituted, when available, by innocuous products; and all chemical use is properly managed.

D.2.5. The business implements practices to reduce pollution from noise, light, runoff, erosion, ozone-depleting compounds, and air and soil contaminants.

D.3. Conserving biodiversity, ecosystems, and landscapes

D.3.1. Wildlife species are only harvested from the wild, consumed, displayed, sold, or internationally traded, as part of a regulated activity that ensures that their utilization is sustainable.

D.3.2. No captive wildlife is held, except for properly regulated activities, and living specimens of protected wildlife species are only kept by those authorized and suitably equipped to house and care for them.

D.3.3. The business uses native species for landscaping and restoration, and takes measures to avoid the introduction of invasive alien species.

D.3.4. The business contributes to the support of biodiversity conservation, including supporting natural protected areas and areas of high biodiversity value.
D.3.5. Interactions with wildlife must not produce adverse effects on the viability of populations in the wild; and any disturbance of natural ecosystems is minimized, rehabilitated, and there is a compensatory contribution to conservation management.
Appendix E: Bibliography

1. Introduction to Sustainable Tourism —


2. Integrating Sustainability into Your Business —Policy & Management


3. Responsible Purchasing — Supply Chain Management


4. Energy Efficiency, Conservation and Management


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UNWTO. *From Davos to Copenhagen – Advancing Tourism’s Response to Climate Change*. 2009. (Background Paper).

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6. Solid Waste Management


7. Freshwater Consumption Reduction & Wastewater Management


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8. Biodiversity & Ecosystem Conservation


9. Culture and Community Preservation & Economic Welfare


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10. Travel Philanthropy—Giving Back to the Places You Visit


11. Case Study — Panoramic Journeys

