



Tourism in the Green Economy

Background Report

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Introduction

This report is an expanded version of the Tourism chapter of the *Green Economy Report* which makes an economic case for investing in the greening of tourism and provides guidance on how to mobilize such investments. The objective is to motivate policy makers to support increased investment in greening the sector.

Tourism has significant potential as a driver for growth of the world economy. The sheer size and reach of the sector makes it critically important from a global resource perspective. Even small changes toward greening can have important impacts. Further, the sector's connection to numerous sectors at destination and international levels means that changes in practices can stimulate changes in many different public and private actors beyond the direct and immediate impact of tourism activity.

In the report, the following key messages have been identified:

- **Tourism has significant potential as a driver for growth for the world economy.** The tourism economy represents 5% of world Gross Domestic Product (GDP), while it contributes to about 8% of total employment. International tourism ranks fourth (after fuels, chemicals and automotive products) in global exports, with an industry value of US\$ 1 trillion a year, accounting for 30% of the world's exports of commercial services or 6% of total exports. There are around four billion estimated domestic arrivals every year and in 2010, some 940 million international tourists were recorded. Tourism is one of five top export earners in over 150 countries, while in 60 countries it is the number one export. It is also the main source of foreign exchange for $\frac{1}{3}$ of developing countries and $\frac{1}{2}$ of least developed countries (LDC).
- **The development of tourism is accompanied by significant challenges.** The rapid growth in both international and domestic travel, the trends to travel farther and over shorter periods of time, and the preference given to energy-intensive transportation are increasing the non-renewable energy dependency of tourism, resulting in the sector's contribution of 5% to global greenhouse gas (GHG) emissions, which is expected to grow substantially under a business-as-usual (BAU) scenario. Other challenges include excessive water consumption compared with residential water use, discharge of untreated water, the generation of waste, the damage to local terrestrial and marine biodiversity and the threats to the survival of local cultures, built heritage and traditions.
- **Green tourism has the potential to create new, green jobs.** Travel and tourism are human resource intensive, employing directly and indirectly 8% of the global workforce. It is estimated that one job in the core tourism industry creates about one and a half additional or indirect jobs in the tourism related economy. The greening of tourism, which involves efficiency improvements in energy, water and waste systems, is expected to reinforce the employment potential of the sector with increased local hiring and sourcing and significant opportunities in tourism oriented toward local culture and the natural environment.
- **Tourism development can be designed to support the local economy and reduce poverty.** Local economic effects of tourism are determined by the share of tourism spending in the local economy as well as the amount of the resulting indirect economic activities. Increasing the involvement of local communities, especially the poor, in the tourism value chain can, therefore, contribute to the development of the local economy and to poverty reduction. For example, in Panama, households capture 56% of total local tourism income. The extent of direct benefits to communities and poverty reduction will largely depend on the percentage of tourism needs that are locally supplied, such as products, labour, tourism services, and increasingly "green services" in energy and water efficiency and waste management. There is increasing evidence that more sustainable tourism in rural areas can lead to more positive poverty-reducing effects.

- **Investing in the greening of tourism can reduce the cost of energy, water and waste and enhance the value of biodiversity, ecosystems and cultural heritage.** Investment in energy efficiency has been found to generate significant returns within a short payback period. Improving waste management is expected to save money for tourism businesses, create jobs and enhance the attractiveness of destinations. The investment requirement in conservation and restoration is small relative to the value of forests, mangroves, wetlands, and coastal zones including coral reefs, which provide ecosystem services essential for the foundation of economic activities and for human survival; the value of ecosystems for tourists remains undervalued in many cases. Investment in cultural heritage – the largest single component of consumer demand for sustainable tourism – is among the most significant and usually profitable investments. Under a green economy investment scenario, tourism makes a larger contribution to GDP growth, while significant environmental benefits include reductions in water consumption (18%), energy use (44%) and CO₂ emissions (52%), compared with BAU.
- **Tourists are demanding the greening of tourism.** More than a third of travellers are found to favor environmentally-friendly tourism and be willing to pay between 2 and 40% more for this experience. Traditional mass tourism has reached a stage of steady growth. In contrast, ecotourism, nature, heritage, cultural and “soft adventure” tourism are taking the lead and are predicted to grow rapidly over the next two decades. It is estimated that global spending on ecotourism is increasing at a higher rate than the industry-wide average growth.
- **The private sector, especially small firms, can, and must be mobilized to support green tourism.** The tourism sector involves a diverse range of actors. The awareness of green tourism exists mainly in a selection of larger-scale firms. Smaller firms are mostly outside this sphere and diverse supplier groups may not be connected at all. Specific mechanisms and tools to educate small and medium-sized tourism related enterprises are critical and are most effective when they are accompanied by actionable items. The promotion and widespread use of recognized standards for sustainable tourism, such as the Global Sustainable Tourism Criteria (GSTC), can help businesses improve sustainability performance, including resource efficiency, and assist in attracting additional investment and customers.
- **Much of the economic potential for green tourism is found in small and medium-sized enterprises (SMEs), which need better access to financing for investing in green tourism.** The majority of tourism businesses are SMEs with potential to generate greater income and opportunity from green strategies. Their single greatest limiting factor for greening, however, is lack of access to capital. Governments and international organizations can facilitate the financial flow to these important actors with an emphasis on contributions to the local economy and poverty reduction. Public-private partnerships can spread the costs and risks of large green tourism investments. Besides reducing administrative fees and offering favorable interest rates for green tourism projects, in-kind support such as technical, marketing or business administration assistance, could also help.
- **Destination planning and development strategies are the first step towards the greening of tourism.** In developing tourism strategies, local governments, communities and businesses need to establish mechanisms for coordinating with ministries responsible for the environment, energy, labour, agriculture, transport, health, finance, security and other relevant areas. Clear requirements are needed in such areas as zoning, protected areas, environmental rules and regulations, labour rules, agricultural standards and health requirements particularly related to energy, emissions, water, waste and sanitation.
- **Government investments and policies can leverage private sector actions on green tourism.** Government spending on public goods such as protected areas, cultural assets, water conservation, waste management, sanitation, public transport and renewable energy infrastructure can reduce the cost of green investments by the private sector in green tourism. Governments can also use tax concessions and subsidies to encourage private investment in green tourism. Time-bound subsidies can be given, for example, on the purchase of equipment or technology that reduces waste, encourages energy and water efficiency, the conservation of biodiversity and the strengthening of linkages with local businesses and community organisations. At the same time, resource and

energy use as well as waste generation need to be correctly priced to reflect their true cost to society.

The report is presented in five chapters:

Chapter 1 explains the concept of tourism in the green economy and introduces the Global Sustainable Tourism Criteria which are used as the framework for analysis of the “greening” of tourism.

Chapter 2 discusses the challenges and opportunities facing the sector. Challenges are framed around energy and GHG emissions, water consumption and waste management, loss of biological diversity and effective management of cultural heritage. Opportunities focus on sizing and growth of the sector, changing consumer patterns and the potential for local development and poverty reduction.

Chapter 3 discusses the goals for greening the sector and the potential economic implications if additional green investments are made in the sector, including the results from a modelling exercise. Assumptions on which the modelling was undertaken are provided. The case for investing in the green sector is made, based on spending in the tourism sector, benefits in employment, local economic development, poverty reduction, environmental benefits (energy, water, waste, biodiversity) and cultural heritage.

Chapter 4 identifies conditions for enabling the greening of the sector. It presents recommendations to create the enabling environment for increased investment in sustainable tourism development, overcoming barriers in the areas of private sector orientation, destination planning and development, fiscal and government policies, finance and investment and local investment generation.

Chapter 5 presents a set of regional case studies which draw on the experiences from Africa, Asia, Europe, North America and South America and which illustrate some of the key messages identified in the preceding chapters.

The report concludes in chapter 6 which communicates a strong and convincing economic case for greening the tourism sector. This is intended to help governments to target tourism and travel in their policy and/or stimulus measures.

Definition and Key Concepts

1.1 What is Greening of Tourism?

Tourism in the green economy refers to tourism activities that can be maintained, or sustained, indefinitely in their social, economic, cultural, and environmental contexts: “sustainable tourism”. Sustainable tourism is tourism that takes full account of current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities. It is not a special form of tourism; rather, all forms of tourism may strive to be more sustainable (UNEP, UNWTO 2005). The definition of sustainable tourism given in the World Tourism Organization and United Nations Environment Programme (2005) publication, *Making Tourism More Sustainable, A Guide for Policy-Makers* is as follows:

Box 1.1 Definition of Sustainable Tourism

Sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

Thus, sustainable tourism should:

- 1) make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural resources and biodiversity;
- 2) respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance;
- 3) ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary.

Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them.

Source: UNWTO, UNEP (2005), *Making Tourism More Sustainable*.

A clear distinction should be made between the concepts of ecotourism and sustainable tourism: “The term ecotourism itself refers to a segment within the tourism sector with focus on environmental sustainability, while the sustainability principles should apply to all types of tourism activities, operations, establishments and projects, including conventional and alternative forms”.¹

The term sustainable tourism describes policies, practices and programmes that take into account not only the expectations of tourists about responsible natural resource management (demand), but also the needs of communities that support or are affected by tourist projects and the environment (supply).² Sustainable tourism thus aspires to be more energy efficient and more climate sound (for example by using renewable energy); consume less water; minimize waste; conserve biodiversity, cultural heritage and traditional values; support intercultural understanding and tolerance; generate local income and integrate local communities with a view to improving livelihoods and reducing poverty. Making tourism businesses more sustainable benefits local communities, and raises awareness and support for the sustainable use of natural resources.

1.2 Measuring Sustainable Tourism

Monitoring progress towards sustainability involves taking measurements of environmental, social and economic conditions using selected indicators and baseline criteria. There is no ‘one-fits-all’ solution to address the question of sustainability in tourism development, and single instruments and criteria cannot encompass the diversity of issues which are of local concern. Many organizations have attempted to establish criteria and indicators in tourism. In this report, the conceptual and operational framework for sustainability in tourism business is based on the Global Sustainable Tourism Criteria (GSTC). This initiative was developed as part of a broad initiative managed by The Partnership for Global Sustainable Tourism Criteria (GSTC Partnership), a coalition of over 80 organizations working together to foster increased understanding of sustainable tourism practices and the adoption of sustainable tourism standards.³ The Partnership was initiated by the Rainforest Alliance, the United Nations Environment Programme (UNEP), the United Nations Foundation, and the World Tourism Organization (UNWTO). The Criteria are now hosted by the Global Sustainable Tourism Council, established in August 2010.

A group of key variables based on the GSTC are used for the analysis of the “greening” of tourism and adopted throughout this supporting background technical report.

The movement toward more sustainable tourism implies significant changes in the performance of conventional tourism, as well as growth and improvements in smaller niche areas centred on natural, cultural and community resources. The growth of the latter, as a proportion of the industry as a whole, may have proportionately higher positive effects on biodiversity conservation and rural poverty reduction; whereas the greening of conventional and mass tourism is likely to have its largest effects on resource use and management, as well as on increased economic spillovers and inclusion of disadvantaged populations.

1 *International Year of Ecotourism 2002*, http://www.unep.fr/scp/tourism/events/iye/pdf/iye_leaflet_text.pdf.

2 ILO (2010b) views sustainable tourism as “composed of three pillars: social justice, economic development, and environmental integrity. It is committed to the enhancement of local prosperity by maximizing the contribution of tourism to the destination’s economic prosperity, including the amount of visitor spending that is retained locally. It should generate income and decent employment for workers without affecting the environment and culture of the tourists’ destination and ensures the viability and competitiveness of destinations and enterprises to enable them to continue to prosper and deliver benefits in the long term”.

3 www.gstcouncil.org/resource-center/gstc-criteria.htm (accessed 28 January 2011).

Challenges and Opportunities for Tourism in a Green Economy

2.1 Challenges

Developing tourism sustainably is a big challenge for planners and policy makers. The task becomes all the more difficult in view of the multiple crises being faced by the world currently: recession, climate change, fuel crisis, food crisis, and water crisis. In 2008, the world witnessed the worst financial crisis triggering the start of the most severe recession since the Great Depression of the 1930s. Implications of such a recession on the developing countries are estimated to be very severe as every 1% fall in growth in the developing economies translates into an additional 20 million people consigned to poverty (UNEP 2009).

The tourism industry also faces a multitude of significant sustainability-related challenges. Specific challenges that need to be resolved through the greening of the industry include:

- (1) energy and greenhouse gas (GHG) emissions;
- (2) water consumption;
- (3) waste management;
- (4) loss of biological diversity;
- (5) effective management of built and cultural heritage; and
- (6) planning and governance.

2.1.1 Energy and GHG Emissions

Summary

Tourism is a significant contributor of greenhouse gas (GHG) emissions at the global scale. The growth of energy consumption in travel, transport, accommodation and tourism related activities and the dependency on fossil fuels, increase vulnerability and uncertainty for future business growth and translate into important implications for GHG emissions and climate change. Currently, tourism contributes an estimated 5% of CO₂ emissions but, according to some scientists, the overall contribution of tourism to global warming – considering the radiative forcing of all greenhouse gases – is in the order of 5.2–12.5% (the range in this estimate is primarily attributed to uncertainties regarding the role of aviation induced cirrus clouds in trapping heat).

Sub-sectors of energy use in tourism

Tourism-related emissions comprise a complex mix of travel motives (leisure – business), geographical patterns (international – domestic, but more importantly short – long haul), temporal ranges (overnight – same-day trips), and activities (conferences – festivals, shopping – nature walks). Tourism-related energy use and associated emissions of GHGs can be organized into three subsectors: transport to and from the destination, accommodation and activities (see UNWTO, UNEP, WMO 2008). The contribution of these three sub-sectors to global anthropogenic CO₂ emissions in 2005 has been estimated at 4.95% (UNWTO, UNEP, WMO 2008). Most emissions relate to the transport of tourists, with aviation

accounting for 40% of tourism's contribution to CO₂, followed by cars (32%) and accommodation (21%) (UNWTO, UNEP, WMO 2008). Cruise ships are included in "other transport", and account with an estimated 19.17 Mt CO₂ for around 1.5% of global tourism emissions (Eijgelaar and others 2010).

The calculations in the UNWTO, UNEP, WMO report (2008) represent only direct energy use. Indirect energy use from the construction of hotels, airports and aircraft, cars and roads, boats and marinas needs to be considered, because all consume considerable amounts of energy. Therefore a lifecycle perspective accounting for the energy embodied in the tourism system would lead to higher calculations of emissions. Furthermore, tourism also leads to other indirect emissions, including the energy use in associated sectors, such as tour operators and their offices, travel to work by those employed in tourism – which can involve significant numbers of staff driving or flying, as well as the transport of significant amounts of freight, such as food and other goods – often over considerable distances (Gössling and others 2009). As economic accounts of tourism (tourism satellite accounts) consider indirect and even induced economic impacts, a comprehensive and comparable emissions assessment would similarly need to consider lifecycle and indirect emissions.

A second estimate of emissions from global tourism prepared by the World Economic Forum (WEF 2009) and based on a different set of sub-sectors, found emissions to be 13% higher (1,476 Mt CO₂ emissions in 2005) than the UNWTO, UNEP, WMO (2008) estimate. Notably, WEF (2009, p. 10) distinguishes direct and indirect emissions from tourism, with direct emissions being defined as "carbon emissions from sources that are directly engaged in the economic activity of the tourism and travel sector". While these are included in the WEF estimate, indirect emissions are excluded, for example, emissions from electricity usage in airline or travel agent offices, and emissions from transportation of hotel consumables, such as food or toiletries (WEF 2009, p. 10).

A more recent estimate presented by Scott and others (2010), assessed the contribution made by tourism to climate change in terms of radiative forcing, and found the sector to contribute to 5.2–12.5% of all anthropogenic forcing in 2005. These figures are higher than the CO₂ only estimate because of the range of radiative forcing¹ caused by aviation is included; which represents 54–83% of the overall contribution of tourism to global warming.

Transport

Tourism-related transport consumption of energy is related to travel mode with coach and rail transport, cars and buses, airplanes and cruise ships having diverse energy intensities. For instance, in New Zealand, the total energy consumed for tourism transport and accommodation is distributed as follows: 43% for road transport, 42% for air travel, 2% for sea transport and 1% for rail transport, with accommodation comprising the remaining 12%.

Emissions from tourism-related transport are calculated by multiplying transport distances with averaged emission factors (i.e. the averaged amount of CO₂ emitted for transporting one person over one kilometre). As shown in table 1 for transport in the EU, averaged emission factors for different transport modes can vary considerably. Coach and rail transport are the most efficient, causing emissions of 0.022 kg CO₂/pkm and 0.027 kg CO₂/pkm, respectively. This specific difference is mainly caused by occupancy rates: if compared on a per seat kilometre (skm) basis, (i.e. considering the number of people that could theoretically be transported at full occupancy), rail is more efficient at 0.016 kg/skm, compared to coach at 0.020 kg/skm. Even lower emissions can result from rail travel when electricity is sourced from renewable energy sources. Emissions from cars amount on average to 0.133 kg CO₂/pkm, while flights of 1,000 or more km cause 0.130 kg CO₂/pkm, and short flights of less than 500 km 0.206 kg CO₂/pkm. The high value for short-haul flights is due to the high amount of energy used for take-off and climbing. The most emission-intense mode of tourist transport is cruise ships. Although no comprehensive database is available for this mode, Carnival Corporation and plc (2008) reports direct air emissions of 0.330 kg CO₂ per Available-Lower-Berth-km (ALB km) for its fleet. However, as

1 As defined by the IPCC, radiative forcing is a measure of the influence that a climatic factor (e.g. aerosols, ice) has in altering the balance of incoming and outgoing energy in the earth/atmosphere system.

cruise ships also function as destinations themselves (including accommodations and tourism activities) and are not solely a mode of tourist transport, the impact of cruises will also be discussed under the accommodation section below. Furthermore most cruises start at harbours that are long distances from many major tourist markets and cruise packages are generally on offer as 'fly-cruises', with flights adding another 10 to 30% of emissions for cruises (see Eijgelaar and others 2010).

Table 2.1 Emission factors for tourism transport modes in the EU context

Mode	CO ₂ factor (kg/pkm)	Occupancy rate/load factor (%)
Air <500 km	0.206	–
500–1000 km	0.154	–
1,000–1,500 km	0.130	–
1,500–2,000 km	0.121	–
>2,000 km	0.111	–
Air world average	0.129	75
Rail	0.027	60
Car	0.133	50
Coach	0.022	90

Source: Peeters et al. (2007).

Accommodation

After travel to and from destination, the hotel sector is one of the tourism industry's most energy-intensive sectors. Energy use in accommodation includes heating and/or cooling, lighting, cooking (in restaurants), cleaning, pools and, in tropical or arid regions, the desalination of seawater. A general rule is that the more luxurious the accommodation, the more energy will be used; a fact explicable by greater room space, higher heating and/or air conditioning standards, the existence of facilities such as pools or spa and/or wellness areas, as well as a greater range of electric appliances in the room.

In a review of energy use in hotels, Bohdanowicz and Martinac (2007) found energy use values of between 51–256 MJ/guest-night, while Becken and Hay (2007) found a range of 25–284 MJ/guest-night in a review of studies. In terms of emissions, there are ranges between <1 kg (renewable energy use) to 125 kg CO₂ (self-supporting power generation) per guest-night identified in the literature (see summary in UNWTO, UNEP, WMO 2008).

However, few studies exist that have more comprehensively assessed emissions. Bodhanowicz and Martinac (2007) studied energy use in the Scandic and Hilton chains, finding average energy use values of 322 MJ/guest-night in Hilton hotels, and 172 MJ/guest-night in Scandic hotels. However, this study does not provide any information on emissions. As about half of the energy use in both chains is electricity, this may correspond to emissions of 4.6 kg CO₂/guest-night for Scandic hotels, based on the Nordic electricity mix with emissions of about 0.096 kg CO₂/kWh, and about 44 kg CO₂ per guest-night in Hilton hotels, based on a value of 0.5 kg CO₂/kWh in the United Kingdom or Germany (cf. Gössling 2010). All other studies appear to have country, or accommodation, specific approaches to energy use. For instance, various forms of accommodation in New Zealand revealed energy consumption values ranging from 32–110 MJ, with associated emissions ranging from 1.4 kg CO₂/guest-night to 7.9 kg CO₂/guest-night (Becken and others 2001, Becken and Hay 2007). Beccali and others (2009) find energy use values between 32–112 MJ/guest-night in hotels in Sicily, Italy. Table 2 summarizes the results from existing studies on energy use and emissions in accommodation.

Table 2.2 Energy use in accommodation

Accommodation type, country	Energy use per guest-night (MJ)	Emissions per guest-night (kg CO ₂)	Including	Source
1/2* hotels, Zanzibar, Tanzania	205	14.5	Diesel generator	Gössling 2000
4* hotels, Zanzibar, Tanzania	1,050	73	Diesel generator	Gössling 2000
3* hotel, Zanzibar, Tanzania	3.5	<0.1	Electricity (solar)	Gössling 2010
5* hotel, Seychelles	1,787	125	Diesel generator	Gössling 2007, unpublished data
Average Sicilian hotel, Italy	65 (+50 thermal)	9.2	Electricity only	Beccali and others 2009
1/2* hotel, Sicily, Italy	32 (+50 thermal)	4.7	Electricity only	Beccali and others 2009
3* hotel, Sicily, Italy	50 (+50 thermal)	7	Electricity only	Beccali and others 2009
4/5* hotel, Sicily, Italy	112 (+50 thermal)	15.8	Electricity only	Beccali and others 2009
5* hotel, Oman	3,717	260	Direct/indirect emissions	Gössling 2010
Hotels, Australia	110–265	n.a.	Electricity and gas consumption	Warnken and others (2005)
Eco-resorts, Australia	68–256	n.a.	Electricity and gas consumption	Warnken and others (2005)
Caravan parks	22–43	n.a.	Electricity and gas consumption	Warnken and others (2005)
4* hotel, Germany	119	0.1	Electricity and wood pellets	Gössling 2010
2* hotel, Vietnam	94–976	n.a.	Electricity only	Trung and Kumar (2005)
3* hotel, Vietnam	148–1,536	n.a.	Electricity only	Trung and Kumar (2005)
4* hotel, Vietnam	288–853	n.a.	Electricity only	Trung and Kumar (2005)
Hotel, Majorca, Spain	51	n.a.	Electricity, gas, oil	Simmons and Lewis (2001)
Hotel, Cyprus	87	n.a.	Electricity, gas, oil	Simmons and Lewis
Holiday village, Germany	91	n.a.	Electricity	Lüthje and Lindstadt (1994)
Hotel, New Zealand	155	7.9	Electricity, fossil fuels and wood	Becken and others (2001), Becken and Hay (2007)
B and B, New Zealand	110	4.1	Electricity, fossil fuels and wood	Becken and others (2001), Becken and Hay (2007)

Accommodation type, country	Energy use per guest-night (MJ)	Emissions per guest-night (kg CO ₂)	Including	Source
Motel, New Zealand	32	1.4	Electricity, fossil fuels and wood	Becken and others (2001), Becken and Hay (2007)
Camping, New Zealand	25	1.4	Electricity, fossil fuels and wood	Becken and others (2001), Becken and Hay (2007)
Hostel, New Zealand	39	1.6	Electricity, fossil fuels and wood	Becken and others (2001), Becken and Hay (2007)
Summer houses, Sweden	246 (assumed 60 days stay/year)	0.7 (assumed 60 days stay/year)	Electricity	SCB (2002)

Conversion factors: 1 kWh = 3.6 MJ
 1 MJ = 0.28 kWh
 1 l diesel = 2.7 kg CO₂
 1 l diesel = 38.6 MJ

Table 2.2 shows considerable differences in energy use and emissions per guest-night, even though not all values are comparable, as in some cases only electricity use is considered. Notably, energy generation can be more or less efficient, and be based on energy sources with higher (for example coal) or lower carbon contents (for example gas), or renewable sources leading to very low emissions (wind, sun, biomass, hydro). For example, Deng and Burnett (2000) found that electricity accounted for 73% of the overall energy use in hotels in Hong Kong, China. Similar values were found in New Zealand, where the main energy source for accommodation establishments is electricity (75% of total energy use), while coal is 12%, LPG 9%, petroleum fuel 3%, and natural gas and wood 1% (Becken and others 2001).

With regard to the purposes of energy use in the accommodation sub-sector, a study for Hong Kong, China, found that 32% of total energy were consumed for air conditioning, 12% for lighting, 5% for lifts and escalators, 23% for other systems and/or appliances, and 28% for cooking and water heating (the latter based on gas and diesel) (Deng and Burnett 2000). Vietnamese hotels were found to use 46–53% of energy for air conditioning and/or ventilation, 13–26% for lighting, and 17–27% for water heating, the remainder (4–13%) being used for lifts, pumps, refrigerators and others (Trung and Kumar 2005). Yet another study of hotels in Sicily suggests that in upscale hotels (four and five stars), electricity consumption on an end use basis is primarily for Heating, Ventilating and Air Conditioning (HVAC) (35%), lighting (35%), cooking and food refrigeration (15%), hotel services (10%) and losses (5%). Thermal energy is primarily used for hot water (40%), cooking (25%) and air heating (35%) (Beccali and others 2009). The Carbon Trust (2010) suggests that most energy use in hotels in the United Kingdom is associated with heating, followed by hot water provision, catering, lighting and other factors, including air conditioning. In pubs, heating and lighting take up about equal shares of energy consumption, followed by cellar services, hot water, catering and other. Overall, most energy in accommodations is used for heating and/or air conditioning (up to 50%), followed by hot water use and/or cooking and other facilities (based on Deng and Burnett 2000, Trung and Kumar 2005, Beccali and others 2009 and The Carbon Trust 2010).

Given considerable differences in fuel use and emissions, there is uncertainty regarding total emissions from global tourist accommodation. Table 2.3 presents an estimate of global average values for direct energy use and emissions by accommodation category (Gössling 2002); however these need to be seen as conservative in the light of the findings presented in table 2.2.

Table 2.3 Estimated global average energy use by type of accommodation

Type of accommodation	Energy use per guest-night (MJ)	Emissions per guest-night (kg CO ₂)
Hotels	130	20.6
Campsites	50	7.9
Pensions	25	4.0
Self-catering	120	19.0
Holiday villages	90	14.3
Vacation homes	100	15.9
Estimated average	98	15.6

Source: Gössling (2002).

For a conservative estimate, emissions can be calculated by multiplying the number of tourists by length of stay and an emission factor (CO₂ per guest-night). The total number of international guest-nights was in the order of 6.1 billion in 2005. For domestic tourism, the total number of guest-nights was estimated at 13.7 billion. For calculations of total emissions from accommodation, UNWTO–UNEP–WMO (2008) used an average of 19 kg CO₂ per guest-night in international tourism, and 11.5 kg CO₂ in domestic tourism, to correct for lower emission levels in accommodation used by the relatively large share of domestic tourists in developing countries. Total emissions associated with accommodation were thus estimated at 274 Mt CO₂ (in 2005), i.e. corresponding to 21% of overall CO₂ emissions from tourism.

As cruise ships are ‘mobile destinations’, and when in port, function mainly as accommodation and not transport, it is also appropriate to discuss their contribution to accommodation sub-sector emissions. The emissions of a guest-night on a cruise ship can be as high as 313 kg (based on data given in Eijgelaar and others 2010) or 20 times higher as the average for land-based accommodation. These numbers refer to large, luxury cruises, even though, for instance, sailing cruises may have lower emissions in the order of 30 kg CO₂ per guest night (Gössling 2010).

With regard to future growth of accommodation related emissions, current construction of hotels and/or resorts that will continue to function and demand energy throughputs through to the 2050s is a key factor in developing sustainable low-carbon accommodation in the decades ahead. Building codes and architectural design are critical to widespread implementation of energy efficiency in this sub-sector, and ideally, new hotel constructions should seek to be passive- or even plus-energy structures.

Activities

Tourists visit attractions and participate in a wide range of activities at destinations. Emissions caused by these activities vary widely, but specific data on energy use and emissions caused by tourist activities is scarce and available studies are seldom comparable. Moreover, calculations may often focus on energy use but do not provide emissions estimates. For example, Becken and Simmons (2002) show that for a range of common tourism activities in New Zealand, energy use can range from 7–1,300 MJ per tourist and/or visit.

A number of studies also investigate specific tourist activities. For instance, Byrnes and Warnken (2006) have shown that boats cause considerable emissions. Per trip, Australian tour boat operators cause on average 61 kg CO₂-e if the boat uses a diesel engine or 27 kg CO₂-e if the boat uses a petrol engine. In extreme cases, high-powered vessels can use 300 l of fuel per hour with only 11 passengers on board. Even other transport used for activities at the destination can be carbon-intensive. For instance, Lin (2010) calculates that vehicle transport (private cars, vans, tour buses, and motorcycles) in national parks in Taiwan, Province of China, causes emissions of between 7.2 to 15.9 kg CO₂ per visitor. Dawson and others (2009) have also shown how energy intense activities such as polar bear viewing in Churchill,

Canada can be, with about 8,000 tourists per year causing emissions of 20,892 t CO₂, including transportation, accommodation and activities. Activities are only responsible for a minor share of per tourist emissions of >2.6 t CO₂, with tundra vehicle trips, helicopter scenic flights, dog sledding and local transport accounting for 73 kg CO₂/tourist. In yet another example, Aspen Skiing Company reports that emissions for running ski lifts, snow making, and so on account for 21.4 kg CO₂ per skier day (cf. Gössling 2010).

As there is no systematic international dataset on energy consumption and emissions from tourism activities, UNWTO–UNEP–WMO (2008) assume an average of 250 MJ of energy (corresponding to 40 kg CO₂) for ‘Other activities’ (i.e. other tourism activities that are not related to hospitality or transport to the destination) for an average international tourist trip, 50 MJ (8 kg CO₂) for shorter and less activity-oriented business trips, and 100 MJ (16 kg CO₂) for Visiting Friends and Relatives (VFR) trips. The weighted global average for activities of international tourists is 170 MJ or 27.2 kg CO₂ per trip. For domestic tourists, UNWTO–UNEP–WMO (2008) assumes 11 kg CO₂ per domestic trip in high income economies and 2.7 kg CO₂ per trip in developing countries. Extrapolated to 4.75 billion tourist trips in 2005, emissions from tourist activities are estimated to be in the order of 48 Mt CO₂. Note the estimate for the activity subsector has comparably high uncertainty.

Food

Greenhouse gas emissions associated with food consumption have not been considered in assessments of emissions from tourism, such as UNWTO–UNEP–WMO (2008) or WEF (2009), possibly because these are seen not to be specific for tourism, but rather part of ‘everyday consumption’ (for studies including food see Gössling and others 2002, Peeters and Schouten 2006; WWF-United Kingdom 2002). It might be argued, however, that food consumption patterns in tourism are different from everyday food consumption, because there are considerable differences in the quality and quantity of the food and beverages consumed, and because food might be imported over greater distances, particularly in the case of small, isolated islands and other peripheral tourism destinations. Therefore, food is an issue to be considered in future refinements of tourism sector emission calculations and mitigation strategies. (Gössling and others 2010).

Food production and consumption are key issues for climate change mitigation, because agriculture accounted for between 10% and 12% of total anthropogenic GHG emissions in 2005 (Smith and others 2009b), to which packaging, retailing, transport and preparation have to be added, as well as the clearing or conversion of ecosystems for food production. Most problematic are the food sector’s emissions of methane (CH₄) and nitrous oxide (N₂O), which are potent GHGs (Smith and others 2009b). If emissions from fisheries are added, food production and consumption account for a considerable share of overall emissions. While there appears to be no global assessment available, in the case of Norway, for instance, a calculation of GHG emissions on an end-use-consumption basis revealed that food consumption accounts for more than 20% of the country’s total GHG emissions (Hille and others 2008). Tourism is of relevance in food consumption because it is estimated that some 75 billion meals per year or just over 200 million meals per day are consumed in tourism-related contexts (Gössling and others 2010).

Scenarios for emissions growth in tourism

Any systematic approach to reduce emissions in the tourism sector must understand the sources of emissions within the sector, the major drivers of those emissions and their near-term trends and varied potential of technological and social change to alter those emission trajectories toward more sustainable pathways, consistent with the climate policy objectives of the international community.

According to the assessment commissioned by UNWTO–UNEP–WMO (2008), if tourism remains on a business-as-usual pathway, CO₂ emissions would grow 135% by 2035. This business-as-usual trajectory stands in stark contrast to the sector’s declared “aspirational” reduction goal of –50% by 2035 (WTTC

2009). Under this scenario the number of tourist trips will grow by 179% in the period 2005–2035, while guest-nights would grow by 156%. Distances travelled (in pkm) are expected to increase by 223% and as a result, CO₂ emissions from transport are anticipated to grow by 161%. By 2035, air travel is projected to represent more than half of all emissions of CO₂ and as much as 54% to 83% of tourism's contribution to radiative forcing, while car transport's share of CO₂ emissions will decline to 15% and of radiative forcing to between 24% to 9%.² Accommodation is anticipated to rank second for emissions in 2035, accounting for about one quarter of emissions. This is because accommodation capacity is projected to grow and is becoming more luxurious and energy-intensive per bed night because of a shift from low-energy-intensity types of accommodation (private homes, pensions and bed and breakfast) towards higher-energy-intensity hotels and resorts. Within the accommodation sector, emissions are forecast to increase by 170% while for tourism activities, growth is expected to be 305%, indicating that even activities should not be ignored in mitigation strategies.

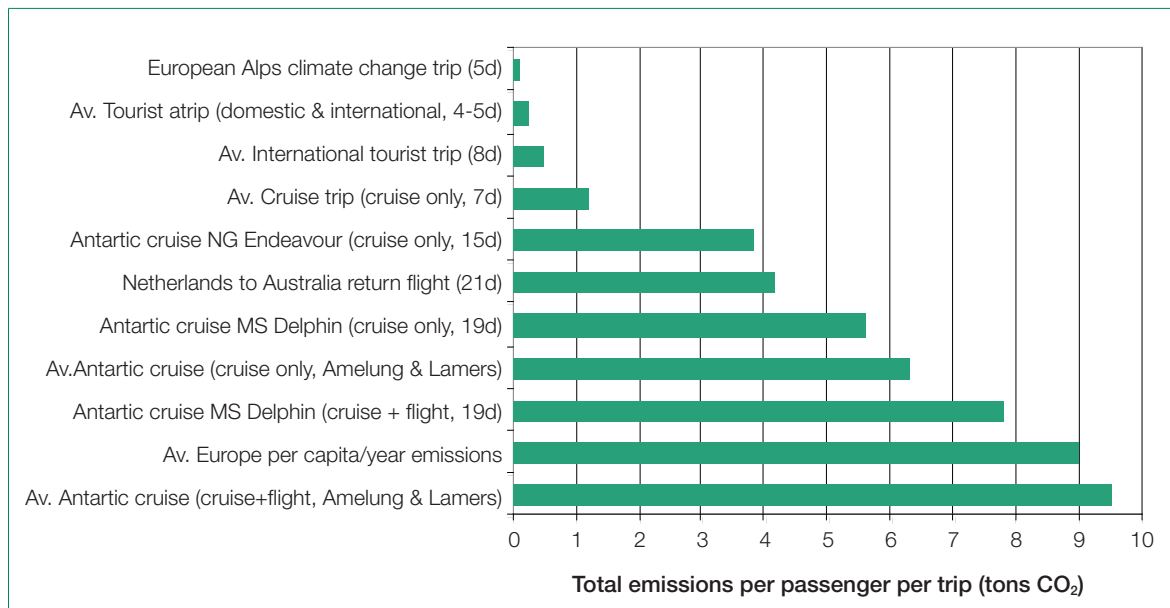
Of fundamental importance to the future of tourism's contribution to climate change are strong growth trends that characterize the sector: the rapidly growing number of people participating in both domestic and international tourism; trends to travel further and over short periods of time and the increased average energy-intensity of trips.

Based on these trends, it is possible to discuss structural changes that have to be achieved in order to reduce emissions from tourism. Data presented by UNWTO–UNEP–WMO (2008) suggests several relationships of relevance in this context. For instance, on global average, including domestic and international travel, a tourist trip lasts 4.15 days and causes emissions of 0.25 t CO₂. This includes 4.75 billion trips with at least one overnight stay. For international trips, average length of stay is 8.3 days, with average emissions of 0.66 t CO₂. These results indicate that long trips cause greater emissions in both absolute and relative (on a per day basis) terms, because long trips are more often based on energy-intensive transport (by air) over longer distances.

Specific attention with respect to behaviour should be paid to the strong increase in average distances. Global projections show an increase of average distances per tourist trip by 0.7% per year (based on UNWTO–UNEP–WMO 2008). However, this growth varies much between regions and individual countries. From an earlier study on EU tourism it appears that the total number of trips will increase by 57% between 2000 and 2020, while distances are expected to grow by 122% in the same period (Peeters and others 2007). This means the average distance will grow by 1.75% per year for EU tourism. Directly measured distance data are scarce but a detailed account of trends for Dutch holiday makers over the period 2002–2008 shows that total distances travelled increased by 35% while total number of trips just increased by 1% over the six years, thus corresponding to an increase of the average distance by 5% per year (CBS 2009, de Bruijn and others 2009). Similar trends are visible with regard to the energy-intensity of the transport modes used, with a trend towards the use of aircraft and cars: global international air traveller numbers increased consistently at growth rates 1 to 1.5% higher than average traveller number growth, while rail traveller growth was 2.8–3.4% lower than average traveller number growth (over the period 1990–2006; UNWTO 2008).

Figure 2.1 shows this for individual journeys, indicating that highly energy-intensive holidays, such as cruises in general, can contribute to emissions several times the order of magnitude of 'climate-friendly' holidays. In particular long-distance holidays are thus relevant in generating emissions.

2 For this calculation we assumed the new values published by Lee and others, 2009, in the model used for UNWTO–UNEP–WMO, 2008).

Figure 2.1 Average emissions for various journeys per passenger and trip

Source: Eijelaar and others (2010).

Because of these distance- to energy-intensity relationships, the 17% of tourism trips that are made by aircraft cause 40% of the CO₂ emissions. Vice versa, the 34% of trips made by coach and rail account for 5% of all CO₂ emissions. These relationships have been confirmed in regional and national studies, with similar relationships between trip distance and overall emissions. For instance, in the case of France, 2% of the longest flights account for 43% of aviation CO₂ emissions (Dubois and Ceron 2009). In the Netherlands, 4.5% of long haul trips cause 26.5% of all holiday making emissions (de Bruijn and others 2009). In the EU25, the 6% of outbound trips >4,000 km cause 47% of all emissions (Peeters and others 2004).

Overall, a number of conclusions can be drawn from these relationships. First, the main parameters determining emissions are travel distance and transport mode. This is of importance, as tourism businesses usually measure their performance based on emissions per pkm or skm. However, relatively low 'per pkm' emissions become irrelevant when long travel distances are involved. It thus seems clear that average travel distances have to be reduced in order to reconcile growth in trip numbers with climate policy. An example may illustrate this: for every average air-based trip substituted by an average car trip, CO₂ emissions will decline by 78%. If a long-haul flight of 10,000 km (one way) is substituted with a 'long drive' holiday over 1,000 km (one way), transport-related emissions decline even by more than 90% (Scott and others 2010).

On longer distances, it is thus essential to reduce trip numbers, or to at least stabilize their overall number. On shorter distances, there is a need to shift mobility from air travel to surface travel, and in particular train and bus travel. Likewise, there would be a need to break the trend towards more energy-intensive mobility, i.e. with regard to first- and business class travel, as well as private mobility based on private or shared aircraft.

These structural changes need to be combined with a perspective on spending and profits to avoid disruptions in the tourism system. Re-structuring the tourism system towards low-carbon consumption is, from a business perspective, essentially a process that demands the combination of two parameters, i.e. the lowering of the greenhouse gas intensity of tourism products and increasing – not declining – profit margins. This is captured in the concept of eco-efficiency, i.e. the amount of energy or emissions caused to generate one unit of a given currency. Several publications have shown that there are vast differences in eco-efficiency, with for instance one study showing that the eco-efficiency of different tourist types in France varies by at least a factor 400 (Gössling and others 2005). There are now also studies comparing the eco-efficiency of tourism with other economic sectors (for example

Patterson and McDonald 2004, Jones and Munday 2007), and, more recently, 'emissions in t CO₂ per US\$ 1 million in revenue' has been used by some companies as a key performance indicator. Data provided in Gössling (2010) indicates for instance a range of 24–490 t CO₂ – equivalent to generate US\$ 1 million in revenue. An essential element of any strategy for the reduction of GHG emissions from transport related tourism activity is the comprehensive evaluation of the economic impact of a tourism activity.³

Eco-efficiencies can also be calculated on a tourism and/or leisure consumption basis, and be used to identify more climatically and economically beneficial consumption. Hille and others (2007) illustrate this for consumption in Norway, based on expenditure per unit of energy use (in megajoule, MJ). There are vast differences in energy use – a parameter closely correlated to emissions on a country comparison basis – per unit of expenditure. Theatres or restaurants, for instance, entail energy use of just 0.2 MJ per NOK, while gyms or all forms of holidays are up to >12 times as energy intense.

In summary, aviation and tourism are expected to account for a large share of emissions unless a major change in the emission trajectories is achieved. These trends stand in sharp contrast to stated emission reduction goals of the tourism sector (–50% of 2005 emissions by 2035) and the climate policy objectives of the international community (in the order of 50% of 1990 emission levels by 2050). If emission reductions were successful in other major economic sectors, aviation and tourism would account for a large share of the sustainable emissions budget by 2050 unless a major change in the emission trajectories is achieved. It is important to note the difference between international transport and domestic transport for tourism. Emissions from international transport are related to travel mode, fuel efficiency, emissions offsets initiatives and other issues which depend mainly on international business and government efforts that would create externalities for the global carbon footprint of tourism. On the other hand, local transport development is linked to national transportation systems which are interlinked with all the sectors of the economy. Therefore, the role of tourism in mitigation efforts should be approached from a country perspective since it affects the national economy as a whole. In addition, any systematic approach to reduce emissions in the tourism sector must understand the sources of emissions within the sector, the major drivers of those emissions and their near-term trends and varied potential of technological and social change to alter those emission trajectories toward more sustainable pathways, consistent with the climate policy objectives of the international community.

To achieve absolute emission reductions in tourism in line with global climate policy will demand considerable change in the tourism system, with a reduction in overall energy use, and a switch to renewable energy sources. The transformation toward a low-carbon tourism economy will demand innovative research, major investments in technology, strong and integrative international-national-local policy and new partnerships between governments and the tourism industry, as well as public education and enhanced consumer awareness that would facilitate modal shifts and the reduction of average travel distances for tourism. Further engagement of tourism stakeholders in the green economy must be a priority if the sector is to capitalize on the vast opportunities it provides to combine emission reductions and economic gains.

2.1.2 Water Consumption

Summary

UNEP (2003) estimates that in the United States of America, tourism and recreation consumes 946 million m³ of water per year, of which 60% is linked to accommodation (mostly spent on guest consumption, landscape and property management and laundry activities), and another 13% to food service. Total yearly water consumption by tourism in Europe is estimated at 843 million m³. Each

3 Regarding mitigation of GHG emissions from air passenger transport, UNWTO (2010f) indicates that the assessment of mitigation measures has to be done in the context of broad spectrum tourism, including domestic, inbound and outbound flows, rather than for air transport in isolation, considering social and economic costs and benefits in cohesion with the climate change mitigation impact. UNWTO (2009) states the importance for the tourism sector to identify measures to address climate change but without losing sight of other priorities especially poverty alleviation and tourism contribution to the Millennium Development Goals.

tourist consumes 300 l of freshwater per day on average, whereas luxury tourists can consume up to 880 l. By comparison, average per capita residential consumption in Europe is estimated at 241 l per day.⁴

Global direct water consumption in international tourism (accommodations only) is estimated to be 1.3 km³ per year (Gössling 2005). Available data suggest that direct water use in tourism varies between 100 to 2,000 l per guest night, with a tendency for larger, resort-style hotels to use significantly more water than smaller, pension-like establishments or campsites. The main water-consuming factors are golf courses, irrigated gardens, swimming pools, spas, wellness facilities and guest rooms.

Water consumption for tourism and local communities

Few studies appear to directly compare water use in tourism with local consumption. While water use by tourism, on a global basis, is far less important than agriculture, industry, or urban domestic use, in some countries, as well as regionally, tourism can be the main factor in water consumption. In such areas, it can increase pressure on already diminished water resources and compete with other sectors as well as the subsistence needs of local populations.

Gössling (2002) reports that, the weighted average water use in villages on the east coast of Zanzibar is in the order of 48 l per capita per day, which can be compared to weighted average water use in accommodation in the order of 685 l per tourist per day (Gössling 2001). In the villages, freshwater is used for eight different purposes: hygienic purposes (taking showers, body hygiene after using the toilet), cooking, dishwashing, drinking, washing clothes, cleaning, and feeding animals. The following mean values were calculated from the residents' estimates of personal and/or household use (percentages in brackets are given in 5% units to indicate inherent inaccuracies): for children, daily water use can be divided into: 13 l (40%) for taking showers, 5 l (15%) for cooking, 5 l (15%) for toilet purposes, 4 l (10%) for dishwashing, 3 l (10%) for washing clothes, 3 l (10%) for feeding animals, and 1 l (5%) for drinking. For adults, daily water use amounts to approximately 25 l for taking showers (45%), 12 l (20%) for toilet purposes, 5 l (10%) for cooking, 4 l (5%) for dishwashing, 3 l (5%) for feeding animals, 3 l (5%) for drinking, and 3 l (5%) for washing clothes. Water used for cleaning is negligible (< 0.5 l). In total, daily water use amounts to 34 l for children and 55 l for adults. Similar figures indicating higher water use by tourists than residents have also been reported in other studies. For instance, von Medeazza (2004) reports that in Lanzarote, Spain, tourist water consumption is four times that of residents.

With regard to competing water use, Gössling (2001) reports that in northern Zanzibar, none of the local wells contains freshwater anymore, and the village has become dependent on water piped from further inland. However, due to shortages, piped water is available only half the year, which is also a result of the demand of the tourist industry in the area, because hotels and guesthouses receive their water from the same source that supplies the village. In consequence, local residents have to fetch freshwater from a well that is located more than 1 km outside the village. A similar situation has been reported for other villages in Zanzibar (Dahlin and Stridh 1996).

Available data for Spain suggest that tourist development is increasingly competing for water with the agricultural sector. As the value added to water by tourism can be 60 times higher than in the agricultural sector, tourism, and in particular golf tourism, is in a position to outcompete agriculture for water (Auernheimer and González 2002, quoted in Downward and Taylor 2007). Rodríguez-Díaz and others (2008) report for Spain that water consumption for golf courses is high, with an estimated average around 16,700 m³ per ha per year (corresponding to 0.57 million m³ per golf course per year), which can be compared to agriculture with 5,400 m³ per ha per year.

Tourism-related water consumption is still little investigated, and there are few detailed studies of water use in different geographical settings and accommodation establishments. Water use per tourist varies widely, as exemplified by low consumption rates in many city hotels compared to those in large resort hotels in the tropics, which irrigate large gardens, maintain swimming pool landscapes, and might even

4 Estimation with data from AQUASTAT-FAO. Available at <http://www.fao.org/waicent/faoinfo/agricult/agl/aglw/aquastat/dbase/index.stm>.

have golf courses. The existing literature suggests water consumption rates in a range between 100 to 2000 l per tourist per day (cf. table 4), the general rule being that more luxurious hotels use more water than smaller ones (for example Gössling 2001, Bohdanowicz and Martinac 2007), with resort style accommodation facilities using more water than simple high rise mass tourism or campsite facilities (Rico-Amoros, Olcina-Cantos and Suari 2009).

More generally, WWF (2001) reports that the average tourist in Spain consumes 440 l per day, a value that increases to 880 l per day when swimming pools and golf courses exist. Gössling (2005) suggested that on global average, an international tourist would consume water in the order of 222 l per day (for calculations see Gössling 2004). In the light of more recent data available for various hotels or regions (table 4), this estimate must however be seen as too low. The value can nevertheless be compared to the global average per capita water use (domestic), which is 160 l per day (WRI 2003).

Table 2.4 Water use per tourist per day, various tourism contexts

Country/region	Accommodation type	Water use per tourist per day	Reference
Mediterranean	Mostly hotels	250 l	Grenon & Batisse 1991, quoted in GFANC 1997
Mediterranean	Campsites	145 l	Scherb 1975, quoted in GFANC 1997
Mediterranean	All accommodation	440-880 l	WWF 2004
Benidorm, Spain	Campsites	84 l	Rico-Amoros 2009
Benidorm, Spain	1 star hotel	174 l	Rico-Amoros 2009
Benidorm, Spain	2 star hotel	194 l	Rico-Amoros 2009
Benidorm, Spain	3 star hotel	287 l	Rico-Amoros 2009
Benidorm, Spain	4 star hotel	361 l	Rico-Amoros 2009
Zanzibar, Tanzania	Guesthouses	248 l	Gössling 2001
Zanzibar, Tanzania	Hotels	931 l	Gössling 2001
Zanzibar, Tanzania	Hotels & guesthouses	685 l (weighted average)	Gössling 2001
Jamaica	Unclear	527-1,596 l (average 980 l)	Meade & del Monaco 1999, quoted in Bohdanowicz & Martinac 2007, and Antakyali et al. 2008
Thailand		913-3,423 l (per room)	CUC & AIT 1998, quoted in Bohdanowicz & Martinac 2007
Philippines	Unclear	1,499 l (per room)	Alexander & Kennedy 2002, quoted in Bohdanowicz & Martinac 2007
Hong Kong, China	Hotels	336-3,198 l (per room)	Deng 2003
Australia	Hotels	750 l (per room)	Australian Institute of Hotel Engineers 1993, quoted in Bohdanowicz and Martinac 2007
United States of America	Unclear	382-787 l (per room)	Davies & Cahill 2000, quoted in Bohdanowicz & Martinac 2007
Germany	Unclear	90-900 l (average 340 l)	Despretz 2001, quoted in Bohdanowicz & Martinac 2007 and Antakyali et al. 2008

Country/region	Accommodation type	Water use per tourist per day	Reference
Germany	Unclear	275 l	Nattrass & Altomare 1999, quoted in Bohdanowicz & Martinac 2007
Scandinavia	Hilton/Scandic chains	516 l/216 l	Bohdanowicz & Martinac 2007

Source: Compilation.

Global water consumption related to tourism

With regard to global water consumption related to tourism, Gössling (2005) sought to calculate this for international tourism based on a conservative assumption of 222 l per tourist per day. Further assuming an average length of stay of 8.1 days, he concluded that the 715 million international tourists in 2000 would have used 1.3 km³ of water. The figure excludes domestic tourism as well as indirect water consumption, for example for the construction of tourist infrastructure or the production of food. It also excludes water used for fuel and electricity generation, which may be more important in terms of overall water use than direct water use at the destination: The Worldwatch Institute (2004) reports that it takes 18 l of water to produce one l of gasoline, with for example air travel entailing average energy consumption of 4.1 l of fuel per passenger for every 100 km of flight distance (UNWTO–UNEP–WMO 2008).

At a conservative estimate, the average international air-based tourist trip over 7,600 km (return distance) may thus entail emissions in the order of 311 l of fuel, which would lead to embodied, “virtual” water use of 5,598 l. Indirect or “virtual” water use associated with an average air based trip may thus cause the equivalent of direct water use associated with a stay at the destination over a 25 day period. Even if calculated for the average trip, including same-day, domestic and international trips, each trip (transport only) will cause emissions of 101 kg CO₂, corresponding to about 25–30 l of fuel, or embodied water use of 450–540 l of water. Though direct water use at the destination is usually more problematic as there is a higher likelihood of arid or water scarce conditions, results would indicate that indirect water associated with energy production are likely to be as relevant in terms of absolute water use. Food has to be added to this, but is not considered here, because it could be argued that people will have to eat whether on holiday or not. There is some evidence; however, that food used in tourism is more protein-rich, while there might also be a larger quantity of discarded food (Gössling and others 2010). This would add to overall water requirements, particularly if food is produced in water scarce areas.

Purposes of water use

With regard to the purposes of water use, again, not much information is available. A detailed survey of hotels and guesthouses in Zanzibar, Tanzania (Gössling 2001) found that hotels used most water for continuous irrigation of their gardens (50%, or a weighted average of 465 l per day per tourist), a result of the poor storage capacity of the soils, high evaporation, and plant species not adapted to arid conditions. In guesthouses, watering gardens accounted for 15% of the total water use (37 l per tourist per day). The major proportion of water in guesthouses is spent for direct uses including taking showers, flushing the toilet, and the use of tap water (55%, 136 l per tourist per day), with a corresponding consumption of 20% or 186 l per tourist per day in hotels. The higher demand of hotel guests is a result of additional showers taken at pools, and more luxurious or better functioning bathroom facilities. Swimming pools represent another important factor of water use, accounting for about 15% of the water demand of hotels (140 l per tourist per day). Indirectly, swimming pools add to laundry, for example when additional towels are handed out to guests. Guesthouses in the study area did not have swimming pools, which can partially explain lower water use rates. Laundry accounts for about 10% (25 l per tourist per day) of the water used in guesthouses and 5% (47 l per tourist per day) in hotels. Cleaning adds 5% to the water demand in both guesthouses (12 l per tourist per day) and hotels (47 l per tourist

per day). Finally, restaurants in guesthouses account for 15% of the water used in guesthouses (37 l per tourist per day) and for 5% (47 l per tourist per day) in hotels.

In a study of Scandic and Hilton chains, Bohdanowicz and Martinac (2007) found highest water use rates in hotels with spas and multiple and large swimming pools. Water-intensive facilities also typically have landscaped grounds, requiring irrigation. Higher laundry per guest-night can be a result of in sport and health centres, as well as the textile quality and/or weight of laundry items, such as very large towels at spa facilities. Bohdanowicz and Martinac (2007) provide no absolute figures on water use or percentages by consumption category.

It is also clear that various tourist activities can add to water use. The most important activity in this regard is golf, which can greatly enhance overall water use (Rodríguez-Díaz and others 2007). For instance, Van der Meulen and Salman (1996) report that a modern 18-hole golf course in a Mediterranean sand dune system may be sprinkled with up to 0.5–1 million m³ of fresh water per year. Rodríguez-Díaz and others (2007) report golf course water consumption values of between 2,000 and 17,000 m³ per ha per year. Taken together, golf courses can thus make a considerable contribution to overall water demand (see table 2.5). Other activities, such as diving (cleaning of equipment with fresh water) can add to overall water demand, though these are likely to be negligible in comparison to the main water consumption factors.

Table 2.5 Water demand projections by sector for Majorca, 1996, 2006 and 2016 (hm³ per year)

Demand and supply	1996	2006	2016
Demand			
Households	87.60	91.96	95.60
Irrigation	150.20	150.20	150.20
Industrial	0.55	0.60	0.67
Golf	3.22	5.31	5.31
Other	1.80	2.00	2.20
Total	243.40	250.10	254.00
Total supply	226.40	220.00	223.50

Source: Kent, Newnham and Essex (2002).

Management issues

With regard to management, there is little doubt that virtually all tourist facilities could save substantial amounts of water. For instance, in the tropics, where irrigation is the major factor for water use in resort hotels, accounting for as much as 50% of overall water use, composition and structure of the gardens should be re-considered, turning to less extensive areas in need of irrigation and to more drought-resistant plants. Grey-water use can be a viable option to supplement necessary irrigation, even though caution must be exercised to ensure its use without causing environmental and health hazards (Ukayli and Husain 1988; UNEP 1988). Water saving measures will also help to solve the problem of sewage. For unavoidable sewage treatment with closed cycles of organic matter flow should be the standard (Appasamy 1993, for general guidelines see Jamieson, Kelovkar, Sunalai and Mandke 2003). Swimming-pools appear to be the second most important water consuming factor, and hotels should thus move away from “pool-landscapes”, for example large, interconnected swimming pools, with extensive evaporation areas.

Hotels should also install flow limiters on taps and showers, and fit lavatory cisterns with reduced flush options. Educational programmes for staff and informative signs on water scarcity addressing tourists can also contribute to reduced water use. Other measures should include the regular inspection of pipes

to avoid losses due to leakages (cf. Gössling 2001). This would also involve the use of meters to control water consumption, the calculation of benchmark levels, and the charging of water consumption based on actual consumption – with higher prices charged per m³ beyond certain threshold levels. With regard to indirect water consumption, destinations can seek to reduce average travel distances and increase average length of stay to reduce the share of transport-related indirect consumption related to fossil fuel production in proportion to water use in the destination. Likewise, the choice of foods offered can have great relevance for virtual (indirect) water consumption. In order to address these aspects strategically and in a systematic manner, it is suggested that water-stressed destinations work with water use inventories, detailing water uses and identifying options for savings. Simultaneously, water availability and the effects of climate change should be modelled in order to identify suitable strategies to deal with water stress in the future (for an example see Kent, Newnham and Essex 2002).

Table 2.6 Selected aspects of water management

Supply side	Demand side
Prospecting and extraction of groundwater	Improvement of water-use efficiency by recycling water
Increasing storage capacity by building reservoirs and dams	Reduction in water demand for irrigation by changing the cropping calendar, crop mix, irrigation method and area planted
Desalination of sea water	Reduction in water demand for irrigation by importing agricultural products, i.e. virtual water
Removal of invasive non-native vegetation from riparian areas	Expanded use of water markets to reallocate water to highly valued uses
Water transfer	Expanded use of economic incentives including metering and pricing to encourage water conservation

Source: Bates and others (2008).

Further technical options include water abstraction from further inland, for instance when wells closer to coastlines become saline, as well as desalination (see also table 2.6). However, desalination is expensive; it increases the dependence on imports (fuel), and is unsustainable due to the emission of greenhouse gases. Anecdotal evidence suggests that in hotels with their own power generation, desalination increases fossil fuel use by up to 25% (Manager, quoted in Gössling 2001). The discharge of brine from desalination could also lead to locally raised levels of salinity with negative effects for corals (Kühlmann 1988). Desalination can involve energy use between 3–12.5 kWh of electricity (corresponding to estimated emissions of 1–10 kg CO₂, depending on how energy is produced) per m³ of water, with lower values referring to state-of-the-art plants (Gude and others 2010, Sadhwani and Veza 2008). Note that some forms of desalination, such as distillation, can involve energy use of 25–200 kWh of electricity per m³ (Clarke and King 2004). Gude and others (2010) argue that using renewable energy sources for desalination may not always be economical, particularly not when involving small-scale installations, but that combined grid-renewable energy plants can produce freshwater with lower emissions and at competitive costs (see table 2.7, cf. also Gude and others 2010).

Table 2.7 Desalination costs for different desalination processes based on capacities

Desalination process	Capacity (m ³ /day)	Energy source	Energy cost (US\$/kWh)	Desalinated water cost (US\$/m ³)
Domestic applications				
Solar still	0.006	Solar		12.53
Solar still	0.009	Solar		10
Solar still	0.8	Solar		12.5
Solar still	1	Solar		12
MESS	1	Solar		50
PV-RO	1	Solar		12.05
PV-RO	1	Solar		3.73
MD	0.1	Solar		15
MD	0.5	Solar		18
MD	1	Geothermal		130
MSF	1	Solar		2.84
Solar Still	5	Solar		0.52-2.99
ED	5	Electric		5
RO	10	Electric		4
MED	<100	Conventional		2.5-10
MVC	375	Conventional		2.9-3.8
Small-scale applications				
Reverse osmosis	250	Diesel generators	0.07	3.21
Reverse osmosis	300	Diesel generators	0.06	1.82
Reverse osmosis	350	Diesel generators	0.06	1.36
Reverse osmosis	500	Diesel generators	0.07	2.94
Reverse osmosis	500	Diesel generators	0.06	1.42
Reverse osmosis	500	Diesel generators	0.06	1.25
Reverse osmosis	500	Diesel generators	0.06	2.57
Reverse osmosis	600	Diesel generators	0.06	2.95
MVC	1000	Conventional		1.51
MVC	1000-1200	Wind		2-2.6
MVC	1200	Conventional		3.22
Vapor Compression	3000	Conventional		0.7
MFD	10.000	Conventional		0.88
MED	12.000-55.000	Conventional		0.95-1.95
MSF	20.000	Natural gas		2.02

Desalination process	Capacity (m ³ /day)	Energy source	Energy cost (US\$/kWh)	Desalinated water cost (US\$/m ³)
Large-scale applications				
Dual-purpose MSF	20.000	Natural gas/steam	0.0001	0.08
Reverse osmosis	2000	Diesel generator	0.06	2.23
Reverse osmosis	5000	Diesel generators	0.06	1.54
Reverse osmosis	10.000	Diesel generators	0.05	1.18
Reverse osmosis	20.000	Diesel generators	0.05	1.04
Reverse osmosis	50.000	Diesel generators		0.86
Reverse osmosis	95.000	Conventional		0.83
Reverse osmosis	100.000	Conventional		0.43
Reverse osmosis	100-320 x 103	Conventional		0.45-0.66
MED	91-320 x 103	Conventional		0.52-1.01
MSF	23-528 x 103	Conventional		0.52-1.75

Source: Gude and others (2010).

Scenarios for water consumption and tourism

By 2020, tourism-related water use is likely to increase with international tourist numbers and higher average hotel standards (see for example UNWTO–UNEP–WMO 2008). The World Tourism Organization (2004) maintains projections of its *Tourism 2020 Vision* (UNWTO 2001) which forecasts over 1.56 billion international arrivals by the year 2020. Adding on the water demands of a growing number of tourists will be increasing water use for emerging recreational activities such as golf. For instance, Rodriguez–Díaz and others (2007) report that the number of golf courses in Spain increased by 83% between 1997 and 2005 to a total of 289 golf courses, which again are anticipated to double within a decade.

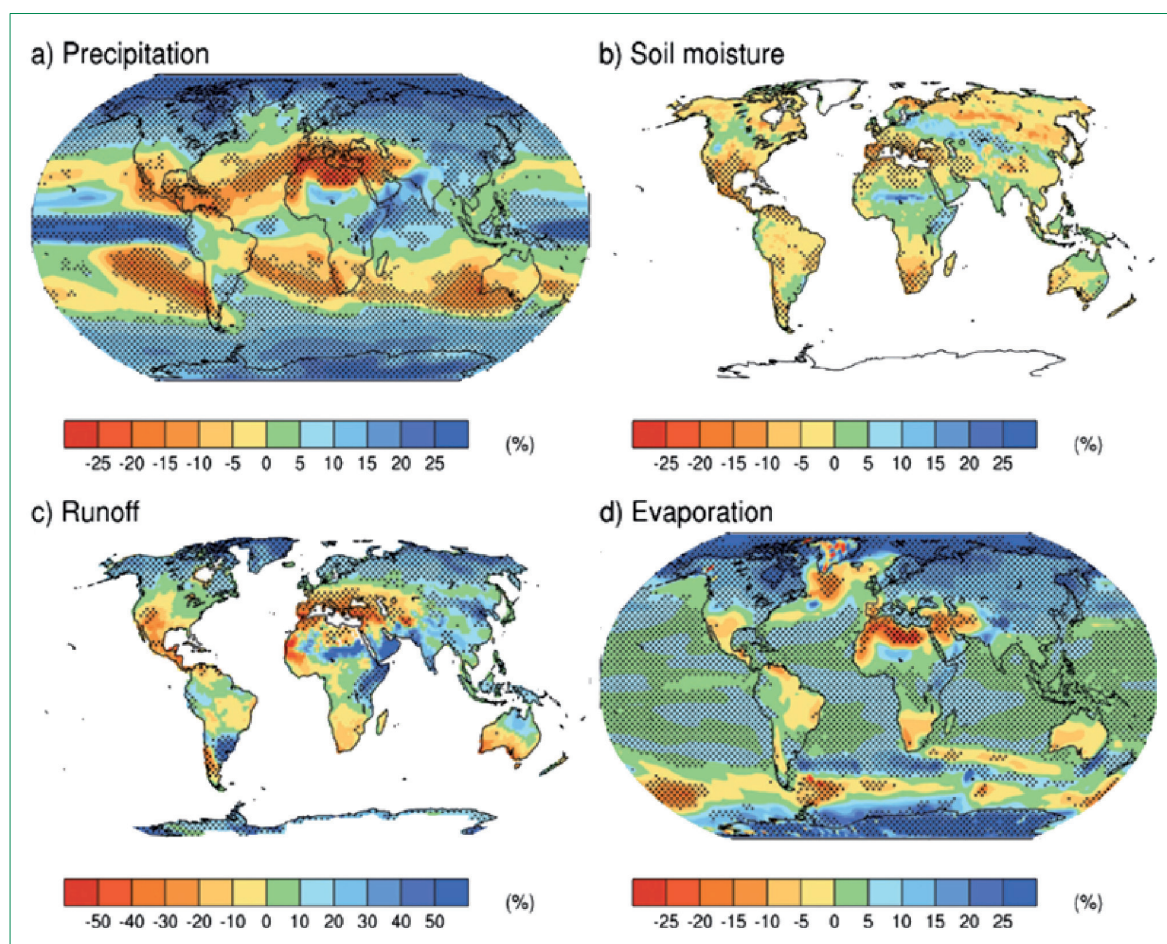
In contrast, water resources will decrease in many countries; both as a result of the overuse of renewable water supplies and climate change leading to altered precipitation patterns. Population growth and modernization processes, on the other hand, are likely to increase per capita water use. Bates and others (2008) summarize expected changes in a special report on climate change and water. Of particular relevance for tourism are the following issues:

- Changes in large-scale hydrological cycles. Observed changes include regionally changing precipitation patterns, changes in precipitation intensity and extremes, reduced snow cover and widespread melting of ice, as well as changes in soil moisture and runoff.
- Climate model simulations project precipitation increases in the high latitudes and parts of the tropics, and decreases in sub-tropical and lower mid-latitude regions.
- Annual average river runoff and water availability will increase in high latitudes and some wet tropical areas, and decrease over dry regions at mid-latitudes and in the dry tropics.
- Increased precipitation intensity and variability are projected to increase the risk of flooding and drought in many areas.
- Water supplies stored in glaciers and snow-cover are projected to decline in the course of the century.
- Higher water temperatures and changes in extremes, including floods and droughts, are projected to affect water quality and exacerbate many forms of pollution.

- Changes in water quantity and quality are expected to affect food availability, stability, access and utilisation.
- Climate change affects the function and operation of existing water infrastructure – including hydropower, structural flood defences, and drainage and irrigation systems – as well as water management practices. Current water management practices may not be robust enough to cope with the impacts of climate change.

Furthermore, it seems clear that tourism will be affected directly and indirectly by climate change. This includes increasing water scarcity in some areas; declining water quality; more intense precipitation events; the loss of water-related tourism assets including glaciers and snow; increased run-off and potentially foregone opportunities for river and lake-based tourism, for instance when lakes dry up; declining food availability; and impacts on infrastructure. Figure 2.2 shows long-term developments for various parameters, including precipitation, soil moisture, runoff and evaporation, based on the mean changes projected by 15 models. The figures show that precipitation will decline considerably in many areas, many of which are already water scarce or water-sensitive, such as the Caribbean basin. Precipitation will, however, also increase in other areas such as the northern parts of the Western Indian Ocean. Many islands in this area are dependent on stable weather conditions for their sun-sand-sea products.

Figure 2.2 Fifteen-model mean changes in (a) precipitation (%), (b) soil moisture content (%), (c) runoff (%), and (d) evaporation (%)*



*) To indicate consistency of sign of change, regions are stippled where at least 80% of models agree on the sign of the mean change. Changes are annual means for the scenario SRES A1B for the period 2080–2099 relative to 1980–1999. Soil moisture and runoff changes are shown at land points with valid data from at least ten models.

Overall, decreasing water resources will most certainly affect tourism in many areas, particularly in small developing islands, and already water scarce areas. It seems difficult to outline the areas in greatest danger, but this would generally include coastlines, small – often coralline – islands, and arid and/or semi-arid zones. Areas that have already been identified in the literature as vulnerable include the Mediterranean (WWF 2004) and Majorca (Essex and others 2004). Furthermore, Clarke and King (2004) identify a range of countries that will be chronically short of water by 2050, including the Netherlands, Germany, Tunisia, Malta, Morocco, South Africa, Cyprus, Maldives, Singapore, Antigua and Barbuda, St. Kitts and Nevis, Dominica, and Barbados. For these countries, it will be increasingly difficult to provide fresh water for tourism, even though adaptive capacity will be greater in wealthy industrialized countries. Many other small islands and regions (for example Baja California Sur, Bermudez-Contreras, Thomson and Infield 2008; Almería province, Spain, Downward and Taylor 2007) not included in the list above have already over-used water capacity or are in jeopardy of overusing their water capacity. Particularly small tropical islands might face comparably high costs in adapting to water scarcity, as they compete more directly with other sectors of the national economy for generally scarcer water resources. Impacts will ultimately depend on several factors, including the relative scarcity of fresh water in tourism areas, also with regard to seasonal aspects; competition with other economic sectors such as agriculture (for example Downward and Taylor 2007); the structure of the tourist industry (for example, small guesthouses vs. large resort hotels, i.e. low or high water use per guest night), and options to adapt to these changes, for example through technological change including water saving measures, desalination and grey water use.

2.1.3 Waste Management and Water Quality

Waste

Waste management is another increasing and well recognized challenge in the industry. Every international tourist in Europe generates at least 1 kg of solid waste per day, and up to 2 kg/person/day for the United States (UNEP 2003). By comparison, CalRecovery and UNEP (2005) report total country waste generation, including industrial and other sources, for Austria (1.18 kg/person/day), Mexico (0.68 kg/person/day), India (0.4 kg/person/day) and United States (2.3 kg/person/day). Based on various sources, UNEP (2003) estimates that in 2001 the world's 692.5 million international tourists are likely to have generated no less than 4.8 million t of solid waste, 58% of this total in Europe alone; in Germany, domestic tourism accounts for around 7.5 times the volume of inbound international tourism, while in Brazil the ratio is estimated at 10; if a conservative ratio of 6 is assumed globally, the global figure for solid waste generated by domestic and international tourism should be close to 35 million t per year.

Water quality

Tourism can also directly affect water quality, for instance through the discharge of untreated sewage or freshwater abstraction and challenges are also great on wastewater management, even in mature, wealthy-country destinations. In the Mediterranean, for instance, it appears to still be a common practice to discharge sewage from hotels directly into the sea (WWF 2004), with 60% of the water used in tourism resulting in sewage in need of disposal (GFANC 1997). Smith (1997, cited in Kent, Newnham and Essex 2002) reported that in the European Mediterranean, only 30% of municipal wastewater from coastal towns received any treatment before discharge. Anecdotal evidence suggests that this is also practice in many other countries outside the European Union.

Tourism-related nutrient loads reaching near shore waters are a combination of different organic and inorganic particles, also including chlorinated swimming pool water, and chemicals used to dissolve fats and oils (Kuss and others 1990). Depending on ocean conditions, currents, and according to their concentrations, these nutrients impart an effect on ecosystems, often adding to other impacts. Nutrient discharges in coastal waters in the tropics are also critical because these waters are typically oligotrophic, and nutrient concentrations in groundwater can be considerably high compared to those of the receiving seawater (D'Elia and Wiebe 1990; Johnstone and Suleiman 1999). Positive changes in

nutrient content trigger increased primary production and growth of opportunistic macroalgae, and they have a range of consequences for the structure and function of shallow coastal ecosystems (for example Englebert, McDermott and Kleinheinz 2008, Hughes 1994, Hunte and Wittenberg 1992, Tomascik and Sander 1986).

Groundwater has also been recognized as an important source for nutrient influx to coastal marine ecosystems, especially if it is subject to human activities like the construction of buildings with poor treatment facilities (cf. Gössling 2001). Dillon (1997) points out that in limestone and sand deposits, solution features and flow paths may occur, which can result in extremely rapid transport of contaminants over very long distances. On the east coast of Zanzibar, it is likely that poor treatment of sewage (deposition in former wells or caves, non-concreted septic tanks, and so on) has increased the nutrient content of the groundwater. An unpublished study conducted by Johnstone (1998, quoted in Gössling 2001) indicated greatly elevated nutrient levels in coastal aquifers adjacent to a number of villages and hotel complexes, which indicates a potential for chronic anthropogenic nutrient inputs to coastal water bodies.

Tourism also affects water quality indirectly. For instance, the over-use of water can lead to saltwater intrusion, land subsidence, and deteriorating groundwater quality (Dirks and others 1989; Ukayli and Husain 1988). In Zanzibar, such impacts have already been observed in the northern islands, where water has become saline – possibly a sign of saltwater intrusion (Gössling 2001). Impacts such as these, will be exacerbated in many coastal areas under climate change scenarios, as sea-level rise could force saltwater intrusion in the future, adding to the local effects of over-use (Kent, Newnham and Essex 2002).

2.1.4 Loss of Biological Diversity

There are many examples where large-scale tourism has had detrimental effects on biodiversity, including coral reefs, coastal wetlands, rainforests, arid and semi-arid ecosystems, mountainous areas (UNWTO 2010d). Coral ecosystems have suffered strong negative impacts from the use of coral for construction materials for hotels, over-fishing of reefs to feed tourists, sewage dumping and sedimentation from improperly managed runoff from buildings, parking lots, and golf courses. They may also be damaged at heavily used scuba diving sites. Coastal wetlands, particularly mangroves, have routinely been damaged or destroyed to build beach resorts. In arid and semi-arid ecosystems, golf courses and other water-intensive activities have lowered water tables affecting local fauna and flora.

Biodiversity will be greatly affected by the way in which tourism grows and develops, especially in developing countries (UNEP 2010). Failure to incorporate biodiversity concerns in destination planning and investment will have detrimental effects on the natural environment, increase conflict with local communities, and lead to reduced value creation potential for both the destination and investors. UNWTO and the Convention on Biological Diversity (CBD) have developed the CBD Guidelines on Biodiversity and Tourism Development and other tools to advance sustainable tourism development with sustainable use of biodiversity.

2.1.5 Specific Challenges for Biodiversity

According to the 2010 UNWTO report on Tourism and Biodiversity – Achieving Common Goals Towards Sustainability, specific challenges for biodiversity are:

Land conversion for tourism

As tourism continues to expand, more land is converted to tourism uses – for example to provide more accommodation and tourism facilities, such as golf courses or other facilities – and existing tourism areas are used more intensively. The average rate of expansion of international tourism is 3–4% per year

globally, although in many developing countries the rate of expansion is at least twice this. Domestic tourism is likely to be expanding at similar, or possibly, faster rates. Conversion of land to tourism uses results in loss of the biodiversity that it otherwise supports and may also affect biodiversity in surrounding areas, for example a development may prevent free movement of animals thus fragmenting animal populations into smaller groups. Out of nearly 48,000 species of plants and animals included on the IUCN Red List of Threatened Species, 1,761 are reported to be threatened by tourism developments. In addition, much of the world's tourism is concentrated in areas that contain a high proportion of sensitive ecosystems, particularly coastal or mountain regions. These have already been extensively developed for tourism in Europe and North America, and tourism infrastructure is expanding rapidly in many other regions, such as the Riviera Maya in Mexico, Punta Cana in the Dominican Republic, along Turkey's coastline, and in many parts of south-east Asia and China.

Climate change

Tourism contributes to human-induced climate change and to the effects that climate change is having on the distribution of biodiversity as a consequence of changes in rainfall patterns, water availability, temperature and related factors. The tourism sector accounts for around 5% of global carbon dioxide emissions into the atmosphere. There is also a risk that adaptation of the tourism sector to the effects of climate change could increase pressures on biodiversity as patterns of tourism change – including expansion into new areas. At the same time, targeted management of biodiversity, such as protection or restoration of coral reefs, coastal ecosystems, wetlands and montane forests, can also assist adaptation and resilience of existing tourism to climate change.

Overexploitation of natural resources for food, materials, freshwater and recreation

When resources are used at rates faster than they can be replenished by natural cycles of reproduction or replenishment, they are overexploited. One example of this is global fish stocks, where most of the world's major fisheries have been damaged by overfishing. The tourism sector has a high demand for natural resources, including for foods (particularly seafood) and materials that are perceived as luxury or prestige items; for large amounts of freshwater in hotels, sports grounds and landscaped areas; and for access to natural areas for recreation.

Introduction of invasive alien species

Invasive alien species act as vigorous weeds and pests when introduced into areas outside of their natural range. The resulting damage can clog waterways, destroy local ecosystems and damage economically important resources. For example, predation of corals by the invasive crown of thorns starfish (*Acanthaster planci*) can cause severe damage to reefs, adversely affecting their attraction for tourism, as well as the productivity of the fisheries they support and the other environmental services they provide. The tourism sector itself could also be a source of introduction of invasive species, for instance, through the use of certain attractive but invasive species, such as water hyacinth, in gardens and landscaped areas. The Conference of the Parties (COP8) to the CBD has noted the issue of tourism as a pathway for introduction and spread of invasive alien species, and has called on the UNWTO and other agencies to raise awareness, and to develop codes of practice and other measures to address this in relation to the tourism sector.

Pollution

Pollution from wastewater, including sewage effluents, and solid wastes produced by tourism, and by use of fertilisers and pesticides on tourism facilities, such as sports grounds and landscape areas, can have adverse impacts on biodiversity. In many parts of the world, treatment of wastewater is minimal,

and its disposal leads to eutrophication, a process in which nutrient enrichment stimulates the rapid growth of some organisms and disrupts healthy functioning of ecosystems. Aquatic environments are very sensitive to eutrophication, and in particular, corals are adversely affected by slight increases in concentrations of nitrogen and phosphorus in the surrounding water. Solid waste management is also poor in many tourism destinations, and wastes enter the wider environment where they damage wildlife. Use of fertilisers on sports grounds and landscaped areas can also adversely affect water quality in water catchments, and along with pesticides can damage natural vegetation and wildlife.

Disturbance of wildlife

Many animal and plant species are sensitive to disturbance by human activities. For example, vegetation in mountains or coastal dune systems is damaged by trampling and can be destroyed entirely in heavily visited sites, opening them up to risk of erosion. Animals can be affected by disturbance from tourism in many ways. For example, cheetahs are less successful in hunting when there are large numbers of tourists and tourist vehicles around; turtle breeding is affected by lights in hotels situated alongside turtle nesting beaches, which can disorientate hatchlings and prevent them from finding their way to the sea; and corals are subject to accidental damage by scuba divers. Disturbance also reduces the breeding success of most species, although some, such as those species common in urban environments, are less sensitive to disturbance than other species.

Addressing the challenges for biodiversity

The following are seen as way to address some of these issues:

- Reduction of carbon emissions remains a priority in the tourism sector, both by using energy more efficiently and by increasing the use of renewable sources of energy, for example as promoted by the Hotel Energy Solutions project. Alongside this, there is also scope for use of voluntary biodiversity friendly carbon offset mechanisms with accredited verification procedures for carbon emissions reductions achieved through these mechanisms.
- Planning and development control are critically important for preventing overexploitation of natural resources. In addition, simple operational measures are available to help existing tourism businesses to reduce the pressures they place on natural resources.
- The negative impacts of tourism can be reduced by various simple measures, including planning controls to protect key biodiversity sites and sensitive areas from tourism development, use of environmental management practices to reduce waste levels and to properly treat and dispose of remaining wastes, implementation of sustainable purchasing schemes to only purchase supplies from sustainable sources, and management of tour groups to minimize disturbance of wildlife.

2.1.6 Management of Built and Cultural Heritage

Interest in unique cultures by tourists can result in negative impacts and severe disruptions for communities. There are examples of communities overrun by large numbers of visitors, commercialization of traditions, and threats to cultural survival from unplanned and unmanaged tourism. Tourism destinations are occasionally built by outsiders (usually with government approval) in areas that indigenous or traditional communities consider to be theirs, and where the development was neither desired nor locally validated. These situations lead to conflicts that make cooperation and mutual benefits nearly impossible to achieve, and instil animosities that negatively affect the local communities and the tourism destination. Frequently, the cultural issues overlap and are aggravated by environmental issues such as access to water, coastal resources, and wildlife. Over the last two decades, with the growth in ecotourism and alternative travel, tourism impacts on vulnerable cultures has begun to be taken seriously by the tourism industry, governments, non-governmental organizations, and the cultural groups involved.

Tourism and cultural vulnerability is an issue for many indigenous cultures around the world, and also for cohesive communities based on cultural influences such as ethnic background and artisanal traditions. Remote and rural communities in both developed and developing countries will often have unique cultural attributes that may be at risk of disappearing but which are of interest to tourists. Economic development is often assumed to be the underlying reason why indigenous and other vulnerable cultures seek tourism. Although such groups may indeed need and appreciate improved economic benefits for their communities, they are in many cases motivated by a desire to protect their culture and land. Cultural survival often depends on protection of the land base on which traditional practices such as agriculture and hunting rely.

Management of cultural heritage also includes built heritage which provides sense of place and cultural reference points. Most built heritage attractions were not originally intended for tourist use must be managed to protect them from over-use, misuse and wear and tear from visitor footfall. More broadly, heritage buildings can be at risk from climate change. Aside from physical threats (e.g. flood damage, subsidence) climate change will impact on social and cultural aspects, with communities changing the way they live, work, worship and socialize in buildings, sites and landscapes, possibly migrating and abandoning their built heritage (UNESCO 2007).

The following are seen as ways to address some of these issues:

- **Local initiative and involvement:** The desire for tourism needs to be driven by the cultural group and supported by the community. Often a respected Elder or someone with connections outside the community may be a key initiator. Support by the women in a cultural group is often critical to ensuring the success of a tourism project and its operation.
- **Building capacity – information and training:** Governments, NGOs, and the private sector can help by advising on the type of tourism that may be suitable to the interests and abilities of community members and helping to build the capacity to manage tourism. In turn, these organizations need to learn about and understand the aspirations of the vulnerable culture.
- **Public and private sector investment:** Few vulnerable cultures will have ready access to capital to invest in tourism. They can often contribute investment in kind by providing labour and natural materials for construction for example. Both public and private sector investment have helped launch tourism projects with vulnerable communities, often with an agreement on shared responsibilities.
- **Partnerships:** Connections need to be made with the tourism industry, either directly or via intermediaries such as tourism authorities, governments, NGOs, academic institutions and others. A long-standing relationship that builds trust is invaluable for continued tourism development and success. Of note is the Global Partnership for Sustainable Tourism as a tourism stakeholder engagement forum to support sustainable tourism development which can provide opportunities to establish and build relationships of trust.
- **Develop climate change mitigation and adaptation plans:** Such initiatives should be conducted in close collaboration with relevant bodies already involved in climate change and/or heritage and conservation issues, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Intergovernmental Panel on Climate Change (IPCC), the Convention on Biological Diversity (CBD), the UNESCO Man and the Biosphere programme, the Ramsar Convention on Wetlands and the UNESCO conventions dealing with cultural heritage (UNESCO 2007).

2.2 Opportunities

The recent economic crisis situation could potentially be utilized as an opportunity to introduce green investment in the economies. As governments devise a new international and national financial architecture to prevent future crises and find ways to jump start their economies, it is important to consider whether the post recession economies should still promote 'brown' economies with traditional

dependence on low energy efficiency, non sustainable energy resources, high material use, unsustainable use of ecological resources and a high degree of climate risk.

There is opportunity in the following trends and developments to provide a particularly promising space for greening tourism: (1) sizing and growth of the sector; (2) changing consumer patterns; and (3) potential for addressing local development and poverty reduction.

2.2.1 Sizing and Growth of Sector

The tourism economy represents 5% of world GDP, while it contributes to about 8% of total employment, see table 8. International tourism ranks fourth (after fuels, chemicals and automotive products) in global exports, with an industry value of US\$ 1 trillion a year, accounting for 30% of the world's exports of commercial services or 7.9% of total exports (UNWTO 2010a; World Bank 2010). Domestic tourism represents on average 62% of total tourism consumption worldwide (UNWTO 2010c). With growing developing country participation, tourism has become a major contributor to their growth. In over 150 countries, tourism is one of five top export earners, and in 60 it is the number one export. It is the main source of foreign exchange for one third of developing countries and one half of LDCs (UNCTAD 2010).

Table 2.8 Economic relevance of tourism in a country sample

Country	Domestic tourism consumption/ total tourism consumption (%)*	Tourism gross domestic product/ GDP (%)*	Jobs in tourism industries/total jobs (%)*	Tourism investment /total investment (%)**
Australia	73.9	4.1	4.8	12.5
Chile	75.0	3.1	2.6	7.5
China	90.8	4.2	2.3	8.5
Czech Republic	45.3	3.0	3.3	11.0
Ecuador	69.4	4.1	1.8	12.4
Honduras	54.5	5.7	5.3	8.4
Israel	61.0	1.8	2.6	7.6
Japan	93.5	1.9	2.8	5.8
Kazakhstan	65.6	1.9	17.8	10.1
Latvia	51.4	1.9	9.0	7.4
Lithuania	56.4	2.6	2.6	9.8
The Netherlands	80.8	3.0	4.3	7.3
New Zealand	56.2	12.0	9.7	15.0
Peru	74.4	3.3	3.1	9.9
Philippines	80.7	6.9	9.7	11.3
Poland	41.0	2.0	4.8	7.1
Romania	47.7	2.2	8.3	7.3
Saudi Arabia	61.5	5.0	3.9	3.9
Slovakia	44.1	2.9	7.3	11.4

Country	Domestic tourism consumption/ total tourism consumption (%)*	Tourism gross domestic product/ GDP (%)*	Jobs in tourism industries/total jobs (%)*	Tourism investment /total investment (%)**
Slovenia	43.0	4.9	11.5	12.0
Spain	42.3	10.9	11.8	13.8

* Estimated with TSA country data for latest year available (mainly 2007).
 ** 2009 values.

Source: Calculations with data from UNWTO (2010c) and WTTC (2010).

Tourist arrivals have shown continuous yearly growth over the last six decades, with an average 4% annual increase during the last two decades. This trend has held in spite of occasional short drops from international crises, such as pandemics, recessions, and terrorism. The tourist industry has been sensitive but resilient to economic, political and social global phenomena.

There are around 4 billion estimated domestic arrivals every year (UNWTO and UNEP 2008) while 940 million international tourists were recorded in 2010 (UNWTO 2011c). Boosted by improved economic conditions worldwide, international tourism has recovered faster than expected from the impacts of the global financial crisis and economic recession of late 2008 and 2009. International tourist arrivals were up by 6.7% in 2010 compared to 2009, with positive growth reported in all world regions. While all regions posted growth in international tourist arrivals, emerging economies remain the main drivers of this recovery. This multi-speed recovery, lower in advanced economies (+5%), faster in emerging ones (+8%), is a reflection of the broader global economic situation and is set to dominate 2011 and the foreseeable future (UNWTO 2011a).

The number of tourist trips is expected to continue to grow for the decade following 2010 with the number of international tourist arrivals is expected to reach 1.6 billion by 2020 (UNWTO 2001).

The economic significance of tourism is highly variable across countries, however. While it represents only 1.9% and 3.3% of GDP in Japan and Peru respectively, it represents 7.7% and 11% of GDP in South Africa and Spain respectively (UNWTO 2010c, WTTC 2010). Regarding employment, the tourism industry contributes with 2.8%, 3.1%, 6.9%, and 7.4% of total employment for the same countries (UNWTO 2010c, WTTC 2010). In terms of investments, it accounts for 5.8%, 9.9%, 13%, and 13.8% of total investments respectively (WTTC 2010, WTTC 2010). See figures 3 and 4 below for detail.

Figure 2.3 World international tourist arrivals (million)

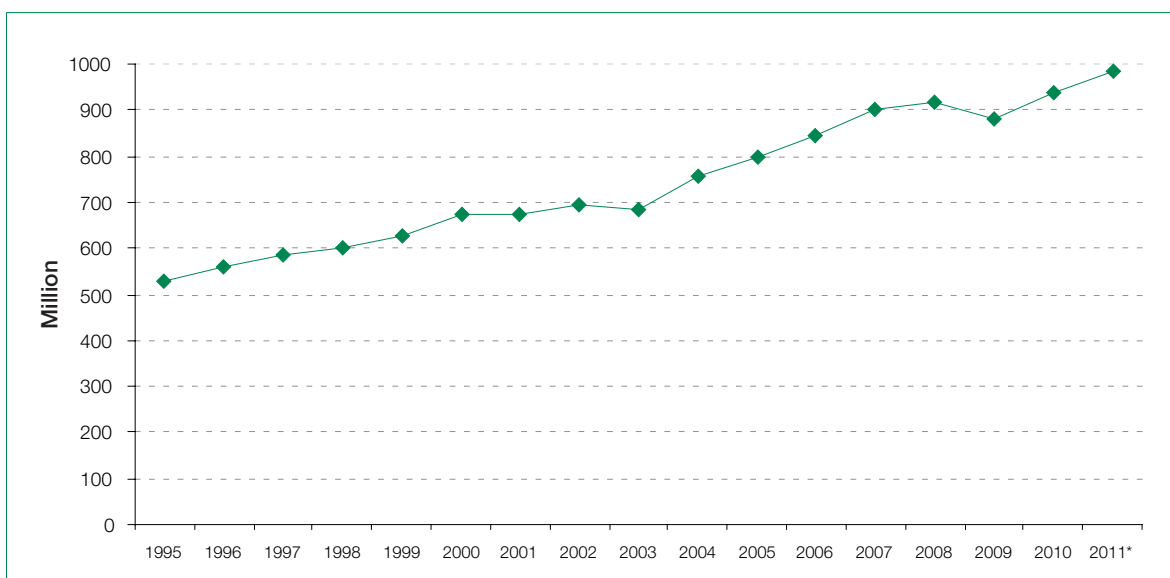
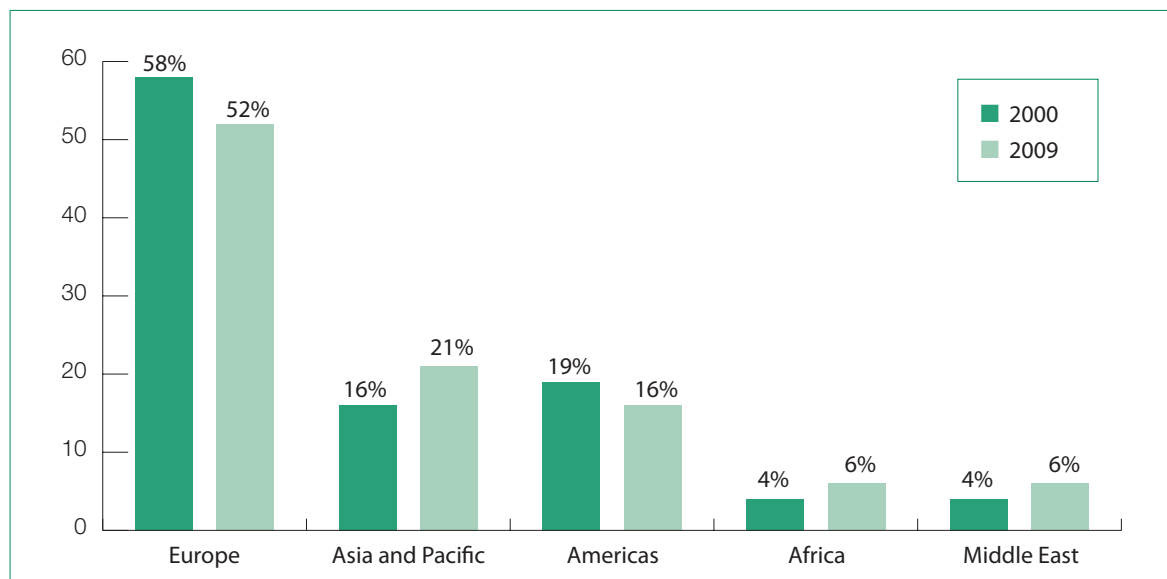


Figure 3.4 Share of international tourist arrivals by region

Source: UNWTO (2010b) and UNWTO (2008).

Proportionately, tourism will grow faster in less developed countries than in developed economies in the next ten years. Destinations in emerging economies receive 47% of worldwide international tourist arrivals and US\$ 306 billion in international tourism receipts (36% of the global total). Regions most affected by the economic crisis in 2009 were Europe, the Americas and the Middle East. Developing economies weathered the economic downturn during 2009 relatively better. For instance, Africa resisted the global trend with a 5% growth of tourist arrivals. Moreover, growth in the decade since 2000 has been most marked in emerging economies (58.8%). Market share has also grown more significantly in emerging economies (from 38.1% in 2000 to 46.9% in 2009). Recent trends and forecasts point to a spreading of tourism to new destinations, largely in developing countries, where there is outstanding potential to support development goals, and where new environmental and cultural attributes can make an important contribution to more sustainable tourism destinations.

2.2.2 Changing Consumer Patterns

Tourist choices are increasingly influenced by sustainability considerations. For instance, in 2007 TripAdvisor surveyed travellers worldwide and 38% said that environmentally friendly tourism is a consideration when travelling, 38% had stayed at an environmentally-friendly hotel and 9% specifically seek out such hotels, while 34% are willing to pay more to stay in environmentally friendly hotels (Pollock 2007). CEDS and TIES (2005) found that a majority of international tourists are interested in the social, cultural and environmental issues relevant to the destinations they visit and are interested in patronizing hotels that are committed to protecting the local environment, and increasingly view local environmental and social stewardship as a responsibility of the businesses they support. Choice experiments conducted in Uganda conclude that biodiversity attributes increase the willingness to visit tourism attractions, independently of other factors (Naidoo and Adamowickz 2005). Research also indicates that consumers are concerned about the local environments of their travel destinations and are willing to spend more on their holidays if they are assured that workers in the sector are guaranteed ethical labour conditions in the places they are visiting (ILO 2010b). On the other hand, Rheem (2009) argues that under a third of United States of America travellers indicate a willingness to pay some sort of premium for “green” travel with cost premium the most commonly identified barrier (67%).

Traditional mass tourism, like sun-and-sand resorts, has reached a steady growth stage. In contrast, ecotourism, nature, heritage, cultural, and soft adventure tourism, as well as sub-sectors such as rural and community tourism are taking the lead in tourism markets and predicted to grow most rapidly over

the next two decades. It is estimated that global spending on ecotourism is increasing at a higher rate than the industry-wide average growth. Nature-based tourism is an important economic component of the entire tourism market, including 75% of Australia's international tourism, US\$ 122.3 billion in the United States of America in 2006, and 42% of European recreational tourists in 2000 (UNWTO 2010d). About 14% of international visitors to South Africa in 1997 have engaged in an "adventure activity" during their stay (Travel to South Africa). Out of 826,000 tourists to Kenya in 1993, 23% visited national parks and reserves for wildlife safari tourism (Sindiga 1995). Asia/Pacific region alone reported 10% of tourism revenue to come from ecotourism activities in 1993 (Dalem 2002).

There is empirical evidence that tourists seeking environmental and culturally differentiated destinations are willing to pay more for this experience. Inman and others (2002) estimate this to be between 25% and 40%. WEF (2009) estimates that 6% of the total number of international tourists pays extra for sustainable tourism options and 34% would be willing to pay extra for them. One third to one half of international tourists (weighted toward United States of America) surveyed in a CESD and TIES (2005) study said they were willing to pay more to companies that benefit local communities and conservation. Research by SNV (2009) records two studies where 52% of respondents in a United Kingdom survey would be more likely to book a holiday with a company that had a written code to guarantee good working conditions, protect the environment, and support local charities, while some 58.5 million United States of America travellers would "pay more" to use travel companies that strive to protect and preserve the environment. Two separate studies in the Annapurna Conservation Area in Nepal and in the Eduardo Avaroa Reserve in Bolivia found that tourists from European, North American, and other developed countries were willing to pay higher entrance fees than currently charged because of their desire to protect the environment (Baral, Stern, and Bhattarai 2008 and Ellingson and Seidl 2007).

Wells (1997) presents a survey of nature tourism "willingness to pay" (WTP) studies and shows that, in almost all cases, consumer surplus (private value of benefits from nature tourism) is higher than collected fees from tourists. In other words, the value of ecosystems for tourism is undervalued in many cases. For instance, Adamson (2001) estimates that 50% or more of the economic value from Manuel Antonio National Park in Costa Rica is not captured in entrance fees. WTP for entrance fees from international tourists was estimated at US\$ 12 (compared to a US\$ 6 actual entrance fee) and US\$ 6 for national tourists (compared to actual US\$ 2 fee). Furthermore, it is estimated that the average value of coral reef opportunities for recreation and tourism is US\$ 68,500 per hectare per year in 2007 values, while it could reach up to more than US\$ 1 million (TEEB 2010). The maximum monetary value of ecosystem services for tourism, in US\$ per hectare per year, is estimated for coastal systems (US\$ 41,416), coastal wetlands (US\$ 2,904), inland wetlands (US\$ 3,700), rivers and lakes (US\$ 2,733), and tropical forests (US\$ 1,426).

2.2.3 Potential for Poverty Reduction and Social and Local Development

Poverty reduction

Tourism's ability to create jobs, stimulate economic growth, provide foreign exchange, improve infrastructure, and promote environmental conservation makes it an attractive vehicle for poverty alleviation and local development. Through its poverty reducing potential and ability to protect and strengthen environmental assets, the tourism sector has the potential to make a substantial contribution to the achievement of the United Nations' Millennium Development Goals (UNWTO 2007a).

Tourism to poor countries is also growing faster now than it ever has before. Between 1990 and 2005, tourist arrivals to developing countries more than doubled to 326 million (UNWTO, 2006). Of the 924 million international travellers in 2008, 75% originated their holiday in the developed world, and 40% included a developing country in their itinerary.

Making tourism more sustainable can create stronger linkages with the local economy, increasing local development potential. Of particular and recognized importance (Hall and Coles 2008) are economic links with local communities, including purchasing directly from local businesses, recruiting and training local unskilled and semi-skilled staff, entering into neighbourhood partnerships to make the

local social environment a better place to live, work and visit for all; as well as the ability to improve the local natural environment within its areas of direct and indirect influence (Ashley and others 2006).

The links between tourism and poverty alleviation are particularly relevant to Sub Saharan Africa, the poorest region in the world. The poverty rate in Sub Saharan Africa is just under 50% of the population, or 300 million people (with the threshold for extreme poverty is now US\$ 1.25 a day) (UN 2008). The following examples illustrate the relationship between tourism and poverty alleviation in the Sub Saharan context:

- Cape Verde has transformed its economy from one of the world's least developed countries to one of the top five best-managed economies in Africa. Tourism has been identified as a key driver of growth and poverty alleviation. Tourist arrivals have increased from 67,000 in 2000 to almost 285,000 in 2008 (Twining-Ward 2010). Despite its reliance on international hotels and imported food, most hotel employees are local and paid comparatively high average wages: € 289/month. The total non-management hotel worker income in Cape Verde is therefore about € 29.5 million – a significant and growing direct and indirect economic effect, as the money trickles down through the economy (Mitchell 2009).
- Rwanda, one of the poorest countries in the world, has also seen how tourism can be an agent of change. In 2008, gross domestic product per capita was US\$ 464 in 2008 (IFAD 2010). Due to its large population of mountain gorillas, however, tourism is now contributing to improved incomes in Rwanda. In 2008, about 17,000 people visited the Volcanoes National Park (VNP) to see the gorillas, a large increase from the late 1980s and an impressive recovery from only 417 tourists in 1999 after the reopening of the park. In a gorilla naming ceremony called “Kwita Izina”, mountain gorilla babies born in the previous 12 months are named. The ceremony has been held each year since its launch in 2005 and attracts international celebrities and conservationists. Rwanda's poor are beginning to feel the benefits of the increase in tourism. 5% of the park revenues are channelled into community projects such as education, water and sanitation, and food security in villages around the park. Employment opportunities are also offered to community members for guides, trackers, and anti-poachers. According to a recent World Bank study, nearly US\$ 428,248 has been directly invested in community projects and used to empower communities. Key social benefits include the building of ten schools, 32 water tanks, ten community associations, and 3,000 households receiving bed night fees (Nielsen and Spenceley 2010).
- Kenya is home to over 359 different species of animals and 500 species of birds. Indigenous tribal groups also attract tourists from all over the world. Kenya also has a high level of urban and rural poverty. 50% of the population earn less than US\$ 1.25 per day. Kenya's tourism sector generated over KSh 56.2 billion (approximately US\$ 760 million) in tourism receipts, and created over 498,000 formal and informal jobs in 2006 (Global Development Solutions, LLC 2008). Sun n Sand Beach Resort (SNSBR) is located in Kikambala, Kilifi District, one of the poorest districts in Kenya. Part of the mission statement of the resort is to look after the staff and the community of more than 20,000 people who live in the vicinity of the resort. SNSBR achieves this goal through tourist donations to the Sun n Sand Trust, resort donations, and by sourcing as much as possible from the local community. The resort built the Sun n Sand Community Center at its own cost. The community centre houses a subsidized primary health care centre, which sees 40,000 patients a year; a nursery school for 750 students; a place of worship; a free water facility supplying 5,000 l of clean water daily.

Further examples can be found in Jamaica. In 1996 the Farmers Programme began with ten farmers supplying two hotels. By 2004, there were 80 farmers supplying hotels across the island. Key elements are:

- Chefs and management teams visit farms and attend workshop days
- Farmers visit hotels to see how their products are used and why Sandals specifications are important
- A farmer extension officer assists farmers with production, as do other organizations such as the Rural Agricultural Development Authority

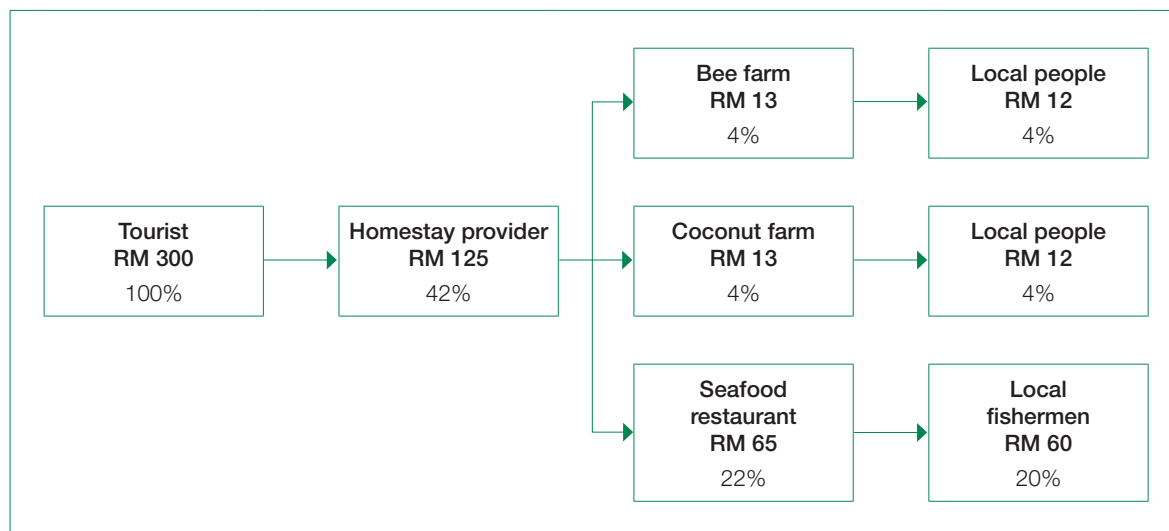
- Hotels are informed two weeks before the delivery date about what crops and volumes are available
- The hotels make a feature of local food. As a result of the programme, farmers' sales increased over 55 times in three years, from US\$ 60,000 to US\$ 3.3 million.

Benefits to hotels include a wider variety of good quality local produce and cost savings. Purchases of watermelon and cantaloupe by one Sandals resort of US\$ 7,200 per month translates into a monthly income of US\$ 100 for 70 families, taking them above the poverty line (PPT 2006).

Recognising that, when tourism-related income grows with a substantial reorientation in favour of the poor, poverty can be reduced, UNWTO launched in 2002 the ST-EP (Sustainable Tourism for the Elimination of Poverty) initiative, aimed at reducing poverty levels through developing and promoting sustainable forms of tourism. Increased tourism local contribution and multiplier effects can accrue to wealthy, middle income, or poor alike. Therefore, interventions must be made to help poor people become part of the processes that drive the industry (ILO 2010a). Investors and developers, as well as local and national governments, play a critical role in determining the role poorer populations play in the tourism industry. The local industry can also help by engaging in and encouraging the use of local companies for the provision of transport, services and food in order to generate local income and employment multipliers and contribute to alleviate local poverty.

- In the case of Malaysia, TPRG (2009) describes the case of accommodation businesses and the shares of income generated and distributed across the chain. The final impact on local communities depends on the business structure and the economic activities related to tourism. In the case of the accommodation sector, most income is captured by hotel owners. However, an important share is received by small business owners and local people involved in informal activities (figure 5). From all tourism expenditure, 28% is captured by hotels, while crafts artisans obtain 5% and local small businesses 11%.
- In Zanzibar, Tanzania, Steck, Wood and Bishop (2010) estimate that only 10.2% of total tourism income is captured by the poor local people. This is a result of hotel, food and beverage operations benefit share for the poor (7%), which contrasts with the majority of revenue to the industry (88%). The study found that the industry is heavily dependent on imports of both primary supplies and staff of suitable quality, both of which are normal avenues for participation of "the poor", and in this case which excludes them.
- In Panama, households capture 56% of total local tourism income (Klytchnikova and Dorosh 2009). Which households benefit the most, however, depends on the region in which the tourism revenues are generated. In the Colon Zone, most of the gains in household incomes (63%) go to urban non-poor households and only 20% of the income gains to poor households. In contrast, in Bocas del Toro, where poor households account for a larger share of the regional labour force, 43% of the total increase in household incomes accrues to the poor while the percentage gain in household incomes is nearly the same across household groups. The results for Chiriqui Province report household income gains received by the poor of 19%, though the share earned by rural households is higher (46%).

Figure 2.5 Accommodation linkages and tourist income distribution in Tanjong Piai, Malaysia



Source: TPRG (2009), Note: RM=Ringgit Malaysia (1 RM=US\$ 0.30).

Empirical studies suggest that, even in the best cases, between a fifth and _ of total tourist expenditure in the destination is captured by the poor from direct earnings and supply chains (Mitchell and Ashley 2007). The impact of tourism on poverty depends on various factors including employment, skills level of the labour force, changes of prices (goods and services and factors of production), ownership of micro and small enterprises, and labour market composition. As with income effects, there is sound theory, and increasingly convincing evidence that more sustainable tourism (particular in rural areas) can lead to more positive poverty-reducing effects.

- In Costa Rica, Rojas (2009) estimates the impact of tourism on poverty levels, and finds that without tourism incomes the local incidence of poverty would be higher in urban and rural sectors (table 2.9). This result is consistent with other studies for the country. For instance, CEPAL (2007) estimates that tourism contributes to a reduction in poverty of 3% in Costa Rica, (and 1% in Nicaragua). From a site comparison perspective, Brenes and others (2007) estimate the impact of Tamarindo (mass tourism destination) and La Fortuna (natural and adventure attractions destination) and find that average monthly wages in La Fortuna (US\$ 437) are higher than in Tamarindo (US\$ 392). Moreover, they estimate that there is a 0.64 probability of income improvement for La Fortuna inhabitants when working in the tourism sector. The evidence indicates that tourism is contributing to poverty reduction in Costa Rica, with the sustainability approach of the country as a driver of living conditions improvement.

Table 2.9 Impact of tourism on poverty in Costa Rica, 2008 (%)

	With tourism income	Without tourism income
National	17.69	19.06
Urban	16.93	18.40
Rural	18.73	20.0

Source: Rojas (2009).

- In Malaysia, using a value chain analysis, TPRG (2009) finds that economic benefits received by local people account for 34% of total income generated by tourism. The pro-poor income accounts for 39% of income generated in national parks, 42% in accommodation, 26% in restaurants and 25% in resorts (table 10). An explanation for this result is the impact of public and private programmes to employ or involve a large number of locals in tourism business operations. In this way a higher share of income goes to the local community.

Table 2.10 Breakdown of tourism income and pro-poor income (PPI) contribution in Malaysia (%)

	Share in tourism revenue	Share of PPI
Accommodation and hotel meals	88.4	7.3
Restaurants	4.4	47.0
Retail	3.7	27.0
Tours and excursions	3.0	18.8
Other	0.5	n.a

Source: TPRG (2009)

Local development

Interest in local development and community-based tourism by governments has often been motivated by broad economic, social, and environmental goals. In developing countries, NGOs usually direct their efforts at either socio-economic development or environmental protection, depending on their mandate. In the latter case, local communities are seen as critical to successful conservation efforts. In developed countries, government economic development policies may support community-based tourism, and environmental groups, cultural heritage organizations, local community associations, and entrepreneurs may also launch tourism initiatives.

Economic benefits are generally the principal driving factor for a community. Other factors include the infrastructure needed by a community such as basic water supply and sanitation; improved services such as health care; tourism as leverage for protection of natural areas and resources of importance to the community; educational opportunities; and opportunities to affirm and share a community's culture with visitors. As well as community goals, supporters and funding agencies assisting a community may have social development or environmental aims, for example, reducing poverty, promoting social equality for women, empowering people at a local level, and encouraging local conservation initiatives.

Select examples of community-based tourism help illustrate the benefits of such local development:

- Cultural Collaborative Jamaica (CCJ): CCJ is a not-for profit organization in the Queens District of New York City. Established in 1992, CCJ promotes tourism for economic and cultural development in the Jamaican community in New York. Programmes that bring tourists and economic benefits to Queens include events such as the Jamaican Arts and Music Summer (JAMS), Art in the Parks for Children, and walking tours of cultural and historic precincts. There is also a youth empowerment programme. CCJ encourages art and cultural partnerships with the wider ethnic community of the district and supports sustainable development for businesses and entrepreneurs. It provides many opportunities for volunteers to participate in events and activities and issues a regular newsletter to keep all interested supporters informed about programmes and progress. The economic and cultural gain to the district and to New York is significant; validating the support CCJ receives from several sponsors including the City of New York's Department of Cultural Affairs. The CCJ website includes a programme of events, an online store, and opportunities to donate (www.go2ccj.org).
- Tanogou Eco-village: Tanogou is a village of nearly 1900 people on the edge of Pendjari National Park Biosphere Reserve in Benin. Sustainable livelihood in the village is a challenge. With limited agriculture possible, many families have survived by poaching in the park. The not-for profit group Eco-Benin (www.ecobenin.org), founded in 1999, has been helping communities in Benin create economic benefits through ecotourism. In 2007, they began work on a project in Tanogou with 66 village members, including 11 ex-poachers.⁵ The German aid agency, GTZ, provided € 8,300 in 2008 for the initial feasibility study and training and total investment was approximately € 15,000.

⁵ See <http://patriciafloric.wordpress.com/2010/07/02/when-a-poacher-becomes-an-eco-guide/> for one ex-poacher's story.

Using a micro-enterprise approach to generate entrepreneurial initiative and commitment, Eco-Benin provided funds for individuals to buy materials and supplies to launch tourism businesses. The results include performances of traditional dance and music, guided walks in the village and to waterfalls, park hikes and wildlife watching, five homestay businesses, meals by local cooks, and people engaged in art and handicraft manufacture and sales. All the micro-entrepreneurs repaid their loans at the end of the 2009 tourist season. In 2009, there were 3,416 visitors and 318 homestay nights and income of about € 8,500. The entrepreneurs each contribute 30% of profits to support community projects such as the purchase of an oven and a water pump. The neighbouring community at the waterfalls also benefits from a percentage of visitor fees from guided waterfall visits. Pendjari National Park endorses Tanogou's ecotourism services, promoting them on the park's website. Revenue from tourism in the dry season complements that gained from agriculture in the rainy season; ex-poachers are redirected to sustainable activities; and villagers are more committed to protecting wildlife and the natural resources in the national park. Other sustainable practices now integrated into village life include separating garbage, recycling, and the use of eco-sun toilets.

The mechanisms by which tourism generates economic development are well understood. Tourist spending enters the local economy to varying degrees depending principally on commissions, headquarters of the tourism company, and the structure of the tourism business and its supply chain at a destination. The economic contribution entering the economy is the "local contribution" and is typically measured as an average amount per tourist, and as a percentage of the total tourism spending that stays in the local economy. That which is not retained in the local economy is "leakage." Multiplier effects are limited by leakages, which reduce the positive economic impacts of tourism. Wells (1997) reports values of leakage as a percentage of gross tourism receipts ranging from 11% (Philippines) to 56% (Fiji).

The "income multiplier" is used to describe the amount of the indirect economic activity resulting from the local contribution. The economic development potential of tourism is a direct function of the local contribution and multiplier – larger local contribution and larger multiplier each lead to greater economic activity in the local economy, and there are important synergies between them. From a global perspective, Mill and Morrison (2006) review the literature on income multipliers and present a list of estimations from different countries and regions. Income multipliers can be relatively low for specific destinations like the City of Winchester (0.19) and higher for a country like Turkey (1.96). According to Cooper (2008), tourism impacts income in different ways depending on the country or region where it develops. Every dollar spent by overnight tourists impacts income in the economy between 1.12 to 3.40 times. This high variability indicates that local economic impact development will depend on particular characteristics of the tourism business "model," in particular the quantity and type of products and services sourced from the local economy.

In destinations where a large percentage of tourist needs are locally supplied (beds and linens, food and beverage, equipment and supplies, labour, tour and transportation services, souvenirs, among others), local contribution and multipliers tends to be high, and the resulting economic impact correspondingly greater. In destinations where substantial income is not captured locally, economic impact from tourism is less. This effect can vary dramatically between destinations.

- For Granada, Nicaragua, Rainforest Alliance (2009) reports results from a case study of sustainable tourism where local purchases represent only 16% of total purchases.
- For Canary Islands, Hernández (2004) finds that 43% of total tourism expenditure is supplied from outside the local economy through direct, indirect and induced imports.
- In New Zealand, it is estimated that 24% of tourism expenditure is for imports of goods and services sold to tourists and imports sold directly to tourists by retailers. (Hernández 2004).

Looking at a single destination illustrates how substantial tourism economic impact can be. For example, for Panama, Klytchnikova and Dorosh (2009) present a detailed evaluation of tourism impact in the local economy of three different regions. The income multiplier for the tourism industry (hotels and restaurants) is the largest of all economic sectors. An additional US\$ 1 in value added (approximately

US\$ 2.80 in total tourism spending) results in US\$ 2.87 total income. This large multiplier is due to strong backward linkages in terms of demand for local food products as well as forward linkages of household spending from tourism income. This gain results from consumer spending effects as incomes earned in various activities are spent in the domestic economy. By way of comparison, multipliers are smallest (1.30 to 1.64) in sectors such as the Panama Canal, mining and textiles where there are few production linkages (as much of the inputs are imported). In contrast, the multipliers for fruits, shellfish and other agricultural exports are especially large because much of the income earned accrues to rural households which spend a high proportion of their incomes on non-tradable goods and services in the local economy.

There is an increasingly convincing body of evidence indicating that more sustainable tourism can increase both the local contribution and the multiplier effect. Within a given (or similar) destination, local contribution and multiplier increase the more the local community is involved in the tourism value chain, through the supply of products, labour, tourism services, and increasingly “green services.” The few available meta-studies of tourism multipliers indicate considerably higher multipliers for natural and culturally-oriented destinations (Chang 2001). And destination specific studies, such as Brenes (2007) for Costa Rica indicate similar effects. The logic is sound – more local purchases (substituting imports) will increase local contribution, and the income effect will be greatest when local actors are the beneficiaries of those linkages.

Analysing the tourism value chain is another important step. The main purpose of such analysis is to form an overall picture of tourism in the area, to understand income flows and the level of participation by the poor, and to provide baseline information to benchmark future changes. One of the objectives of all poverty alleviation strategies is to generate more income for the destination and for the poor through increasing the amount and type of spending by a new or existing visitor. It is therefore important to decide as to whether to focus on existing markets with the existing product or to explore new markets with a new product. The purpose of doing so is to select particular market segments to prioritize in the future and identify products to improve and develop marketing techniques relevant for those markets. Therefore, it is important to collect information on size and growth, travel patterns, spending, motivation and needs, and use of information sources by the tourists. For understanding markets, it is important to know the number and frequency of visitors, the length of stay in the destination, the amount of spending per day, and the nature of their spending. With all the above information, a strategic action plan can be drawn to alleviate poverty in the destination.

Decent work

Decent work sums up the aspirations of people in their working lives – their aspirations for opportunity and income; rights, voice and recognition; family stability and personal development; and fairness and gender equality. Ultimately these various dimensions of decent work underpin peace in communities and society. Decent work is an understanding of a sustainable approach to human resource management that should reflect the concerns of governments, workers and employers, and is the basis of the International Labour Organization’s commitment to work across all sectors, including tourism (ILO 2010).

Decent work is captured in four strategic objectives which underpin its sustainability:

- Fundamental principles and rights at work and international labour standards;
- Employment and income opportunities;
- Social protection and social security; and
- Social dialogue and tripartism.

These objectives hold for all workers, women and men, in both formal and informal economies; in wage employment or working on their own account; in the fields, factories and offices; in their home or in the community. Decent work is central to efforts to reduce poverty, and is a means for achieving equitable, inclusive and sustainable development. “The ILO works to develop Decent Work-oriented

approaches to economic and social policy in partnership with the principal institutions and actors of the multilateral system and the global economy” (ILO 2011).

In the tourism sector, the decent work agenda is about delivering sustainable value and long-term benefits to all stakeholders. It consists of the integration of economic, social and ecological aims into a company’s business strategy. Many hotel chains and other tourism businesses have recognized that having a sound social policy makes good business sense. They acknowledge the importance of having a skilled, motivated and satisfied workforce as they are the actors who interact most with customers.

For example:

- Accor Hotels, conducts employee training programmes with the objectives to develop new skills and new job categories in fields like revenue management, asset management, business or customer relationship management and new technologies for services within hotels; a good hands-on approach to management aimed to enhance the meaning of everyone’s job, optimize customer service quality, and retain employees. They also implement skill enhancement programmes, employee empowerment and recognition initiatives, and mobility opportunities for their employees.
- Similar measures related to training and skills development have been instilled by many companies including Rezidor and Hilton.
- Australia, the Department of Resources, Energy and Tourism is focussed on increasing Indigenous participation in the tourism industry through supply side capacity building measures. The Business Ready Programme for Indigenous Tourism (BRPIT) is a AU\$ 3.8 million four year pilot programme which has assisted existing and start-up Indigenous tourism businesses through mentoring support. The main goal of the programme is to develop Indigenous operators’ business skills and the knowledge required to establish and run a commercially viable tourism operation.

It is important to highlight that the sector and its informal components provide a significant number of jobs to workers with little or no formal training and who do not want to enter long term employment commitments (for example students). In addition, the sector provides opportunities for migrants to find jobs in the sector as well as for workers with care responsibilities. Tourism can provide opportunity for those facing significant social and capability disadvantages in a way that is not always offered by other environments.

Women and disadvantaged groups

The development of tourism provides a significant opportunity for women and other disadvantaged groups to become producers of tourism services. Tourism has relatively low barriers to entry, high employment benefits, and significant potential for home-based industry.

Women make up an estimated 70% of the world’s poor. Women in developing countries are less likely to be employed than men and less likely to have secondary education than men. When women are employed, they are less likely to hold prestigious positions than men and less likely to earn top pay than men (UNIFEM and UNWTO 2010). Similar challenges face people with disabilities. An estimated 500 million people worldwide have visual, hearing, mobility, or cognitive impairments. Typically, disabled people are among the poorest of the poor. Statistics show they are most likely to have incomes below the poverty line, be less educated, and participate less in society. And their employment opportunities may be limited to home-based activities (Harris 2003).

Tourism can provide significant opportunities for women’s advancement through formal, informal, and supply-chain employment, education, entrepreneurship, leadership, and community-based activities. Tourism can raise demand for local products and services, create investment opportunities, and improve transportation, infrastructure, and utilities. Due to the large number of informal employment opportunities created by tourism, it can also help disadvantaged groups who may be unable to enter

formal employment due to a disability, their remote location, or disconnectedness with the rest of the economy. Furthermore, tourism, when carefully managed, can support conservation measures, raise incomes, and provide employment without denuding the country of its resource base.

Data reported by ILO and analysed in the UNIFEM and UNWTO Global Report on Women in Tourism 2010, show that women are much better off in the tourism sector than in other economic areas. In the hotel and restaurant sector, for example, almost 40% of employers are women and almost half of all self-employed business people are women.

Statistics on the impact of tourism investment on women and disadvantaged groups in tourism are scarce and data are not always reliable, timely, or consistent. The personal stories of women in the sustainable tourism economy provide a vital supplement to existing data:

- In 2007, ASOGAL, the Association of Cruise Operator Companies in Galapagos, Ecuador, decided to increase the corporate social responsibility activities of their members by expanding their local supply chain to include locally made bread. Aided by a zero-interest US\$ 30,000 loan from ASOGAL, an initial investment from the Andean Financial Corporation (CAF), and the support of UNWTO ST-EP Programme (US\$ 15,000 plus technical support), a small group of women became business partners in the “Pearls of the Pacific”. After just a year in operation Pearls of the Pacific sells US\$ 6,000 bread a month and has employed two additional workers.
- Samoa has an abundance of fertile land and a tourism-dependent economy. One way of enhancing the economic benefits of tourism for Samoa is to increase the amount of local agricultural products used in the tourism industry. Women in Business Development Inc. (WIBDI) in Samoa has developed a programme to help women and their families to generate cash from the agricultural resources available in their village. WIBDI has created a network of women farmers and has worked with them to achieve organic certification. To date, WIBDI has assisted 350 farms to become organically certified and 150 more farms await certification in 2010.
- Women and children are among those who suffer most in poverty-stricken communities across the globe, but those suffering from HIV/AIDs are perhaps some of the most severely overlooked, bearing a disproportionate share of the burden of AIDs. In order to address this situation, Accor China connected with the Chi Heng Foundation to create a project to help these women with children to support themselves. Entitled “Empowerment Builds the Future,” the first year of this programme was funded by a € 20,000 donation from Accor. The donation was used to construct a workshop for affected women in Henan Province. The workshop recruits and trains women whose families have been affected by HIV/AIDS and teaches them to produce eco-friendly bags. The bags are sold at all Accor hotels in mainland China, Hong Kong, Taiwan, and Macau.
- The Okavango Delta is the world’s largest inland delta and a haven for birds and wildlife of all types. Tourists come from all over the world to admire the large expanses of wetland. As a result of this ready market, women living in the area have been able to enhance their income by selling traditional baskets and beads. The baskets are made from reeds, beads, and ostrich shells. They are unique to the area and are of particular interest to tourists. Assisted by carefully targeted marketing, book-keeping, and business training, women in villages around the Delta have formed cooperatives to advocate for members’ interests and to train their members to produce quality products. Best available estimates indicate that there are more than 1,500 women currently benefiting from and employed in handicrafts in the Delta.
- In a Kenyan project for the employment of disabled people, the biggest barriers to business development were found to be access to credit. Self-employment in the informal sector is often the best option for disabled people, but they often have little business experience and no equity. Banks will neither extend credit to them nor make their loans. To address this problem, the UNDP, in cooperation with the International Labour Organization, put up a US\$ 500,000 loan guarantee to give persons with disabilities in Kenya access to credit. The Disabled Persons Loan Scheme provided funding through normal banking channels for projects that met certain criteria. A viable business plan had to be submitted, along with some proof of business management skills. About 240 people have received loans, complemented by business training.

In summary, the move toward more sustainable tourism has been shown in a number of destinations to enhance local development potential through several mechanisms:

- Its ability to harness biodiversity, landscape and cultural heritage available in developing countries can play a major role in enhancing incomes and employment opportunities.
- Tourism is a relatively labour intensive sector traditionally dominated by micro and small enterprises with activities particularly suited for women and disadvantaged groups.
- As a tourism product is a combination of different activities and inputs produced by many sectors, enhanced spending by tourists can benefit a wide range of sectors such as agriculture, handicrafts, transport, water and waste management, energy efficiency and other services.
- As tourism development at destinations requires investment in facilities like road, water supply, and energy, it improves the basic common infrastructure facilities required for development of other sectors and improvement of quality of life (Bata 2010).
- Tourism employs more women and young people than most other sectors – providing economic benefits and independence to women is very important in terms of supporting child development and breaking the cycle of poverty.

The Case for Investing in the Greening of Tourism

3.1 Spending in the Tourism Sector

Tourism drives significant investments. Adding even small percentages of investment, for a greener sector, results in very significant increases in investment flows. Further, much new investment flow is toward developing countries, where increased investment could have greater impact on green outcomes. It is estimated that travel and tourism sector investments reached US\$ 1,398 billion in 2009, or 9.4% of world investment. It increased on average by 3% during the last decade, notwithstanding a significant contraction in 2009 (-12%). The share of world tourism investments in global investments has fluctuated between 8% and 10% for the last 20 years. In developing countries, such as in the Caribbean region, this figure could be as high as 50% (WTTC 2010).¹ In OECD countries, investments in hotels, travel agencies and restaurants range from 6% in Germany to 32% in Portugal, of national gross value added (OECD 2010).

Foreign Direct Investment (FDI) is an important source of world tourism investments. The stock of outward and inward FDI in the “hotels and restaurants” sector reported by UNCTAD (2009) accounts for almost 1% of total FDI stock. This figure is however partial; since it does not take into account other tourism related elements in other sectors, such as construction, transport or business activities. There is a growing focus on tourism as a generator of FDI in developing countries. Tourism is a major priority of Investment Promotion Agencies (IPA) in many developing countries. In this regard, the case of Costa Rica is illustrative as foreign investment in the tourism sector represented 17% of total FDI inflows in 2009 and 13% on average for 2000–2009.²

3.2 Benefits in Employment

Travel and tourism is human-resource intensive due to the service nature of the industry. It is among the world’s top job creators and allows for quick entry into the workforce for youth, women and migrant workers. The *wider* travel and tourism economy provides, both directly and indirectly, more than 230 million jobs, which represents about 8% of the global workforce. Women make up between 60 and 70% of the labour force in the industry and half the workers are aged 25 or younger (ILO 2008). In developing countries, sustainable tourism investment can help create job opportunities, especially for poorer segments of the population.

The move toward more sustainable tourism can increase job creation. Additional employment in energy, water, and waste services and expanded local hiring and sourcing are expected from the greening of mainstream tourism segments. And, an increasing body of evidence suggests significantly expanded indirect employment growth opportunities from segments oriented toward local culture and the natural environment (Cooper and others 2008; Moreno and others 2010; Mitchell and others 2009). ODI found that in Ethiopia, more than a quarter of all tourist spending on cultural tourism stayed with the poor (Ashley and Mitchell 2009).

1 It is worth mentioning that WTTC estimates incorporate all fixed investment expenditure by travel and tourism service providers and government agencies, in facilities, capital equipment and infrastructure for visitors. In this sense, it could be overestimating infrastructure investments that are not tourism sector specific but affect the whole economy (for instance, road improvements or airport construction). Still, it is the only cross-country source of tourism investment data available.

2 Calculations with data from the Central Bank of Costa Rica, www.bccr.fi.cr, accessed on 12 September, 2010.

Tourism creates jobs directly, and leads to additional indirect job creation. It is estimated that one job in the core tourism industry creates about one and a half additional (“indirect”) jobs in the tourism-related economy. According to the World Travel and Tourism Council (2010), in 2009, the tourism global economy accounted for more than 235 million jobs, equivalent to about 8% of the overall number of jobs (direct and indirect), or one in every 12.3 jobs (WTTC 2010). In OECD countries, tourism accounts for between 2% of employment in Denmark and 12.7% in Spain (European Commission 2010). In developing countries, the impact can be significantly greater, accounting for up to 50% of all employment. A study of South Africa shows that direct employment in core tourism sector only accounts for 21% of total employment creation due to tourism spending in 2008 (Pan African Research and Investment Services 2010).

There are workers indirectly dependent on each person working in hotels, such as travel agency staff, guides, taxi and bus drivers, food and beverage suppliers, laundry workers, textile workers, gardeners, shop staff for souvenirs and others, as well as airport employees (ILO 2008). These relationships influence the many types of workplace relationships that include full-time, part-time, temporary, casual and seasonal employment and have significant implications for employment opportunities within the sector. Available data indicate that every new job in tourism can have multiplying effects in the whole economy, as illustrated in table 3.1.

Table 3.1 Sample of tourism employment multipliers

	Total employment per 1 employment in the tourism sector	Employments per US\$ 10,000 tourist expenditure
Jamaica	4.61	1.28
Mauritius	3.76	n.a
Bermuda	3.02	0.44
Gibraltar	2.62	n.a
Solomon Islands	2.58	n.a
Malta	1.99	1.59
Western Samoa	1.96	n.a
Republic of Palau	1.67	n.a
Fiji	n.a	0.79
United Kingdom (Edinburgh)	n.a	0.37

n.a = not available.

Source: Cooper and others (2008).

- For the EU27, GHK (2007) estimate direct and indirect employment multipliers for environment related tourism between 1.69 and 2.13. This means that for every 100 jobs directly created in the sector, 69 more are created elsewhere in the economy as a result of indirect effects and the figure increases to 113 when induced effects are taken into account. The authors define environment related tourism (ERT), as activities where the natural environment (not the built environment) is responsible for influencing the choice of destination for the tourism activity, including visits to hills, mountains, coasts, farmland, woods, forests, springs, lakes and wildlife and the activities of fishing (sea, game and coarse), walking, climbing, golfing, skiing, cycling, bathing, swimming, and so on.
- It is estimated that sustainable tourism in Nicaragua, a destination that focuses very prominently on its culture and natural environment, has an employment multiplier of 2. That is, for every job in the tourism sector, an additional local employment is created, with higher wages than the national averages (Rainforest Alliance 2009).

- In Egypt, from example, each million dollar invested in hotels creates 18 direct and 12 indirect jobs.
- In Fiji, the sector accounts for over 40,000 jobs and contributes significantly to foreign exchange reserves. In 2005, each US\$ 1 created about 63 jobs in Fiji (OECD 2010).

3.3 Environmental Benefits

There is increasing motivation from both the private and public sectors to invest in making tourism more sustainable. Although the availability of global investment data specific to “sustainable tourism” is currently not of a sufficient quantity to draw any robust conclusions, it is clear that there is an increased awareness of the need and value of conserving unique natural, social and cultural assets of destinations.

Private and public investment in tourism includes infrastructure (roads, airports, national parks, private reserves, hospitality installations and other sites facilities), environmental protection (natural attractions, beaches, mountains, rivers, biodiversity conservation, natural barriers, and endemic species), education (labour force skills including the “greening” skills base), capacity building, and technology improvements (cleaner production, sustainable management). Investments toward tourism sustainability offer a wide range of opportunities that can generate significant returns.

There is an increasing trend in the industry towards more investment in sustainability. For instance, pilot projects are used by the hotel chain Accor to test new innovative and environmental technologies (photovoltaic electricity, grey water re-use, and rain water recovery). Additional capital expenditure in energy efficiency technologies and sustainable construction and renovation projects is estimated at a relatively modest 6% of total construction costs (for a 106 room hotel), with excellent returns (WTTC 2009). Sol Meliá Hotels and Resorts have institutionalized their sustainability programme with independent certification for the company, including hotels and corporate offices on an international level, and a specific budget for the strategic project of sustainable development, financed entirely by company funds (WTTC 2010).

Energy

In the hospitality segment, additional investment in more energy efficient features and services, such as efficient refrigeration, television and video systems, air conditioning and heating (particularly reduction or elimination of these systems through improved design), and laundry, helps differentiation of operators and their value chains toward lower energy profiles. Such investments are driven by increasing energy costs; likely carbon surcharges; increasing expectations of customers (particularly from Europe and North America); technological advances with low-carbon technology; and in some cases, government incentives. Many leading airlines are exploring alternative fuels strategies, as well as changes in routing, aircraft and flight practices. The railroad industry, particularly in Europe, is positioning itself as a “green” and community-linking alternative to air travel. Increased energy efficiency for tourism translates as reduced operational costs, increased customer satisfaction, and higher investment in energy efficiency (through retrofits and improvements).

Available evidence suggests that investment in more efficient use of energy in tourism generates important returns (box 2). Hamel and Eckardt (2006) report the results of environmental initiatives in European hotels, bed and breakfast and camping sites, on energy consumption. The authors present average results for the sample of businesses evaluated and benchmark indicators of “best practice”. On average, energy costs in hotels represent about 6% of their annual turnover, whereas in the “best practice” establishments, this expense factor typically represents 1.5–2.8%. Recent case studies have shown that a 6% increase in investment in energy-efficient design and equipment can lower electrical consumption by 10%;³ low-cost water-efficient design and operation can reduce consumption by

3 Six Senses resort (2009).

30%,⁴ and that overall financial cost recovery of a destination's green strategy (ratio of present value savings to present value capital expenditures) can be 117% and 174% for investment recovery from hotel buildings operation efficiency.⁵

Box 3.1 Investments on energy efficiency and savings

Six Senses, a luxury hotel group, reports that the return on investment of various energy saving measures applied in resorts located in Thailand ranges between six months to ten years:

- The energy monitoring system cost US\$ 4,500, enabling the resort to achieve 10% energy savings as well as to identify areas for further savings.
- Investment for the mini chillers system was US\$ 130,000, which saves US\$ 45,000 annually, and thus pays off in 2.8 years.
- The Quantum heat recovery system cost US\$ 9,000, saving US\$ 7,500 annually, corresponding to 1.2 years payback time.
- The laundry hot water system cost US\$ 27,000, saving US\$ 17,000 annually (1.6 year payback time).
- Efficient lighting cost US\$ 8,500, resulting in US\$ 16,000 savings per year, i.e. taking six months to pay back (not considering the longer life-span of the lights).
- Investment in a water reservoir was US\$ 36,000, leading to annual savings of US\$ 330,000 (less than a month payback time).
- Biomass absorption chillers cost US\$ 120,000 resulting in US\$ 43,000 saving annually, i.e. 2.8 years payback.
- Medium voltage (6.6 kV) underground electric copper cables cost US\$ 300,000. Payback is roughly 10 years from lower energy loss, but other benefits include less radiation, less power fluctuation, reduced fire risk and a prettier resort compared to old hanging low voltage electrical cables.

Source: Six Senses (2009).

Rainforest Alliance (2010) presents an estimation of costs and benefits of sustainable energy management practices for a sample of 14 tourism businesses in Latin America (Belize, Costa Rica, Ecuador, Guatemala and Nicaragua) based on GSTC indicators. The energy bill was reduced in 64% of companies, with average annual savings of US\$ 5,255 (maximum of US\$ 17,300). Required investment ranged from 1% to 10% of annual operations costs. Average investment was US\$ 12,278 (maximum US\$ 56,530). The average payback of investments is 2.3 years.

Other examples exist which provide the rationale for investment in green technology in a tourism context:

- The use of electric vehicles at small destinations may act as an attraction. Another interesting development is the electric bicycle.
- In The Netherlands 150,000 electric bicycles were sold in 2009 out of a total of 1.3 million bicycles, representing 30% growth over the previous year (<http://nos.nl/artikel/131706-verkoop-elektrische-fietsen-neemt-sterk-toe.html>). For local use at destinations electric bicycles, which support the cyclist, but do not run fully on the engine, could help to battle congestion, parking problems, noise nuisance, air quality deterioration and climate change.

4 Newsom, D. and C. Sierra (2008); Bailly, H. (1998).

5 Ringbeck J, A. El-Adawi and A. Gautarn (2010).

- Regarding cruise ships, IMO (2009) acknowledges that projections on efficiency gains are difficult, but suggest that by 2020, a combination of “regulatory, design and operational measures” might lead to relative fuel savings of around 17–32% / t per mile of cargo transported, though probably less in passenger transport.
- Electric trains, trams, metros and trolley busses that are directly connected to the grid are very energy-efficient transport modes causing low levels of emissions, particularly when purchases of renewable electricity are made. Swedish Railways (Svenska Järnvägen, SJ), for instance, like Swiss Railways, exclusively sources electricity coming from renewable power. According to the company, emissions from one person travelling by train over a distance of 1,000 km based on a lifecycle analysis will amount to as little as 0.0021 kg CO₂, which can be compared to emissions of 0.133 kg CO₂ from cars or short distance emissions of 0.154 kg CO₂ from aircraft (per pkm; SJ 2010). This indicates that train systems could be operated virtually carbon-free. More importantly, rail travel, when used efficiently, uses much less energy per pkm than any other powered transport mode for medium to long distances, so it will also be saving on scarce renewable power resources as for example compared to electric cars.
- A management focus on heating and air conditioning is paramount, with studies indicating that energy use for these can be reduced by 40–98% (Gössling 2010). Often, such measures will be economical. According to the Carbon Trust (2010) in the United Kingdom, “the hospitality sector is responsible for over 3.5 million t of carbon emissions per year. It is estimated that energy savings of up to 20%, equivalent to more than £ 200 million, are possible across the sector”. Likewise, in the United States of America, Energy Star (2010, p. 1) reports that: “On average, America’s 47,000 hotels spend US\$ 2,196 per available room each year on energy. This represents about 6% of all operating costs”.
- Studies also suggest that renewable energy systems for small- to medium-sized accommodation establishments are feasible. For instance, Bakos and Soursos (2002) have shown that PV installations for small-scale tourist operations in Greece are economically viable with up to 10 years payback time, and considerably lower payback times if government subsidies are provided (see Bakos and Soursos 2002, who also provide a detailed cost analysis).
- Likewise, Dalton and others (2009) conclude in their analysis of three case studies with stand-alone renewable energy systems in Australia that PV-based and wind energy conversion systems are all economically viable, but wind energy conversion systems had shorter payback times (3–4 years), and were thus economically preferable to PV systems with payback times of 6–7 years.
- Two other studies arrive at similar conclusions for larger scale wind-hydro energy systems in a medium size island of the Aegean, Greece (Kaldellis and others 2001) and in Australia (Dalton et al. 2008), with the latter study also finding that larger scale wind energy systems >1000 kW are more economical than multiple small-scale systems at 0.1–100 kW.
- In a review of grid-connected renewable energy systems, Dalton and others (2009) report payback times ranging from 5–8 years for PV systems and 4–30 years for wind energy conversion systems.
- In France the Etap Hotel Toulouse Aéroport is a newly built hotel, and has been designed to use three times less energy and emit four times less greenhouse gases than the current heating regulations require. The hotel has 106 rooms (with a total net floor area of 2,200 m²) and a breakfast room. It opened in May 2009. The project has been carried out in partnership with the French Environment and Energy Management Agency (ADEME). A subsidy was granted in order to improve the economic feasibility and to integrate a complete monitoring system to follow the energy consumption. The hotel’s heating, air conditioning and domestic hot water systems run partly on renewable energy (geothermal heat pump and solar panels). Eventually, total energy consumption (ventilation, heating, and lighting) will be 60 kWh/sq. m per year. The additional capital expenditure comes to € 285,000, or around 6% of the total construction cost of an Etap 106-room hotel (excluding land). ADEME has allocated € 130,000 for this project. The energy saving is estimated to be € 15,000 a year (270,000 kWh/year). The maintenance cost is estimated to be around € 3,000 a year.

Overall, these studies indicate that renewable energy systems can be economical, and that it can be worth for accommodation establishments to carry out feasibility studies to assess their potential, particularly in warm and sunny climates or in areas with moderate to high average wind speeds.

Aviation, the most important emissions sub-sector in tourism, does not pay any value-added tax (VAT), in contrast to virtually all other means of transport. For instance, in Sweden, a l of Jet A fuel costs about € 0.40, while a l of diesel costs € 1.20. VAT on international flights is 0%, and for domestic flights 6%, while for all other services and goods (except food), there is a 25% VAT. The current situation is thus that the most emission intense tourism sub-sector, both in terms of specific (per pkm) and absolute emissions, is not paying any VAT on international flights. Emission trading as envisaged by the EU is not likely to lead to absolute emission reductions because an open-trading scheme is favoured. As emission reductions by further improving fuel efficiency in aviation are comparatively costly, airlines will probably not reduce emissions, rather than purchase emission permits from the market. This is economically feasible, as the cost of flying would increase by just about € 3 per 1,000 passenger-kilometres (pkm) at permit prices of € 25/t of CO₂ (Scott and others 2010). Similar findings are presented by Mayor and Tol (2010), who find that a price of € 23/t CO₂ per permit will have a negligible effect on emissions developments.

Water

Internal water efficiency and management programmes, and investments in water saving technology in rooms, facilities and attractions reduce water costs. Greater efficiency and improved management allows for the increase of number of rooms and/or visitors in water-constrained destinations. With regard to the most water-consuming factor, irrigation, considerable reductions in water use can be achieved through alternative gardening (choice of species, landscaping) as well as the use of grey water for irrigation. Golf courses can be designed to decrease water needs, and engage in soil moisture measurements to control and optimize water use. Hotels with spas and health centres can engage in a range of water saving measures, while new hotel constructions can seek to avoid pool landscapes and other water-intensive uses (Gössling 2010). With regard to direct water use for tourists, Fortuny and others (2008) show that many water saving technologies of relevance for hotels and other businesses have short payback times between 0.1–9.6 years, making them economically attractive. Investments in water saving systems, grey water reuse and rainwater collection and management systems can help reduce water consumption by 1,045 m³ per year, or 27% less m³ per guest per night.

Rainforest Alliance (2010) estimates the costs and benefits of sustainable tourism management practices for a sample of 14 businesses in Latin America (Belize, Costa Rica, Ecuador, Guatemala and Nicaragua) based on GSTC indicators. The water bill was reduced in 31% of companies, with average annual savings of US\$ 2,718 (maximum of US\$ 7,900), a particularly large number given the very low price of water charged in those countries. Required investment ranged from 1% to 3% of annual operations costs. Average investment was US\$ 2,884 (maximum US\$ 10,000). Average annual savings were US\$ 2,718, for a 1.1 years payback period.

The costs of dealing with current and future water demand as well as climate change are likely to be considerable. Downward and Taylor (2007) for instance, report that meeting southern Spain's anticipated water requirements of an additional 1.063 billion m³ per year will cost € 3.8 billion. Bates and others (2008) report that in the period 2001 to 2015 actual and anticipated payments for national water initiatives, treatment plants to supply recycled water, pipelines and drought aid payments to communities will total US\$ 4.75 billion in Australia. Globally, Parry and others (2009) estimate that dealing with water scarcity because of climate change will cost an *additional* US\$ 9–11 billion per year. While Parry and others (2009) outline that this is likely to be an under-estimate of the costs of adaptation, it is worth noting that the sum does not appear to capture losses to tourism related to losing lakes, rivers and streams, or deteriorating conditions for swimming and other water-based activities (for example Blakemore and Williams 2008, Englebert, McDermott and Kleinheinz 2008, Oliveira and Pereira 2008).

While these sums would advocate serious climate policy to curb emissions, many tourism stakeholders are likely to perceive adaptation to climate change as being less costly. For instance, new seawater desalination plants can produce freshwater at costs as low as € 0.45–0.52 per m³ over the 15–20 year design life of the facility (Albiac, Uche, Valero, Serra, Meyer and Tapia 2003, cited in Downward and Taylor 2007). This would indicate that additional costs in water scarce areas for providing even high levels of water to tourists is not likely to act as an incentive for water saving (per guest night, costs may increase by as little as € 0.2 on average). Consequently, it is important to bear in mind that the overall costs of inaction are far greater, because they may irreversibly affect important tourist assets and create unstable socio-economic situations in many parts of the world.

Investment in sustainable technologies and water management are thus key strategies to be pursued. Technologies can help to solve water scarcity issues, but they may also increase energy use. For instance, in the Canary Islands (Spain), seawater desalination accounts already for 14% of energy use. If energy is generated through burning of fossil fuels, desalination will make a considerable contribution to global warming. Vice versa, Bermudez-Contreras and others (2008) discuss renewable energy powered desalination systems for water-scarce areas. They conclude that such investments can be profitable in tropical destinations, where amortization horizons may often be in the order of a few years.

With regard to direct water use for tourists, Fortuny, Soler, Cánovas and Sánchez (2008) show that many water saving technologies of relevance for hotels and other businesses have short payback times between 0.1–9.6 years, making them economically attractive (table 12). Similar figures have been presented for Steiermark, Austria, where payback times for the installation of low-flow showerheads were calculated at up to 3.2 years, and low-flow devices in taps of up to 3.8 years (Prettenthaler and Dalla-Via 2007). In this case, Prettenthaler and Dalla-Via (2007) point out that low water costs are a potential barrier to action, which have been quantified at 0.6% of turnover in Steiermark. However, costs as a percentage of operational costs may be considerably higher, and in some sectors, such as leisure parks (water costs account for 5% of turnover), and public pools (25% of costs of turnover), saving water may be an economically more relevant issue.

Table 3.2 Pay-back times of water saving technologies

Annual savings of the solutions proposed								
		Annual savings			Investment	Payback	Consumption (m ³ /guest/day)	
		m ³ /year	Kg CO ₂ /year	€/year	€	Years	Before applied measures	After applied measures
Water-related technologies	Water saving system (faucets' flow-reducers, lavatories' double-discharge devices and high-efficiency household appliances)	461	495	3229	372	0.1	0.11	0.08
	Grey water reuse	106	114	742	2,425	3.3		
	Rainwater collection and management system	478	513	3,347	32,209	9.6		
	Total	1,045	1,122	7,318	35,006	4.8		

Source: Fortuny and others (2008).

With regard to strategies for adaptation, it is clear that overall water use is largely dependent on the tourist infrastructure, as extensive irrigated gardens, pool landscapes as well as spas and health centres, and golf courses contribute most to water use. Consequently, any destination or business focusing on these types of tourism will need to maintain considerable and possibly increasing water flows (for example Rico–Amoros, Olcina–Cantos and Suari 2009). Depending on the local situation, destination managers and other tourism stakeholders should thus consider their business plans under current and anticipated water use and climate change scenarios. Tourism stakeholders should however also consider policy developments. For instance, water abstraction for golf will be more heavily regulated through the national policy implementation of the European Water Framework Directive in the future (European Union 2000). In coming years, this will only lead to modest increases in prices, and, given the high profitability of golf course irrigation, will make it unlikely that water use will decline. In the long-term, policy thus needs to re-consider how to deal with highly water-intense tourism forms, and whether these should be given priority over other water uses such as agriculture.

Several authors have argued that prices for water should be increased in order to make the most competitive sector use water (for example Downward and Taylor 2007, Rodriguez Diaz and others 2007). This would lead to the abandonment of agriculture in favour of tourism, including golf, which is far more profitable in terms of 'value added'. While this makes sense from an economic point of view, it deserves to be investigated how such a strategy would affect food production, for instance through a growing need to import food from elsewhere, possible at a high energy (and thus water) cost for transportation, and perhaps from regions with even greater water scarcity, where unsustainable agriculture nevertheless make sense from neoclassical economic viewpoints.

Waste

Improved waste management provides opportunities for business and society. Lower levels of waste generation improves financial return for private sector actors, and better management of that waste creates opportunities for jobs, and enhances the attractiveness of destinations. Hamele and Eckardt (2006), reporting the results of an analysis of 36 hotels in the 2 to 4-star categories in Germany and Austria, show average values per overnight stay for solid waste (1.98 kg) and waste water (6.03 l). The average cost of managing these two waste streams is 0.28 € per occupied room night. Rainforest Alliance (2010) presents an estimation of costs and benefits of sustainable tourism management practices for a sample of 14 very small businesses in Latin America (Belize, Costa Rica, Ecuador, Guatemala and Nicaragua) based on GSTC indicators where solid waste was reduced in 71% of companies, with average annual savings of US\$ 3,600.

Biodiversity

UNEP (2010) argues that biodiversity conservation will be greatly affected by the way in which tourism grows and develops, especially in developing countries hosting biodiversity hotspots, where tourism is expected to become increasingly important. Demand growth for experiences that involve contact with wildlife and pristine (or near pristine) ecosystems and the expectations from guests that tour operators respect and protect the natural resource base are increasingly driving changes in the tourist industry. Policies of mainstream tourism are likely to change towards more effective protection of sensitive ecosystems, driven by market demand and large operators' programmes (for instance, cruise industry guidance on coastal systems). Moreover, the increasing trend for nature-based tourism will encourage conservation and tourism revenues (including protected-area fees) to grow in tandem. Current trends towards increasing nature-based and ecotourism are likely to continue or accelerate as pristine areas become increasingly rare, leading in turn to the incorporation of natural areas in tourism development and greater transfer of benefits toward natural areas.

Conservation and restoration provides a highly profitable, low-cost investment for maintaining ecosystem services (boxes 3.2 and 3.3). Avoiding loss of ecosystems by conservation, particularly of forests, mangroves, wetlands and the coastal zone, including coral reefs, is a sound investment from

a cost-benefit analysis. This appears to hold from both a societal investment perspective as well as a private one. The review of dozens of restoration projects worldwide concludes that even restoration compared to biodiversity loss provides a benefit/cost ratio of 3 to 75 in return of investments and an internal rate of return of 7 to 79% (Nellemann and Corcoran 2010).

Ringbeck and others (2010), for instance, report significant returns of green investments in tourism at major sun and beach destinations in Spain. The present value of investments (capital expenditure) on water and energy efficiency, emissions mitigation and biodiversity conservation measures amounted to US\$ 1,000 million, while the present value of savings are estimated at US\$ 2,500 million (a financial cost recovery of 117%), with strongest investment recovery from biodiversity.

Box 3.2 Strengthening the protected area network (SPAN)

Strengthening the Protected Area Network (SPAN) is a GEF-funded project designed to maximize the full potential of the protected-area system in Namibia. With GEF grant of US\$ 8.5 million and co-financing of US\$ 33.7 million, this six year project aims to improve the policy framework and management capacity, and establish new protected-area management partnerships. GEF analysis indicates that protected areas of Namibia contribute to 3.1 to 6.3% of its GDP through park-based tourism only. Investment by the government of Namibia in the past 20 years has achieved a rate of return of 23%. The government has increased the annual budget for park management and development by 300% in the past four years. 25% of the park entrance revenue is to be reinvested in park and wildlife management through a trust fund, providing additional sustainable financing of US\$ 2 million annually. First implemented in 2007, The National Policy on Tourism and Wildlife Concessions on State Land has approved more than 20 new tourism and hunting concessions. In two years of its implementation, it has generated more than US\$ 1 million annually in fees payable to the government. Local communities were granted most of the concession rights in protected areas, creating revenue and jobs for local people.

Source: GEF (2009).

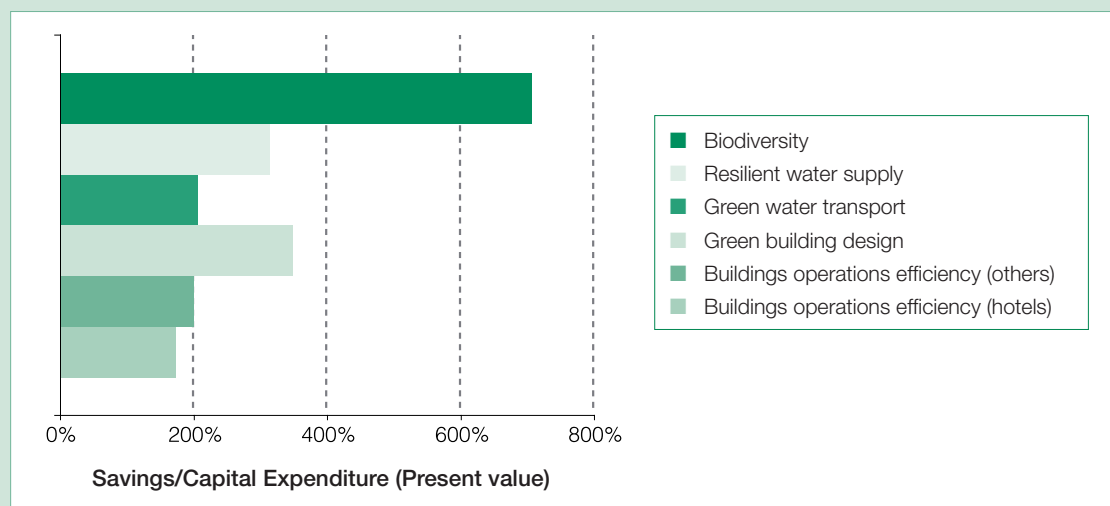
Box 3.3 Amani nature reserve, Tanzania

The Amani Nature Reserve was created in 1997 to protect the forest ecosystem of the East Usambara Mountains in Amani, Tanzania. Local community benefits from 20% of tourist revenue entering the reserve, which is annually average of 4 million TZS. Local guides receive 60% of the guiding fee, which is monthly average of 80,000 TZS per guide. Locals get direct pay of 10,000 TZS per person for the cultural tourism. Extra revenue is earned through sales of food and handcraft to tourist. After the creation of the reserve, previous practice of biodiversity destruction by locals such as fire incidence, illegal logging, and poaching and encroachment has reduced. Local community continues to support biodiversity of the region with practices such as dairy cow farming through zero grazing, beekeeping and apiary, fish farming, butterfly farming, and bio-intensive garden.

Source: www.equatorinitiative.org.

Box 3.4 Financial cost recovery of green programmes in tourism

Based on its experience with the greening process of one of the world's leading sun and beach tourist destinations (a seaside locale in Spain), Booz and Company report significant returns from investment on energy efficiency and GHG emissions, lower water consumption, better waste management practices, and biodiversity conservation. The green transformation strategy was developed after a thorough baseline analysis that showed, like most tourist destinations, unsustainable water and energy consumption patterns, problems with waste management and risk of total depletion of key natural resources like coral reefs and marine animals (main attractions). Investment recovery from green programmes ranges from 174% (hotel buildings operation efficiency) to 707% (biodiversity protection). Private investment and public funding was used to secure sufficient funding. The greening transformation followed a three-step process, including an assessment of the destination's environmental status, the development of a green strategy, and the collaborative execution of projects related to the green strategy.



Source: Ringbeck and others (2010).

3.4 Cultural Heritage

The largest single component of consumer demand for more sustainable tourism is for cultural authenticity (CESD and TIES 2005). Cultural heritage includes living cultures, mainstream and minority, as well as historical, religious, and archaeological sites. Tourism can offer opportunities for continuation, rejuvenation or enhancement of traditions and a way of life.

Culture is rarely static, and linking tourism and cultural survival may bring benefits as well as changes and challenges for a community to address. The possible socio-cultural costs and benefits of tourism to a vulnerable culture are rarely quantified. Tourism projects need to include a programme to monitor economic and cultural benefits so that vulnerable cultures can assess and manage the impacts of tourism on their communities (Wild 2010). Aside from the intangible benefits, most commentators believe that investment in cultural heritage is among the most significant, and usually profitable, investments a society, or tourism sector, can make (box 3.5).

Box 3.5 Differential economic contribution from cultural areas

In Western Australia, attempts have been made to measure the economic value of cultural heritage through direct tourism expenditure, using three locations: the city of Fremantle, the city of Albany and the town of New Norcia. In order to determine the proportion of the total overnight visitor expenditure that could be directly attributable to cultural heritage, an attribution factor was generated based on data from visitor surveys and other sources. The study found that between 63% and 75% of a visitor's expenditure was due to the cultural heritage of the area, generating in the region of US\$ 40–80 per visitor per day.

Source: Tourism Western Australia (<http://www.westernaustralia.com> (2010).

Further examples which illustrate the benefits of tourism in vulnerable cultures are given in box 3.6 and box 3.7.

Box 3.6 Valuing education – not the dollar: Camp Coorong in South Australia

Camp Coorong in South Australia (www.ngarrindjeri.com) has been run by the Ngarrindjeri Aboriginal people for 25 years as a place to teach their culture and history to Aboriginal and non-Aboriginal youth. It has bridged a cultural divide between cultures and rejuvenated many traditions. Over 2,500 students visit the camp annually learning about how to live in harmony with the land as the Ngarrindjeri have done for thousands of years, ensuring that food (bush tucker) and material sources from the land and the ocean are not depleted. Government support has been an important factor, but the dedication by the Ngarrindjeri to teach others has been crucial. These teachings, including basket-weaving lessons and interpretive walks, are available to schools and other interested groups. Building on the experience of Camp Coorong, the Ngarrindjeri have now expanded operations with the construction of the Coorong Wilderness Lodge.

Box 3.7 Government investment in culture and tourism – Manitoba

Government investment in culture and tourism: The Provincial Government of Manitoba in Canada recognizes the benefits to its Aboriginal people of supporting culture to build strong communities. They announced \$2.5 mn in their 2010 budget to build an interpretive centre for Anishinaabe culture near Lake Winnipeg. The initiative was driven by an elder wishing to pass on traditional teachings to the youth, many of whom have lost their language and connection to their culture. The interpretive centre will be a place of cultural teaching for Anishinaabe and others, including university students in Aboriginal studies programmes. It will also be a tourism attraction and a gateway for visitors to more northern communities and the boreal forest. The Anishinaabe are pursuing protected status for a vast tract of forest as a UNESCO World Heritage Site with the support of the provincial and federal governments. The interpretive centre will introduce visitors to Anishinaabe culture and the importance of protecting nature. It will be a partnership between the government and a NGO set up and directed by a group of Elders. It is expected to employ at least five local people in operations, with several opportunities for local entrepreneurs to develop nature-based and cultural tours. The building will be on crown land and is being designed to incorporate green energy and other new technologies while reflecting the traditional style and materials of the Anishinaabe. Operational funding and training will be supported by the government in the start-up phase with revenues expected to cover expenses in three years. The provincial government views the interpretive centre as a benefit for the Anishinaabe but also for tourism and the province as a whole, similar to a museum for example which receives public funding and is also an important tourist attraction.

Source: Wild, C. and Murray, J. (2009).

3.5 Modelling Tourism⁶

Summary

To quantify the likely effects of increased investments in tourism, a system dynamics model is applied. The two green investment scenarios (G1 and G2) simulated in the modelling exercise assume the respective allocation of 0.1% and 0.2% of global GDP (or US\$ 118 billion and US\$ 248 billion – in constant US\$ 2010, same measurement for monetary values below – on average per year) between 2011 and 2050 to the tourism sector, which is further disaggregated into energy, water and waste management, staff training, and biodiversity conservation. Assumptions of the model and results of simulations are detailed below.

Assumptions of the model

- (1) **Tourism energy management:** 18–25% of the tourism sector green investment (on average US\$ 22–61 billion per year) is allocated in 2011–2050 to both energy demand reduction through efficiency improvements and increase of renewable energy supply.

Abatement of emissions from energy use: Emissions from tourism activities are reduced in the green scenarios through efficiency improvements in tourism electricity and fuel consumption and behavioural changes towards longer stay and fewer trips, shorter travel distance and transport modal shifts (from aviation and private cars to cleaner transport, for example coach and electric railway). This investment adds up to US\$ 9–18 billion per year on average over the next forty years, or between 42% and 29% of the tourism energy green investment in the G1 and G2 cases. The same rates of efficiency gain and modal shifts as in associated GER sectors are assumed, while the assumption in increase of stay (by 0.5% per year) and reduction of trips (to retain total guest nights) is based on the UNWTO–UNEP–WMO report. The investment is estimated by using CO₂ abatement costs included in IEA's WEO 2009. More specifically for tourism transportation:

- The length of stay is assumed to increase by 0.5% per year (on average 3.7 days in 2050) in G1 and G2 instead of a 0.5% decrease per year (2.5 days in 2050) in BAU, in line with the UNWTO–UNEP–WMO report. To be consistent with the projected total guest nights in other scenarios, tourist arrivals in G1 and G2 are reduced. Thereby these travelling behavioural changes result in fewer but longer trips, but would not affect total number of guest nights. In addition, IEA's assumption of reduced travel is a good fit with the green tourism goal (short travel and longer stays).
- With respect to transport modal shift and energy efficiency in green scenarios, to ensure coherence across the sectors, the same assumptions as in the GER transportation sector are used for tourism. In accordance with IEA's reports, it is assumed that by 2050 in G1 and G2, 25% of car travel and air travel is replaced by bus or rail. The ratio of transport energy efficiency in G1 (by 23% by 2050) and G2 (by 60%) are based on the amount of green investment and unit abatement costs from IEA.

Renewable energy production: Additional investments of 58% and 71% of the tourism energy green investment (or US\$ 13 billion and US\$ 43 billion on average per year) between 2010 and 2050 are allocated to the introduction and expansion of renewable power generation and biofuel production. The cost assumptions are collected from IEA's WEO 2009.

6 This section is based on of Millennium Institute's work for the Green Economy Report. It presents the assumptions and results of the modeling exercise which includes tourism among other sectors like agriculture, fisheries, construction, transport and energy.

- (2) **Tourism water management:** Between 0.14% (G1) and 0.1% (G2)⁷ of the tourism sector green investment (on average US\$ 0.17–0.24 billion per year) is allocated in 2011–2050 to both water demand reduction through efficiency improvements and increase of water supply:

Water efficiency improvement: The amount of investment in water efficiency improvement, aimed at reducing tourism water demand, is assumed to be US\$ 0.15–0.16 billion per year on average (or 89–65% of investment in tourism water management) over the 40 year period. The unit cost is assumed to be US\$ 0.28/m³.

Water supply: The remaining (11–35%) of tourism water investment (US\$ 0.18–0.86 billion per year on average between 2010 and 2050) aims to increase water supply from desalination and conventional water sources:

- Desalination: 30% of water supply investment (US\$ 0.005–0.026 billion per year on average, G1 and G2 scenarios respectively), over the 40 year period will be invested in water desalination. The cost to supply water desalination is set at US\$ 1.1/m³.
 - Conventional water supply management: 70% of the total water supply investment (US\$ 0.013–0.06 billion per year on average) is allocated to conventional water supply management measures, including treatment of wastewater, reservoir storage, and surface and underground water supply. The unit cost to increase conventional water supply is set at US\$ 0.11/m³.
- (3) **Waste management:** 16–13% of the tourism sector green investment (on average US\$ 19–32 billion per year) is allocated in 2011–2050 to upstream (collection) and downstream (reuse) waste treatment:
- Waste reuse: 9% and 8% of the tourism waste investment is invested in waste recycling and recovery, totalling on average US\$ 1.7 and US\$ 2.4 billion per year over the next 40 years under G1 and G2. The unit costs of recycling and compost are assumed to be US\$ 138/t and US\$ 44.85/t respectively.
 - Waste collection: the remaining 91–92% of green investment in tourism waste management is allocated to improve waste collection rate, totalling on average US\$ 18 and US\$ 30 billion per year over the next 40 years under G1 and G2. The upstream cost of waste treatment is assumed to rise from US\$ 1083/t in 1970 to US\$ 1695.5/t in 2050.
- (4) **Training of employees:** 22% and 12% of tourism investment in G1 and G2, or US\$ 26–31 billion on average each year between 2011 and 2050. The cost of training per employee is assumed to be US\$ 117 for 120 hours, while all new employees attend training for one year in total over the duration of their career (together with the assumption that as many as possible would be local workforce). Overall, the total cumulative cost of training one employee is assumed to reach US\$ 2,854. A variety of scenarios were simulated to study and evaluate the impacts of the variation in training cost per employee per year, in the range of between 30% lower and higher than the assumed cost (or from US\$ 1,998 to US\$ 3,711).
- (5) **Biodiversity conservation:** 43–50% of tourism investment, or US\$ 50–123 billion on average each year between 2011 and 2050. Three scenarios are simulated based on different biodiversity conservation costs. These are (a) US\$ 119/ha, assuming only forest conservation -using the average cost offered by FONAFIFO; (b) US\$ 451/ha assuming the possibility to do forestry and agriculture on that land (based on the experience in Costa Rica, from Forestry chapter); (c) US\$ 1,380/ha assuming that housing and other related business opportunities can be created, based on what is offered by Amazon Carbon and Biodiversity Investment Fund (ACIF).⁸

7 The low level of investment allocated to tourism water sector is due to the relatively small amount of water consumption in tourism compared to the total of all sectors, as the same unit costs and improvement percentage are used for all water users.

8 The Amazon Carbon and Biodiversity Investment Fund (ACIF) offers between US\$ 276 and US\$ 3,450 per ha, but it is a very specific case for 100,000 ha (US\$ 3,450/ha seems high for an average). As a consequence, US\$ 1,380/ha is used as a maximum value of conservation cost in this analysis.

Results of the simulation

In the green economy scenarios, between 0.1% and 0.2% of total GDP (US\$ 118–248 billion) is invested per year (in between 2011–2050) in the tourism sector (for scenarios G1 and G2 respectively), impacting employment and economic growth across sectors (for example water and energy demand, waste generation, biodiversity and CO₂ emissions).

The results of the simulations of the G1 and G2 scenarios indicate that total arrival of international tourists will increase by 2.7–2.8% per year by 2030 and then at a lower rate of 2.3–2.5% per year (the forecast and simulations regarding international tourism growth are based on the Millennium Institute work for the *Green Economy Report*) in the longer term to reach 2.4–2.6 billion in 2050, which are 31–30% below the corresponding BAU scenarios due to the shift towards less frequent – but longer – trips in the green scenarios. The immediate impacts of international and domestic tourism will lead to a yearly direct tourism expenditure of US\$ 10.9 to US\$ 11.3 trillion on average between 2010 and 2050 in G1 and G2 respectively (in such areas as sales in the hotel sector, hotel payments for wages and salaries, taxes, and supplies and services). These direct expenditures have strong impacts on the destination economies resulting from various rounds of re-spending of tourism expenditure in other industries (i.e., industries supplying products and services to hotels). The total expenditure, including direct and indirect expenditures, will reach US\$ 20.6–21.5 trillion on average over the next forty years in the green cases. The resulting higher economic growth drives the sector GDP to grow from US\$ 3 trillion today to US\$ 9.3–10.2 trillion in 2050, exceeding the BAU cases by 3–7%. The direct employment in this sector is expected to grow to 531 M and 580 M in the G1 and G2 scenarios by 2050, compared to 515 Million and 544 Million in respective BAU cases. The training of these new employees requires US\$ 26–31 billion of investments per year on average in the next forty years.

Despite the growing flow of tourists, the green investments will lead to significant resource conservation through considerable efficiency improvements and reduction of losses:

- Tourism water consumption is projected to be 6.2–6.7 km³ in 2050 in G1 and G2, curbing the BAU scenarios by 23–18%. In the meantime, additional investments are projected to increase water supply, which is essential for many tourism dependent, water stressed countries – on average 0.005 and 0.02 km³ per year above BAU1 and BAU2 from desalination, and 0.1–0.6 km³ per year from conventional sources (treated wastewater, surface and underground water) through better management over the forty year period.
- Under the green scenarios, tourism energy supply and demand will see both the expansion of renewables and efficiency improvements across all tourism activities. The incremental renewable energy supply associated with tourism will be 13–43 Mtoe per year on average, including the expansion and introduction of renewable power generation and biofuels. On the demand side, the total energy consumption for various tourism activities will reach 1277–954 Mtoe in 2050 G1 and G2, representing 25–44% of avoided energy use relative to BAU1 and BAU2. These savings come from a mix of effective measures in individual activities – a modal shift to less carbon intensive transport (for example electrified train and coach), behavioural changes (for example shorter-haul trips) to reduce total travel distance, better energy management (for example setting targets and benchmarking for hotels) – as well as across all sectors – technological advances in fuel efficiency, reduction of inefficient uses due to better equipment or higher environmental awareness. More specifically, tourism transport, thanks to the transport sector investments, will see the largest saving – 370–604 Mtoe below the BAU cases, followed by accommodation with 56–150 Mtoe of avoided consumption in 2050.
- As a result of these energy savings, CO₂ emissions will be mitigated substantially relative to BAU cases (–31% and –52% by 2050), returning to the current level of 1.44 Gt under G2 in 2050 (or 7% of global emissions), compared to 2.06 Gt in G1. By then, transportation is still the principal emitter (1.3–0.7 Gt), with aviation and cars taking up 68–74% and 32–24% of the reduction respectively. Accommodation, as the second emitter, will account for 0.62–0.58 Gt of emissions in 2050. The remaining emissions of 140–98 Mt are caused across other tourism activities. In addition to the mitigation of emissions in the green economy, as climate is a key resource for tourism and

the sector is highly sensitive to the impacts of climate change, these sustainable practices will strengthen the adaptation capacity of destinations to unfavourable climate conditions.

- Furthermore, the investments in tourism waste management allow for a higher rate of waste collection and reuse (recycling and recovery). In 2050, 187–207 million t of waste will be generated by the tourism sector in green scenarios, compared to 170–180 Mt in BAU scenarios (due to higher GDP and nights in green cases). On the other hand, green investment is estimated to allow 57 Mt more reuse of waste than in the BAU scenarios, therefore cutting net waste disposal (taking into consideration waste reuse) in 2050 by 20 Mt and 30 Mt relative to BAU1 and BAU2.
- These savings will result in potential avoided costs that can be reinvested in socially and environmentally responsible local activities – such as local transportation and staff capabilities and skills –, increasing the indirect and induced effects of tourism expenditure on local development. In particular, the spending by foreign visitors from wealthier regions to developing countries helps to create much needed employment and opportunities for development, reducing economic disparities and poverty.

Additional scenarios were simulated to study and test the impacts of variations in the labour training cost. The values considered range from US\$ 1,998 to US\$ 3,711 for each worker, thus requiring US\$ 21.5–39.9 billion of investment for training employees in G2. With the total tourism green investment fixed to 0.1% and 0.2% of total green investment, changing cost assumptions influences the allocation of funds across areas of intervention. For instance, under the two extreme scenarios, the protected areas will range from around 100 Million ha per year on average in the context of high training cost – close to the G1 level –, to potentially above 1 billion ha per year allowed by low training cost.

The results of this modelling exercise demonstrate the positive effect of investing in a green tourism sector compared to the current situation. In purely economic terms, an annual investment of US\$ 118–248 billion (between 2011 and 2050) is likely to increase the tourism sector GDP by US\$ 279–714 billion compared to BAU scenarios. This investment also leads to increased employment of 16 M to 36 M people across the world by 2050 (with investment in their training), significant savings in water and energy consumption, and better waste management. The financial savings realised from these avoided costs can be reinvested to support local activities, creating a circle of investment and savings that benefits local communities and the environment.

Overcoming Barriers: Enabling Conditions

Tourism can have positive or negative impacts depending on how it is planned, developed and managed. A set of enabling conditions is required for tourism to become sustainable: to contribute to social and economic development within the carrying capacities of ecosystems and socio-cultural thresholds. This section presents recommendations to create the enabling environment for increased investment in sustainable tourism development, overcoming barriers in the areas of 1) private sector orientation, 2) destination planning and development 3) fiscal and government investment policies, 4) finance and investment 5) local investment generation. Recommendations are based substantially on the policy recommendations of the International Task Force on Sustainable Tourism Development (ITF-STD).¹

The first, and most cross-cutting, barrier to more green or sustainable tourism is the lack of understanding and recognition of the value created for companies, communities and destinations from the greening of tourism. The sharing of knowledge, information and experiences is a necessary first step toward addressing these barriers. And, all of the needed enabling conditions are predicated on this understanding by public, private and civil society actors.

4.1 Private Sector Orientation

Tourism is a heterogeneous industry² where hundreds (and sometimes thousands) of actors operate in multiple market segments, even within a single country or region. These segments include conventional and mass tourism as well as niche areas such as ecotourism, adventure tourism, rural tourism, community-based tourism, sports fishing, cruise tourism and more recently, health tourism. The principal businesses within the tourism industry are the hospitality sectors (lodging and catering), tour operators, and transport providers (land, air, and aquatic). In addition, tourism has diverse linkages through several economic activities, from lodging, entertainment and recreation, to transportation, professional services and advertisement, among others.³ While all can and should benefit in the medium to long term, greening will require very different actions and investments, and benefit companies in different ways – there is no single strategy or “recipe” for all to follow. A coherent strategy for green tourism growth must therefore cover all segments and activities, and the ways in which they interact.

The tourism industry is dominated by small and medium sized enterprises (SMEs). Although online travel agencies and large conventional tour operators control an important share of international travel from Europe and North America, tourism destinations are characterized by the predominance of smaller businesses. For example, close to 80% of all hotels are SMEs (WEF 2009a), and in Europe

1 The ITF-STD was comprised of members from UNEP, UNWTO, 18 developed and developing countries, seven other international organizations, seven non-governmental organizations, and seven international business associations. It was an outcome of the 2002 World Summit on Sustainable Development, which declared that “fundamental changes in the way societies produce and consume are indispensable for achieving global sustainable development”. The work of the Task Force will continue with its successor, the Global Partnership for Sustainable Tourism.

2 Tourism does not fit the standard notion of an “industry” because it is a demand-based concept. It is not the producer who provides the distinguishing characteristics that determine how tourism is classified, but rather the purchaser, i.e. the visitor (OECD, 2000).

3 The Tourism Satellite Account (TSA) indicates that “tourism industries comprise all establishments for which the principal activity is a tourism characteristic activity.” Tourism characteristic consumption products and tourism industries are grouped in 12 categories: accommodation for visitors, food and beverages serving activities, railway passenger transport, road passenger transport, water passenger transport, air passenger transport, transport equipment rental, travel agencies and other reservation services activities, cultural activities, sports and recreational activities, retail trade of country-specific tourism characteristic goods, and other country-specific tourism characteristic activities (see UNWTO, 2010c).

the figure is 90%.⁴ Additionally, providers of goods and services for the industry tend to be small, local businesses. Reaching out to such a wide variety of small businesses, across numerous sectors, continents and languages is a daunting task. Without information, knowledge and tools, greening will be nearly impossible. Nonetheless, engaging these critical actors is a necessary condition for a sustainable industry.

The ITF-STD (2009) recommends that “tourism businesses and government institutions in charge of tourism should adopt innovative and appropriate technology to improve the efficiency of resource use (notably energy and water), minimize emissions of greenhouse gases (GHG) and the production of waste, while protecting biodiversity, helping reduce poverty and creating growth and sustainable development conditions for local communities”.

The business case for investing in these areas is sound. At the private-sector level, hotel owners, tour operators, and transport services can play a key role in protecting the environment and influencing tourists to make sustainable choices. Increased public environmental awareness, including traveller awareness, has contributed to the development of a host of voluntary industry initiatives and the definition of environmental performance at the national, regional, and international levels (Meade and del Monaco 2000). Indeed, many larger corporations are already addressing their environmental and social impacts. In many countries small and medium enterprises account for the vast majority of businesses and can have a significant environmental impact; however they tend to be more reactive to addressing environmental issues (Kasim 2009).

Enabling conditions for engaging the industry

- 1) Tourism industry associations and wider industry platforms play an important role in engaging tourism businesses in sustainability as well as developing practical tools to respond to many common challenges. As in most industries, the concept of Corporate Social Responsibility is increasingly recognized in the tourism sector and is being promoted by sectoral industry bodies, at the international as well as national levels. However, a formal response, including measures such as triple bottom line reporting, environmental management systems and certification appears to be prevalent only within a selection of larger scale firms. Smaller firms are largely outside this sphere, and diverse supplier groups may not be connected at all. Experience in many countries has shown that concrete mechanisms and tools to educate SMEs are critical, but are most effective when they are accompanied by concrete, actionable items.
- 2) International development institutions, such as multilateral and bilateral cooperation agencies, and Development Finance Institutions (DFIs) should engage directly, to inform, educate and work collaboratively with the tourism industry to integrate sustainability into policies and management practices, and secure their active participation in developing sustainable tourism. At the national level, government and civil society engagement should be a critical part of these efforts to coordinate action.
- 3) The increased use of industry-oriented decision support tools would help speed the adoption of green practices. Hotel Energy Solutions, TourBench and SUTOUR are examples of projects designed to provide assistance to Europe’s tourism enterprises to identify potential investments and cost-saving opportunities for sustainable decision making to ensure profitability and competitiveness (saving money and investment in ecological building measures and equipment with low energy consumption), provide visitor satisfaction (fulfilling their demands and expectations for high environmental quality), achieve efficient use of resources (minimizing the consumption of water and non-renewable energy sources), secure a clean environment (minimizing the production of CO₂ and reducing waste), and protect biological diversity (minimizing the usage of chemical substances and dangerous waste products).

4 www.hotelenergysolutions.net, accessed on 30 September, 2010.

- 4) Development Finance Institutions (DFIs) will also be instrumental in bringing together disparate stakeholders in the tourism sector in a co-ordinated strategy to lead them towards a common goal. Though traditionally DMOs have undertaken marketing activities, their remit is becoming far broader, to become a strategic leader in destination development and management. Joined up management can help to avoid duplication of effort with regards to promotion, visitor services, training, business support and identify any management gaps that are not being addressed. DMOs can play an important role in enabling their stakeholders, in terms of preferential marketing arrangements, providing visitor information and promoting and facilitating private sector investment in sustainable tourism attractions, experiences, facilities and amenities. Since tourism is one of many SME sectors supported by the majority of these organizations the DMO, as a dedicated tourism agency, should play a strong policy leadership and coordination role to ensure a coordinated and well-directed effort in providing the widest possible range of support services to tourism SME's.

Box 4.1 Belek tourism investors association (Betuyab), Turkey

Founded in 1988, Betuyab is a management association under the leadership of the Ministry of Tourism and every company investing in the Belek Tourism Centre is required to be a member of Betuyab. The project aims to establish sustainable tourism in Belek Tourism Centre, and this is realized through cooperation among the investors, local inhabitants, the official association and establishments and the relevant ministries (Ministry of Tourism, Ministry of Environment, Ministry of Health, Ministry of Forestry, and so on). The project marks that, for the first time in Turkey, all the investors of a region have handed over the management to an establishment to develop the region sustainably.

The success of the Belek Tourism Centre is due to the innovative nature of the organization and to the consultative support received from the universities in the region. By bringing together the private and public sectors, there is greater trust, and therefore a greater degree of cooperation, among stakeholders.

Source: http://www.biodiversity.ru/coastlearn/tourism-eng/casestudies_belek.html.

- 5) The promotion and widespread use of internationally recognized standards for sustainable tourism can provide support to monitor tourism business operations and management. The private sector tends to perform best when clear criteria, objectives and targets can be identified and incorporated into their investment plans and business operations. The Global Sustainable Tourism Criteria (GSTC), issued in October 2008, provides the most promising current platform to begin the process of grounding and unifying an understanding of the practical aspects of sustainable tourism, and prioritizing private sector investment (see box 10 for examples of implementation).⁵

Recent studies on certification concludes that standardised labels could enhance sustainability by allowing consumers to make informed choices in favour of ecologically sustainable and socially responsible products and continue to work towards viable solutions for certification in tourism. However, due to the complexity of tourism and the fact that conditions vary across countries and regions, implementation in some countries can be extremely expensive.

⁵ The Global Sustainable Tourism Criteria Partnership began in 2007 and member organizations include the World Tourism Organization (UNWTO), United Nations Environmental Programme (UNEP), United Nations Foundation, Expedia.com, Travelocity-Sabre, and over 50 other organizations (Bien and others, 2008).

Box 4.2 Implementation of the GSTC

Various initiatives have been developed to encourage the use of the GSTC as guidance to identify and implement sound sustainability practices, including:

- The Egyptian government launched a new eco-label in 2009 called the Green Star Hotel Initiative (www.greenstarhotel.net), which is aligned with the GSTC and aims to cultivate Egyptian tourism as an environmentally-friendly industry.
- The Secretariat of the Convention on Biological Diversity (SCBD), the United Nations Environment Programme (UNEP) and others are collaborating to develop a training programme aligned with the Criteria for development institutions, UN agencies, CBD focal points, significant NGOs and cooperation agencies, regional agencies and UNDP country offices.
- Planeterra, a Canadian-based non-profit organization, is closely following the guidelines of the GSTC Partnership to develop an initiative supporting tour operators' efforts to meet the Criteria.
- The German Sustainable Development Cooperation Agency (GTZ), in cooperation with the Rainforest Alliance and others, is financing a project to build capacity among small tour operators in Latin America to become aligned with the GSTC.
- The International Ecotourism Society (TIES) has organised workshops for communities and ecotourism operators to assist with implementing the GSTC.
- The International Hotel and Restaurant Association has launched a new sustainable hotelier recognition programme (Emeraude Hotelier) aligned with the GSTC.
- Both Expedia and Travelocity have launched green travel websites featuring third-party certified hoteliers that are aligned with the GSTC.

Source: Ezaki, A (2010).

4.2 Destination Governance, Planning and Development

Destination planning and development strategies will be a critical determinant for the greening of tourism. Every destination is unique, and therefore each development strategy must be sensitive to the destination's unique assets and challenges, while creating a vision to deliver the destination's goals for environmental sustainability. Destination planners and policy officials are frequently unaware of the opportunities that greener tourism can bring to their destination. And even those who are aware usually lack the skills or experience necessary to build sustainability into new or ongoing destination development efforts.

Advancing greening goals through tourism planning and destination development requires the ability and institutional capacity to integrate multiple policy areas; consider a variety of natural, human and cultural assets over an extended timeframe; and put in place the necessary rules and institutional capacity. A destination cannot successfully implement a green tourism strategy without the right laws and regulations in place, or the right governance structure to oversee them. Legislation should protect the environment, limit potentially harmful development, control detrimental practices, and encourage healthy behaviour. It is clear rules in these areas, based on the destination strategy and its unique asset base, that determine the direction, scale and scope of government and private investment in more sustainable tourism.

In addition, the Global Partnership for Sustainable Tourism is an enabler of increased understanding and awareness of the needs and requirements to develop sustainable tourism strategically.

“The Global Partnership for Sustainable Tourism, [...] is designed to identify and disseminate successful initiatives from anywhere in the world and make them applicable elsewhere. The partnership will support implementation of policy recommendations and lessons learned in integrating sustainability in tourism, and develop new tools and projects where no existing solution has been found [...].

The new entity will focus on policy, projects, tools, and networks for all tourism stakeholders, at all levels, by addressing and working on: policy frameworks, climate change, environment and biodiversity, poverty alleviation, cultural and natural heritage, private sector sustainable practices, and finance and investment.”

UNEP, 2010

Enabling conditions for greener destination planning

- 1) Higher level government, community and private tourism authorities must establish mechanisms for coordinating with ministries responsible for the environment, energy, labour, agriculture, transport, health, finance, security, and other relevant areas, as well as with local governments. Clear requirements such as zoning, protected areas, environmental rules and regulations, labour rules, agricultural standards, and health requirements (particularly for water, waste and sanitation) establish clear “rules of the game,” and define the operating climate for investment. These decisions relate very closely to fiscal and investment considerations discussed in the following section.
- 2) Organizations engaged in developing tourism strategies should make use of credible scientific methods and tools encompassing economic, environmental and social approaches and assessments for sustainable development that will help stakeholders related to different components of the value chain understand their environmental and socio-cultural impacts.
- 3) Tourism Master Plan or Strategies provide a supply-side approach for developing a tourism destination. Environmental and social issues must be included in these plans in order to manage the critical assets and promote greener outcomes. Green transformation programmes will be more effective if produced by a multi-stakeholder participatory planning process (NGOs, local authorities, community based organizations, enterprises, experts, and Destination Management Organizations, and so on), as well as through the development of partnerships at local, national, regional and international levels. Multilateral environmental and social agreements and the organizations that support them should be included in the process.⁶

The following components are recommended for inclusion in a green tourism strategy, as a minimum:

- Mitigation of carbon emissions – including eliminating and reducing emissions, substituting environmentally harmful practices with more sustainable ones, offsetting emissions and choosing sustainably sourced goods and materials.
- Biodiversity conservation – development of national parks and wildlife corridors, regulation of access to fragile areas, protection of indigenous species and pest controls.
- Waste management – reducing potential waste streams and increasing recycling.
- Water supply – reduce consumption, reuse wastewater.
- Consideration and mitigation of impacts on socio-cultural and built heritage.

⁶ For instance, the principles of the Global Code of Ethics for Tourism adopted by UNWTO and endorsed by the UN General Assembly and the recommendations and guidelines provided by Multilateral Environmental Agreements and conventions as appropriate, including the Convention on Biological Diversity (CBD), the World Heritage Convention, the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD) and the Code of Conduct for the Protection of Children Against Sexual Exploitation in Travel and Tourism.

4.3 Fiscal Policies and Economic Instruments

The greening of tourism will require a more sophisticated use of instruments within governments' purview, such as fiscal policy, public investment, and pricing mechanisms for different public goods.

Tourism investments from the government should focus on business motivations for sustainable management as key targets. Incentives should be consistent with both environmental protection and value added creation. Market trends and competitive advantages need to be mutually reinforced. In this regard, policy coherence is a necessary condition. From a national perspective, environmental policy should address market failures (externalities) in a consistent manner, avoiding the creation of additional distortions through government interventions. Social policy should address compensation and benefits to workers, access to improved opportunities, human resource development, and value chain integration strategies. In the case of sustainable tourism policies, more coherence in terms of targets (location investments, development of specific areas for destination, national and local infrastructure investments), management (institutional coordination, impact analysis studies) and incentives (effectiveness, cost-benefit, and adequacy) is required to maintain sound competitive advantages.

Enabling conditions in fiscal and government investment policies

- 1) Defining and committing to critical government investments in the green enabling environment plays a central role in determining private sector investment and direction. Government investments in protected areas, cultural assets, water, waste management, sanitation, transportation and energy infrastructure investments play a critical role in private sector investment decisions toward greener outcomes. Investments in public infrastructure related to tourism or investments in private tourism businesses should estimate their social and environmental impacts and adopt economic measures to compensate and offset unavoidable impacts.
- 2) Appropriate taxation and subsidy policies should be framed to encourage investment in sustainable tourism activities and discourage unsustainable tourism. Use of taxation is often resorted to for keeping developments in limits (for instance, taxes on use of resources and services at the destinations) and controlling the specific inputs and outputs (like effluent charges and waste services).
- 3) Tax concessions and subsidies can be used to encourage green investment at the destinations and facilities. Subsidies can be given on purchase of equipment or technology that reduces waste, encourages energy and water efficiency, or the protection of biodiversity (payments for environmental services) and the strengthening of linkages with local businesses and community organizations.
- 4) Establish clear price signals to orient investment and consumption. The price for such public goods as water production and supply, electricity and waste management send important signals to the private sector. Governments frequently price these goods at very low levels (frequently even free) to encourage investment, only to find that the low prices encourage waste and place a drain on communities and make it very costly (financially and politically) to raise prices.

4.4 Finance of Green Tourism Investments

Environmental and social investments are relatively new, and remain outside the mainstream of financial markets (particularly in developing countries). In many cases, barriers are based on misperceptions or lack of knowledge. For example, for many green investments, payback periods and amounts are not clearly established (due to limited experience with them), creating uncertainty for banks or other investors that can jeopardize financing. Also, the return on many green investments includes easily

measurable components (such as energy savings), combined with more difficult to measure components such as “guest satisfaction” which can make calculating returns tricky.⁷

In other cases, framework conditions in destination countries limit investment. For example, higher interest rates in many countries make investments that are completely viable in wealthy countries, unviable in the local environment. Another frequently cited situation found in many developing countries is that the financial regulatory systems classify “environmental” investments as “non-productive assets”, requiring banks to hold greater reserves, resulting in higher interest rates and less investment.

Enabling conditions for finance

- 1) The single greatest limiting factor for SMEs in moving toward greener tourism is lack of access to capital for this type of investments. Green investments must be seen as value-added investment and made on their economic and financial merits, without prejudice. This will require greater private sector awareness of the value of green investment, and also policy coordination with Ministries of Finance and regulatory authorities.
- 2) Regional funds for local tourism development could also help overcome financial barriers for green investments where investments also generate public returns (through positive externalities) Foreign direct investment (FDI), private equity, portfolio investment, and other potential funding sources should be also aligned with sustainable projects and strategies for the tourism industry. Ringbeck and others (2010) argue that not all green initiatives are financially possible for the local or national parties undertaking them, and destinations are not always able to generate enough revenue through their own resources. When local financial resource limitations exist, obtaining external funding could help ensure the long-term sustainability of investments.
- 3) Mainstream sustainability into tourism development investments and financing. In this regard, the Sustainable Investment and Finance in Tourism (SIFT) network is working to integrate the expectations of private investors, the leveraged strength of the financing and donor community, and the needs of developing destinations. The SIFT Network aims to establish a common, voluntary standard to encourage greater sustainability in tourism investments by public, private and multilateral investors; intensify financing of sustainable tourism projects; increase sustainable investments in the tourism sector; improve capacity of developing destinations; and leverage unique knowledge and reach others. SIFT efforts should permeate to regional, national and local financial organizations (counterparts), and help integrate other global sustainable financial initiatives (for example UNEP-FI, Equator Principles) to support green investments in tourism.
- 4) Establish partnership approaches to spread the costs and risks of funding sustainable tourism investments. In the case of small and medium enterprises, for example, besides sliding fees and favourable interest rates for sustainability projects, in-kind support like technical, marketing or business administration assistance, could help to offset the cash requirements of firms by offering them services at low cost. In addition, loans and loan guarantees could include more favourable grace periods before the onset of payments, no personal asset guarantees, longer repayment periods, or even reduction of loan amount for prompt payments. Loans for sustainable tourism projects could be set up with guarantees from aid agencies and private businesses, lowering risk and interest rates.

4.5 Local Investment

Sustainable tourism creates additional opportunities to increase local economic contribution from tourism. An often overlooked aspect of these linkages is that they also offer opportunities for increased

⁷ For example, Frey (2008) found in a study of South African tourism businesses that 80% of study respondents agree that responsible tourism management leads to enhanced employee morale and performance, improves company reputation and is an effective marketing tool, but businesses are not investing time and money into changing management practices.

investment in local communities. Capitalized and formalized businesses in the tourism value chain enhance local economic opportunity (through employment, local contribution and multiplier effects) while also enhancing local competitiveness among tourists demanding greater local content. This “win-win” situation is recognized in the UNWTO’s ST-EP initiative (see box 11). Notably, many of the targeted mechanisms are investment enhancing as well as local income-enhancing.

Box 4.3 The Sustainable Tourism for Eliminating Poverty (ST-EP) initiative

UNWTO’s Sustainable Tourism for Eliminating Poverty (ST-EP) initiative has identified seven different mechanisms through which the poor can benefit directly or indirectly from tourism:

- 1) Undertaking measures to increase the level of the poor working in tourism enterprises;
- 2) Maximizing the proportion of tourism spending that is retained in local communities and involving the poor in the supply process;
- 3) Promoting the direct sales of goods and services to visitors by the poor from informal businesses;
- 4) Establishing and managing more formal tourism enterprises by the poor, either individually or at a community level;
- 5) Using taxes or levies on tourism income or profits with proceeds benefiting the poor;
- 6) Supporting the poor in money or in kind, by visitors or tourism enterprises; and
- 7) Investing in infrastructure that offers local communities the chance to gain new access to available resources.

Source: UNWTO (2004b).

This promotes a greater number and variety of excursions in a given destination, a “buy local” movement in food and beverages sector and growth of specialized niches. Efforts by tourism businesses to include local communities within value creation, public and private initiatives of local workers training, and the development of infrastructure and supporting industries, creates new conditions for business development, more equitable growth and less leakage. These businesses require investment, and can expect substantial growth opportunities in successful destinations.

Enabling conditions for increasing local contribution

- 1) Strengthen tourism value chains to back SME investment. Destination tourism is usually stable enough to provide sufficient guarantees for investors and bankers. Long-term contracts for products and services to hotels or other “anchor” businesses create suitable conditions, and simple mechanisms to monitor performance.
- 2) Expand the use of solidarity lending mechanisms to permit groups of local suppliers to access credit and build capital. Solidarity lending (guarantees provided by a peer group) has proven successful in fisheries, agriculture, and handicrafts – all industries of critical importance to successful sustainable tourism destinations.
- 3) Enhance development bank access to individuals and small businesses that are not eligible for credit, or are involved in the provision of public services (such as protected areas management, guiding, waste management, infrastructure construction, among others).
- 4) Establish seed funds to permit new green industries to develop locally. For example, solar collectors and photovoltaic systems can be imported as complete systems, or can be assembled locally

from imported components. The latter encourages local investment and promotes local economic contribution. It also permits adaptation of the technologies to better suit local tourism needs. This could be achieved by having appropriate taxation and incentive policies that incentivize local purchases and discourage outside imports and also by encouraging clusters and networking among businesses through policies that incentivize investments in designated clusters. Investment in human resource development at destinations could ensure supply of trained manpower by the local community so that incomes are retained locally.

Box 4.4 below outlines specific initiatives to support SMEs.

Box 4.4 SME support initiatives

- Tourism incubators. Awareness about the different activities related to the tourism sector might be strengthened by bringing together a cluster of tourism-related small enterprises within a particular building. This could include a travel agency, one or more tour operators' offices, booking offices for accommodation, a number of self-catering accommodation units, a craft outlet, a restaurant, a sports- or tour-equipment retailer, an Internet café and a tourism-information point. Ideally such a cluster would also attract one or more small-enterprise consultants and/or private training facilities (including the hospitality sector) and possibly even a financial institution (in the near vicinity). The proximity of these establishments and certain business services may help individual tenants to draw on a support network and share and exchange services to reduce costs and improve efficiency. Ideally, the infrastructure for such a project and some of its managerial nucleus would (initially) be funded via foreign donor aid or mixed corporate-donor sponsorships.
- Tourism-information network or help desks. The establishment of a tourism-information network as a set of multipurpose marketing, information and advice centres established in a cost-effective decentralized way across destinations could provide easier access to business support services and advice for cash-strapped entrepreneurs. If properly funded and managed the grid might effectively address several of the SME-support issues and also help local communities to market their attractions to visitors. It could also help to spread information among visiting foreigners who might want to become investors in local (joint) ventures.
- Preferential procurement. The preferential involvement and contracting of SMEs to provide services to major events, conferences and exhibitions may offer smaller companies an excellent effort of entering the market, while offering cost advantages to organizers. Similarly it should be recognised that the Government is usually a major consumer of travel services. The DMO could advance an initiative for government departments and agencies to procure travel and tourism services from registered SMEs.
- Involvement of local communities in tourism efforts. The DMO should place great emphasis on the involvement of local communities in the planning of new tourism facilities and their involvement in subsequent add-on activities like the supply of craft products, transport services, the establishment of camping places or caravan parks in the area or the supply of home-stay facilities. In terms of the approach presented in this section these efforts are very important and call for effective steps as part of the full spectrum of SME support. Existing or new support suppliers should liaise closely with local communities to fully understand opportunities, obstacles and feasible approaches, and they should then design creative policies to facilitate these processes.

- **Product Clusters.** Tourism businesses can also be clustered together by similar technology or geographic concentration, or products linked by specialist supply chains, training, finance and research facilities. Rather than viewing similar businesses as competition, SMEs can benefit significantly from clustering by networking and sharing information. Clustering provides SMEs with benefits that would be unavailable or only available at greater cost to non-clustering members thereby giving SMEs similarly competitive advantages as those accessible to larger firms. Tourism businesses can build on the coordination of complementary assets at the destination and cooperatively manage their resources and marketing. Benefits include, providing access to research or contribution to market data, effective for lobbying and collective action for trade-focused activity, better business opportunities and marketing support.
- **Focused centres of excellence.** These are hubs for research, technology, training, teaching and development. They offer businesses the benefits of a skilled workforce and provide ongoing training for those wishing to upgrade their skills. This skilled workforce in turns attracts more business, providing more jobs.

Source: UNWTO (2007b).

Regional Case Studies

These regional case studies have been compiled from the contributions of authors based (or with significant working experience) in Europe, South America, Asia, North America (United States of America) and Africa. They therefore reflect the knowledge and experience of those contributing authors and provide an elaboration of the key messages arising in earlier sections.

5.1 Europe

5.1.1 Overview

Local and national authorities are increasingly using the term sustainable tourism and placing it on their agendas. This is expected to increase further in the future when the potential of sustainable tourism for employment generation and for enhancing competitiveness will become more evident. The tourism industry has also realized the potential from this trend and is shifting several existing products or developing new ones to align to the characteristics of a greener travel. This is also expected to increase as the number of tourists globally increases and as more and more consumers become aware and demanding of environmentally sound forms of tourism.

Tourism as an activity is multifaceted and cross-sectoral, involving a broad spectrum of sectors, stakeholders and geographical areas. This further increases fragmentation in tourism policies and coordination, which has profound effects in tourism planning and in coordinating activities between not just public agencies but also between the industry or the public and the private sector. These forms of partnerships are essential if sustainable tourism is to become competent. Both public and private investments and actions are needed in order to promote sustainable tourism.

This fragmentation also applies to data availability for tourism and more specifically green tourism. Accurate, comprehensive data are essential for the monitoring of green tourism activities, their implementation and their impact, and the planning of future activities.

Sustainable tourism is an overarching notion. It covers all forms of tourism, ranging from mass traditional tourism becoming more environmentally friendly, culturally sensitive and socially responsible, to new forms of ecotourism and nature-based recreational activities. Nature-based tourism and recreation, although apparent in Europe, are not broadly developed and planned. In the case of mass tourism, this has been left to the initiatives of the private sector alone. Sustainable tourism also covers a broad spectrum of business enterprises both in size and in the field of operation. SMEs very often lack the know-how and the skills to get information, funding and training for the greening of their business or the development on new, green products.

European Union (EU) funds are available from several sources including structural funds and research projects. However, the dissemination of information and networking, in all its funded projects, has proved rather poor. Very often the research results do not become broadly available while their processing and adoption in market terms by tourism businesses is lagging behind.

5.1.2 Challenges and Opportunities

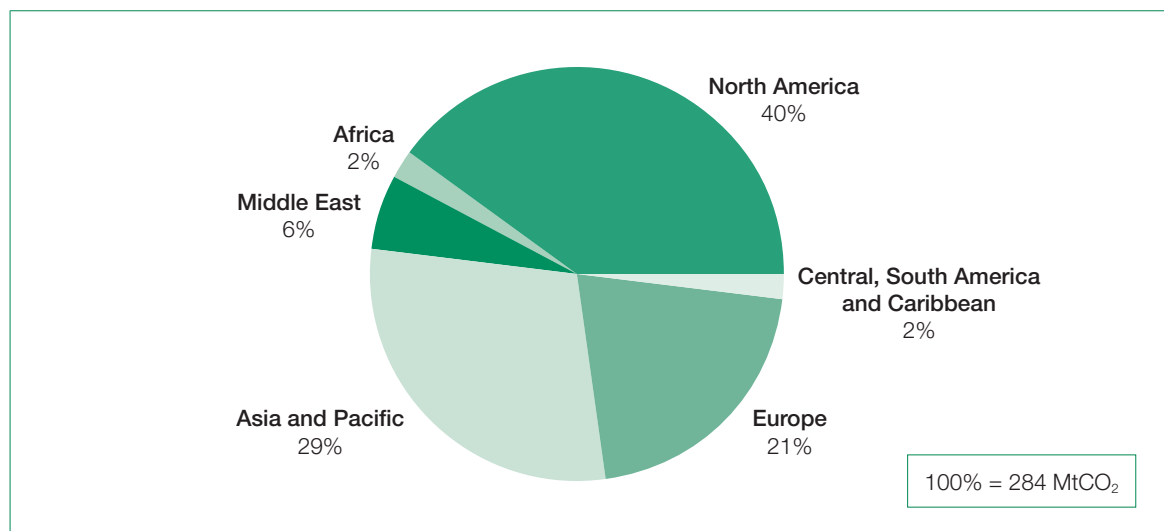
Emerging destinations

Although Europe remains the most visited destination worldwide, new emerging destinations are displaying much more growth. Whilst Europe registered an average growth rate of 2.8% in international tourist arrivals for 2000–2008, the Middle East grew by 10.5%, Africa by 6.7% and Asia and the Pacific by 6.6% (UNWTO 2009). According to UNWTO, the share of international tourist arrivals to Europe will shrink to 46% by 2020, compared to 60% back in 1995. Europe therefore has a challenge to increase its competitiveness for both intra-European and inbound tourists.

Energy and GHG emissions

As shown in figure 6 below, Europe accounted for 21% of GHG emissions from tourist accommodation in 2005 in spite of its larger share of tourism volume (more than 50% of international tourist arrivals) (World Economic Forum 2009). This is attributed to more efficient energy use and cleaner sources of power generation such as hydroelectric and natural gas. According to the World Economic Forum, accommodation emissions will grow at a rate of 3.2% annually, reaching 728 Mt CO₂ by 2035. This increase will not be distributed evenly across the globe and Europe is expected to decrease its share on global emissions by 10% in 2035 as compared to 2005.

Figure 5.1 Accommodation emissions (Mt CO₂), 2005



Notes: 1) IPCC Fourth Assessment Report estimates global building emissions at 8 Gt CO₂.

2) Emissions estimate might be slightly higher due to conservative estimates of energy use per guest night from Green Globe Benchmarks.

Source: UNWTO, WRI, IEA, Booz & Company analysis.

Sizing and growth of sector

Europe, with 473 million arrivals in 2010, is by far the most popular tourist destination worldwide, representing a share of 50.5% in international tourism (UNWTO 2010). International tourism receipts in Europe were € 296 billion (or US\$ 413 billion) in 2009 (UNWTO 2010). According to the World Travel and Tourism Council (WTTC), Travel and Tourism in Europe had a recorded value added (direct industry GDP) of more than US\$ 709 billion in 2009. If one considers the broader economic contribution of Travel and Tourism to GDP, this exceeds US\$ 2,000 billion. The weakening of the Euro, as experienced in 2010, is expected to make Europe a more attractive destination to overseas tourists. American and

Asian travellers hold a promising opportunity for both new and mature European destinations. The slow recovery of the United States of America economy and the growing economies of Brazil, China and India with a growing middle class ready to travel, support this scenario. 40% of tourist arrivals in Europe are international with 7.6 million of these from BRIC countries (Brazil, Russian Federation, India and China) in 2008, a significant increase over the 4.2 million in 2004 (European Commission 2010).

Box 5.1 below summarises some of the key volume and value figures for Europe.

Box 5.1 Summary of key data for Europe

Tourist arrival:	472.7 mn (in 2010)
Tourism receipts:	US\$413.0 bn (in 2009)
Global share of tourists:	50.5% (in 2010)
Jobs:	Travel and tourism is expected to support directly 9,709,000 jobs (2.6% of total employment) in 2011
GDP:	The direct contribution of travel and tourism to GDP is expected to be US\$ 554.5 bn (2.8% of total GDP) in 2011
Exports:	Travel and tourism visitor exports are expected to generate US\$ 487.2 bn (6.0% of total exports) in 2011
Trends and outlook:	International tourism shows sign of recovery in 2011. Although the disaster in Japan will hold back its outbound travel by an estimated 10% economic recession is left behind in most tourist generating countries. This is reflected in international tourism and Europe will see a moderate share of this increase in its tourist market.

Source: UNWTO (2011b), WTTC (2011).

Jobs and local development

The European Commission (EC) has long acknowledged the potential of tourism to generate jobs at a rate above average compared to the European economy as a whole. Data from WTTC show that the direct impact of travel and tourism GDP generated more than 31 million jobs in Europe in 2009. It is characteristic of the sector that the vast share of enterprises operating in European tourism are micro and small enterprises (enterprises with less than 49 employees) which is significant for local sustainable development. These businesses in the hotel and restaurant sector alone employed 72% of its workforce in 2005 in EU-27 (Eurostat 2009).

Changing consumer patterns

According to the International Ecotourism Society, ecotourism has an annual growth of 15%, which is four times faster than traditional forms of tourism. Nature-based tourism and the use of biodiversity as a business opportunity holds a promising value. Nevertheless, in Europe the situation is still lagging and no comprehensive management of natural assets for recreational purposes is set by any overarching or supra-national organization. However, new forms of tourism are a reality in Europe too. Aggregate Industries United Kingdom made a proposal to use wetlands for a mix of purposes including recreation and tourism. The study showed that the economic benefits would outscore any costs as shown in

Box 5.2 Valuing the benefits of wetland restoration in North Yorkshire, United Kingdom

In support of a request to extend an existing quarry in North Yorkshire, Aggregate Industries United Kingdom (a subsidiary of Holcim) proposed to create a mix of wetlands for wildlife habitat as well as a lake for recreational use, following extraction of sand and gravel from land currently used for agriculture. Stakeholders were consulted to determine their preferences. Ecosystem valuation was undertaken in 2009–2010 to estimate the benefits associated with wetland restoration. Using a 50 year time horizon and a 3% discount rate, the study concluded that the value of biodiversity benefits generated by the proposed wetlands (US\$ 2.6 million in 2008), the recreational benefits of the lake (US\$ 663,000) and increased flood storage capacity (US\$ 417,000) would, after deducting restoration and opportunity costs, deliver net benefits to the local community of about US\$ 2 million, in present value terms. Moreover, the marginal benefits of wetland restoration far exceeded the current benefits derived from agricultural production. The study further shows that the costs of ecosystem restoration and aftercare are low compared to both the economic benefits of wetland restoration and the financial returns from sand and gravel extraction.

Source: TEEB (2009a).

Environmental benefits

Fuel saving has been up to 70% for aviation in the last century and air-transport is a sector with continuous investments and improvements in aircraft shipping and fuel use. This trend will continue in the future as it allow for value saving and customer satisfaction. Box 5.3 below summarizes the SESAR project for sustainable air transport.

Box 5.3 Single European Sky ATM Research (SESAR) project

The Single European Sky ATM Research (SESAR) programme is one of the most ambitious research and development projects launched by the European Commission. The programme is the technological and operational dimension of the Single European Sky (SES) initiative to meet future capacity and air safety needs.

The mission of the SESAR Joint Undertaking is to develop a modernised air traffic management system for Europe. This future system will ensure the safety and fluidity of air transport over the next thirty years, will make flying more environmentally friendly and will reduce the costs of air traffic management.

Partners

SESAR is a joint undertaking, an international public-private partnership. Founded by two international organizations – the **European Community and Eurocontrol** – it unites 16 members representing the whole aviation community. Several members are made up of consortiums, which brings the total number of organizations directly and indirectly bound to SESAR to up to 35. These 35 companies also have affiliates and sub-contractors. As a result, a total of 70 companies are participating in SESAR, demonstrating the impact of the programme on ATM Research and Development activities in Europe.

Moreover, experts and stakeholders participate in dedicated committees.

Funding

The total estimated cost of the development phase of SESAR is **€ 2.1 billion**, to be shared equally between the Community, Eurocontrol and the industry (€ 700 million Community, € 700 million Eurocontrol, € 700 million industry).

Environment

The aim of the SESAR Joint Undertaking is to become the most environmentally conscious ATM development programme in the world. SESAR aims to reduce the environmental impact per flight by 10% without compromising on safety but with clear capacity and cost efficiency targets in mind.

Its long-term objectives are to:

- **Achieve emission improvements** through the optimisation of air traffic management services. The SESAR target for 2020 is to enable 10% fuel savings per flight as a result of ATM improvements alone, leading to a 10% reduction of CO₂ emissions per flight.
- **Improve the management of noise emissions and their impacts** through better flight paths, or optimised climb and descent solutions.
- **Improve the role of ATM in enforcing local environmental rules** by ensuring that flight operations fully comply with aircraft type restrictions, night movement bans, noise routes, noise quotas, and so on.
- **Improve the role of ATM in developing environmental rules** by assessing the ecological impact of ATM constraints, and, following this assessment, adopting the best alternative solutions from a European sustainability perspective.

Target 2020

Average save per flight:

- 8 to 14 minutes
- 300 to 500 kg of fuel
- 948 to 1575 kg of CO₂

Source: <http://www.sesarju.eu/>.

5.1.3 Overcoming Barriers: Enabling Conditions

Private sector orientation

The following examples demonstrate how the private sector in Europe has been enabling a move towards tourism which is more sustainable.

Commencing with the example of water use and quality, the tourist industry has shown a strong interest in water saving in its operation. The reciprocal nature of related initiatives has made relevant measures particularly attractive. Water efficiency is a field of standards required in most European and international certification and environmental management schemes such as EU eco-label or EMAS. Nevertheless, comprehensive data sets for related actions and investments across Europe are rather absent.

A case study is presented from the industry and more specifically ACCOR Etap Hotel Birmingham (see box 5.4).

Box 5.4 ACCOR Etap hotel Birmingham

Accor Hotels environmental and water efficiency policy

Accor Hotels launched in 2006 the “Earth Guest programme” with the aim to respond to growing social and environmental concerns.

Water is one of the priority fields of the programme with the main objectives to: (i) install water efficient equipment, (ii) limit water consumption, (iii) recycle water when possible, and (iv) treat waste water.

Etap Hotel Birmingham, a hotel equipped to recover rainwater

In the United Kingdom, the Etap Hotel Birmingham City Centre installed in 2007 a rain water recovery system, which saves the hotel up to 780m³ of water a year.

The ACCOR Group, within the scope of its targets for reducing water consumption, uses systems which allow rain water to be recovered for re-use. The group is thus testing techniques already applied in Belgium, Germany, Sweden and Norway. The recovered water is mostly used for supplying toilets, watering green spaces, maintaining soil and washing vehicles.

In the case of the Etap Hotel in Birmingham, the rainwater is used for supplying the toilets in the rooms. The procedure is simple: the water recovered, generally from the roof is stored in a tank instead of being routed directly to the drain system.

Of the 250 rooms in the hotel, 90 have toilets supplied by the rainwater recovery system. The estimated savings represent between 5 and 10% of the total water use of the Etap Hotel Birmingham. However, depending on the uses, the type of system and the amount of rainfall, even greater savings can be expected (between 25 and 50% of total water consumption).

The total annual savings are **780 m³** of water while the **return on investment** is estimated in **14 years**. There are plans to expand the use of the system at first to the Etap Hotel in Cardiff. 140 rooms will be equipped with this type of system, providing an annual saving of 1,150 m³ and an expected payback time is 9 years.

Source: <http://www.accor.com/en/sustainable-development/eco-priorities/water.html>.

With regards to biodiversity, the Natura 2000 network is a basic instrument in the effort for biodiversity protection while LIFE programme is funding tool for research and projects on biodiversity across Europe. Both have been used extensively in relation to sustainable tourism. Box 17 presents a case study from a United Kingdom based tour operator offering nature tours. LIFE projects aiming at biodiversity and ecosystem conservation since 1994 have a budget of over **€ 144 million** out of which the EU's contribution is nearly € 73 million while the rest is from national funds.

Box 5.5 Steppes Travel nature holidays

Steppes Travel is a United Kingdom based outbound nature tour operator which offers holidays and tours that support wildlife and conservation. Tours are designed to use tourism as economic leverage with local communities, and to support them in protecting their environment and culture. Local NGOs and conservationists are actively involved in the planning and offering of the nature travel. In this way, visitors are offered a well informed insight, nature conservation is assured and funds are raised.

Funds are transferred to the projects on a per participant or lump sum basis to cover project costs. Typical funds range from US\$ 150–500 per participant or a lump sum of US\$ 3,000–15,000. Up to now, Steppes has raised £ 1 million which have been donated to NGOs and local conservationists and researchers to protect ecosystems and biodiversity all over the world.

Benefits however for the local community are not just in cash. The organization of the tours involves local businesses and local products strongly supporting employment and local economy. Awareness raising among visitors is also high and they tend to become “ambassadors” of the species protection once they get back home.

Although most of Steppes activities are in long-haul destinations, nature travel to Europe has been offered for the last 13 years. Past projects include the protection of whales in Norway and of bears in Slovakia while a programme which will be available shortly regards the protection of wolfs and bears in Sweden.

Since 1997, Discovery Initiatives has collaborated and partnered with 37 NGOs, including WWF-United Kingdom, Rainforest Concern United Kingdom, Integrated Rural Development of Nature and Conservation (Namibia), Rivers Canada, Mongolian Association for Conservation of Nature, Big Game Parks (Swaziland), Chobe Wildlife Society (South Africa), Pacific Whale Foundation (Hawaii), Conservation International (United States of America), the Jane Goodall Institute (United States of America) and Orangutan Foundation United Kingdom. The holiday programmes have also greatly benefited Discovery Initiatives’ business, which grew more than 25% in 2002.

Source: http://www.toinitiative.org/fileadmin/docs/case_studies/discovery.pdf and personal communication.

With regards to energy saving and emissions reduction boxes 18 and 19 present the actions taken by two European companies and illustrate the related savings achieved as a result.

Box 5.6 TUI AG climate change strategy

Since the early 1990s, TUI has engaged in projects and partnerships designed specifically to protect the climate, consulting with academics, politicians, the private sector and civil society. TUI’s climate strategy is based on preventing and reducing emissions (mitigation) and adjusting corporate activities as effectively as possible to climate change and its impact (adaptation).

The Strategy includes all the activities of the Group:

A. Airlines

- By the end of financial year 2013/14, TUI airlines aim to reduce their specific CO₂ emissions by at least 6% compared with the 2007/2008 base period.
- TUI airlines and tour operators offer their customers carbon offsetting schemes when they book a flight. From the introduction of this scheme until November 2009, TUI fly passengers have made this dedicated donation in about 6% of bookings. That is higher than average for the sector and equates to more than € 660,000 in money terms, or to an offsetting of approximately 33,000 t of CO₂. This is currently being used to finance low-energy cookers in Madagascar.
- Following a decision by the European Union (EU), aviation will be incorporated into the European Emissions Trading System (ETS) as of 2012. The TUI Group airlines have adjusted all flight operation processes to meet the new legal provision.
- By 2014 a fleet renewal programme will continuously replace older planes with more efficient aircraft. TUI has ordered state-of-the-art Boeing B787 Dreamliners, to be delivered as of 2012. The TUI airline’s fleet renewal programme will save up to 2.5 million t of CO₂ by 2013/14 which corresponds to a 6% reduction on 2007/08 levels.
- TUI airlines are implementing an action package in technical innovation to enhance efficiency and reduce greenhouse gas emissions with a package of over 30 measures for the progressive reduction of aircraft emissions.

B. Hotels and Resorts

TUI Hotels and Resorts have among their main priorities to reduce energy use and impacts on global climate. The aim is to increase the proportion of renewable energies for heat and power in TUI hotels in the future. Climate change projects in TUI Hotels and Resorts include:

- At ROBINSON Club hotels measures include energy efficiency with the use of low-energy light bulbs and renewable energy use. Power consumption is also being reduced by using energy-efficient domestic appliances and screens, and smart controls have been installed to manage heating and air conditioning.
- ROBINSON Club Amadé in Kleinarl (Salzburger Land, Austria) uses energy from a CO₂-neutral biomass power plant using ultramodern condensation technology. Local farmers supply the biomass plant with shredded wood chips from the forests – a renewable resource. The Club was able to avoid the expense of an oil-fired heating system and 100% of its heating and hot water is provided by the biomass plant. The facility has saved about 800,000 l of heating oil per annum.
- A number of Grecotel hotels have installed solar technologies, using the sun's energy for hot water and heating supplies. The Hotel El Greco on Crete has fitted air conditioning cooled by sea water to save further energy and resources.
- In mid-April 2004 the Iberotel Sarigerme Park became the world's first-ever hotel to commission a parabolic trough collector. The hotel's solar collectors are the perfect solution to cooling buildings in sun-soaked countries. Heat from the collectors is also used by the system to power the hotel air-conditioning and generate its hot water.

C. Cruises

TUI's cruise operators have introduced various measures to protect ecosystems, maritime biodiversity and the climate. The vessels operated by Hapag-Lloyd Kreuzfahrten and TUI Cruises are equipped with state-of-the-art environment technology. In the Arctic and Antarctic cruise liners use diesel rather than heavy oil, and they are encouraged to use diesel in other waters, too. As a member of the International Association of Antarctica Tour Operators (IAATO) and the Association of Arctic Expedition Cruise Operators (AECO), Hapag-Lloyd Kreuzfahrten observes their environment guidelines on all Arctic and Antarctic voyages. By suitably adjusting the cruising speed, the amount of fuel used can be reduced.

D. Retail and Tour Operator

- Green power. The 700 or so retail outlets within the German TUI travel agency structure receive their electricity from NaturEnergie AG and save almost 6,000 t of CO₂. Most branches of TUI Nordic and 230 First Choice travel agents in the United Kingdom buy "green" power from renewable energy sources.
- Train to plane. In partnership with German rail operator Deutsche Bahn AG and the Association of German Transport Companies (VDV), every package flight booking with TUI Deutschland includes a rail ticket to get people from home to their chosen departure airport and back anywhere on the German network.
- Voluntary carbon offsetting. Many operators in the TUI Group work with independent partners to promote carbon offsetting. Clients' donations are invested in projects around the world to cut emissions:
 - i. Since June 2008, as part of the TUI Climate Initiative, clients of TUI Deutschland have been able to offset their entire trip (including accommodation) through myclimate, contributing in this way to climate protection. TUI Deutschland adds € 0.50 every time a booking is made with this donation.

- ii. Thomson and First Choice support carbon offsetting for outbound and inbound flights via the World Care Fund in partnership with ClimateCare. The operator adds £ 1 to each donation.
- iii. TUI Nederland tells clients how they can offset their carbon emissions through a provider like GreenSeat.
- iv. TUI Suisse also lets holiday-makers use the offset option through myclimate.
- v. TUI Nordic offers clients in Scandinavia the chance to arrange carbon offsetting through the providers atmosfair and ClimateCare.

Source: http://www.tui-group.com/en/sustainability/env_management/climate and TUI Sustainability Report 2010
http://www.tui-group.com/dms/nachhaltigkeit/nachhaltigkeit_bei_tui/berichterstattung/TUI-NB09-engl_100/TUIAG_SD2010_EN.pdf

Box 5.7 Whitebread PLC energy efficiency measures

Whitebread PLC is the United Kingdom's largest hotel and restaurant company operating market-leading businesses in the budget hotels and restaurant sectors. Its brands include Premier Inn, Beefeater, Table Table, Brewers Fayre, Taybarns and Costa Coffee. In 2011, Whitebread PLC reported a 11.5% increase in Group Total Revenue to £ 1,600 million.

The company launched its new Corporate Responsibility Strategy, *Good Together*, in December 2009. Good Together is an overarching strategy and programme of initiatives to drive sustainable performance and further deepen corporate responsibility in its business. It focuses the group's activity around seven key areas of activity: One of them is the Environment: The most significant of its environmental impacts are its use of energy and its related carbon dioxide emissions, water use and production of waste.

Energy efficiency initiatives are related to climate change and include:

i. Measuring and monitoring

Buildings have been equipped with electricity metering equipment to record and monitor energy use.

ii. Accounting and reporting

A consumption-based electricity accounting and reporting system is operating within Whitebread Hotels and Restaurants.

iii. Low energy lighting

The Company is phasing out its use of non-energy efficient incandescent bulbs within the estate, in favour of low energy alternatives such as compact fluorescent bulbs and LEDs. These are now the only type of bulbs made available to the estate. The new low energy bulbs last twice as long as the bulbs used previously, and they use on average 30–50% less electricity, depending on type.

iv. Energy efficient water heaters

New-build hotels are fitted with energy-efficient condensing water heaters, which are specially designed for the production of large volume hot water in commercial properties. In the last two years, 70 of these heaters have been installed in the estate.

v. Washing machines and dryers

Most of the laundry is outsourced to specialized companies and a small amount is carried out onsite. The washing machines are 'AAA' energy rated and they are also built to last a minimum of 8000 washes. Should the machine break down, it has been designed so that the individual parts are easy to replace.

vi. Purchasing clean renewable energy

The availability of renewable energy in the United Kingdom is still not enough to satisfy current demand. However, in 2008/09 Whitbread succeeded in doubling its supply of renewable energy from 5% to 10% for half hourly meter contracts and 20% for non-half hourly meter contracts.

vii. Trials

Below are some of the trials that have been undertaken within the group.

PIR controls

In 2008, a trial was conducted at a Premier Inn hotel to test the viability of using PIR (passive infrared) occupancy lighting controls in the corridors of our hotels. These controls reduce energy consumption by switching lights off when people are no longer in the corridor. Following the success of this trial, PIR controls are now installed at all new hotels.

Dishwasher trials

Winterhalter, Whitbread's supplier of ware wash equipment conducted a dishwasher trial at one Beefeater restaurant and one Premier Inn standalone hotel. The energy consumption of the new energy-efficient GS 500 model was compared to the standard model. The new model has an innovative design that uses the steam generated by the washing process to heat the incoming cold water supply. They are also fitted with a wastewater heat recovery system. These design features heat the incoming cold water to a temperature of 50°C at no additional cost to the operator. The trial demonstrated that the new dishwasher achieved a saving of 10,000 kWh per annum when compared to the previous model. The new dishwasher has been rolled out to 13 hotels and restaurants to date.

Low energy coffee machines

Costa has been trialling new energy-efficient coffee machines, which use less energy when compared to traditional machines. Instead of having a single boiler for coffee, steam and hot water, this innovative design has one boiler to produce steam and 3 water reservoirs dedicated exclusively to coffee. Each reservoir can be maintained at a different temperature according to the type of coffee bean that is being brewed and its optimal brewing temperature. This design keeps the temperatures stable and therefore uses less energy. The machine also has a learning function, whereby it remembers usage patterns and distributes power accordingly, switching the machine onto standby when not required, producing energy savings of up to 34%.

LED lighting

LED lighting is currently being trialled in two Costa stores. The light fittings currently being used by Costa include 50 W spotlights and ceiling lights, which are being replaced by 7W alternatives.

viii. Head office energy saving initiatives

Below are some of the initiatives employed at our head offices.

Lights off policy

Whitbread's head offices have a 'lights off' policy overnight. Lights are linked to the building management system that automatically switches off all non-essential lights at times when the building is unoccupied, typically from 11pm to 6am.

Time switches on vending machines

Hot drink vending machines have been fitted with time switches, which automatically turn off the machines overnight and at weekends.

Voltage optimisation

A voltage optimisation unit was installed at our head office in Dunstable in December 2008. Operating electrical equipment at high voltages leads to significantly higher energy consumption, for example lighting and motors both use more power at higher voltages. By optimising the supply voltage, such equipment will only use the energy it requires to operate efficiently. Early indications suggest that the voltage optimisation unit is demonstrating electricity savings of circa 11%.

Energy Efficiency Accreditation

Whitbread is an Energy Efficiency Accredited Company. The Energy Efficiency Accreditation Scheme (EEAS) is an independent emission reduction award scheme, operated by the Carbon Trust and recently superseded by the Carbon Trust Standard. The EEAS recognises the achievements of businesses in reducing their energy consumption. Whitbread's overall score improved from 69% in 2004 to 83% in 2007.

Sources: http://www.whitbread.co.uk/corporate_responsibility.cfm?id=environment and http://www.wttc.org/eng/Best_Practice_Gateway/.

Destination planning and development

This section focuses on policies enacted by the European Union (EU). Europe as a region lacks a coherent co-ordination of policies or a supranational organization for the whole of its territory. It would be impossible within the framework of this project to gather and compile information from each country alone. Therefore, the European Union, the main supra-national organization of the region covering an area of 4.3 million km² for EU-27, with a population of 500 million is used to reflect the policies affecting the greening of tourism in the region.

The European Commission (EC), recognising the important role of tourism in the European economy, has been involved in tourism since the early 1980s. Although tourism had not formed a theme policy for the EU, it was found as an issue in several communications of the EC. It was the role of tourism in employment generation and the involvement of a large share of Small and Medium Tourist Enterprises (SMTes) as well as its role in social cohesion, especially for more remote areas of the Union, that made tourism apparent in discussions and communications. In 1997 a High Level Group on Tourism and Employment was set up with the mission to examine the conditions under which tourism could maximize its contribution to growth and stability in employment in Europe. In the coming years, several working groups were set up and reports were produced in several aspects affecting the competitiveness, and thus the viability and competence, of European tourism. Nevertheless, EU's involvement in tourism policy was in its infancy. On February 2005, the Commission proposed a new start for the Lisbon Strategy

focusing the European Union's efforts on two principal tasks – delivering stronger, lasting growth and more and better jobs. In this vein, EU renewed its interest and commitment to tourism and launched its *Renewed EU Tourism Policy: Towards a stronger partnership for European Tourism* in 2006. In this document, it was stated that “The main aim of this policy will be to improve the competitiveness of the European tourism industry and create more and better jobs through the sustainable growth of tourism in Europe and globally”. Nevertheless, this document refers to a compilation of other EU policies which mostly indirectly relate to tourism.

In June 2010, the European Commission published its communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions titled *Europe, the world's No 1 Tourist Destination – A New Political Framework for Tourism in Europe*, which summarizes the main objectives for the future of European Tourism in accordance with EU's new *Europe 2020 Economic Strategy*. This new policy framework follows the aim formulated in the earlier communication of 2006 to strengthen the competitiveness of European tourism while nurturing and protecting the natural and cultural environment, and makes the industry resilient in meeting the challenge of climate change. Following the high-level conference on European tourism held in Madrid on 14 April 2010, which served as a ‘summit’ for the sector and the subsequent *Madrid Declaration* produced by the informal meeting of ministers of tourism organized on the initiative of the Spanish Presidency of the Council on 15 April 2010, three objectives were identified: (a) implementation of a consolidated European tourism policy, (b) strengthen sustainable competitiveness in the sector, and (c) recognise the added value of action by the EU on tourism. To achieve these objectives, actions promoting tourism were grouped under the following four priorities which provide the skeleton for the new action framework for tourism:

(1) Stimulate competitiveness in the European tourism sector;

This includes the diversification of tourism based on the cultural and natural resources of the destinations. Initiatives such as the European cycle routes or pilgrimage routes which have a clear trans-national character are found here while there are plans to expand the actions to include the Natura 2000 network. Other actions included are related to the use of Information and Communication Technologies (ICT), especially by SMTEs; the professionalization of the industry mainly through training and life-long learning opportunities; seasonality mitigation, and the monitoring of tourism activity in the region.

(2) Promote the development of sustainable, responsible and high-quality tourism;

This includes the responsible use of natural resources, pressures on water, waste production, biodiversity, the use of clean energy, and preservation of natural and cultural integrity. The EC has introduced a number of tools to facilitate the sound environmental operation of the industry such as the EU Eco-label, the Community Eco Management and Audit Scheme (EMAS), the Network of European Regions for a sustainable and competitive tourism (NECSTouR) and the European Destinations of Excellence (EDEN).

(3) Consolidate the image and profile of Europe as a collection of sustainable and high quality destinations;

This includes the promotion of the image and the perception of Europe as a collection of tourist destinations in world markets, and particularly in certain countries (for example the United States of America, Japan, China, Russian Federation, India and Brazil). Relevant actions include the *visiteurope.com* website and the creation of a ‘Europe Brand’.

(4) Maximise the potential of EU financial policies and instruments for developing tourism.

Tourism is a cross-cutting sector and a number of policies enacted by the EC have an effect on tourism. These include:

- Internal market policy, the tourism sector should in future benefit fully from the integration of the European market in services.

- Maritime policy and the diversification of economic activities in islands and coastal areas through ecotourism. This is supported by the European Fisheries Fund (EFF). Small-scale fisheries and tourism infrastructure will also be supported through the EFF. The Fund also supports schemes for retraining in occupations, besides sea fishing, which may relate to tourism. Relevant actions are included in Priority Axis 4 “Sustainable Development” under which € 567 million have been allocated.
- Rural policy is also of considerable importance to the tourism sector. Through the European Agricultural Fund for Rural Development (EAFRD), the Commission can support, among other things, the establishment of businesses active within rural tourism, the development and promotion of agrotourism and capitalisation on the cultural and natural heritage of rural regions, including mountain areas. EAFRD’s financial planning for 2007–2013 in Axis 3 which includes both direct and indirect investments in tourism exceeds € 12 billion with a public expenditure of € 18 billion and private expenditure exceeding EU € 9 billion. Measure 313 of Axis 3 which regards specifically the Encouragement of tourism activities allocates almost € 731 million for EAFRD contribution, € 1.1 billion of public expenditure and € 727 million of private expenditure. The LEADER programme has been an essential instrument in EU’s rural policy.
- The Commission has foreseen the possibility of funding sustainable tourism-related projects through the European Regional Development Fund (ERDF), in support of socio-economic development. Under the “Convergence” the “Competitiveness and employment” and the “European territorial cooperation objectives”, ERDF shall support more sustainable patterns of tourism to enhance cultural and natural heritage, develop accessibility and mobility related infrastructure and to promote ICT, innovative SMTEs, business networks and clusters, higher value added services, joint cross-border tourism strategies and inter-regional exchange of experience.
- Environment and transport infrastructures are financed by the Cohesion Fund.
- The European Social Fund’s (ESF) co-finances projects targeting educational programmes and training in order to enhance productivity and the quality of employment and services in the tourism sector. The ESF provides also targeted training combined with small start-up premiums to tourism micro-enterprises.
- The Competitiveness and Innovation Framework Programme (CIP) supports the competitiveness of EU enterprises and especially SMTEs and since 2008, it has supported the creation of European networks for competitive and sustainable tourism. Through the Eco-innovation funding scheme, the EC wants to support innovative products, services and technologies that can make a better use of our natural resources and reduce Europe’s ecological footprint. With its objective to bridge the gap between research and the market, CIP Eco-innovation contributes to the implementation of the Environmental Technologies Action Plan (ETAP). There is nearly € 200 million available to fund Eco-innovation projects between 2008 and 2013 while by 2013, ETAP will have distributed over € 12 billion towards eco-innovation projects through FP6, FP7 and other EU funding programmes (European Commission 2007b). 6 projects with a direct focus on tourism eco-management funded by CIP programme are presented. Their budget was € 2 million EU’s contribution at an average of 56%. CIP has funded more projects which have an impact on tourism.
- In March 2009, Danuta Hubner, European Commissioner for Regional Policy announced that € 105 billion will be invested in the green economy through the EU Cohesion Policy. The funding which represents more than 30% of the regional policy budget for 2007–2013 is expected to have an impact on employment generation. The largest share of the money will be spent on helping member states to comply with EU environmental legislation. A further € 48 billion will go on achieving Europe’s climate objectives, including € 23 billion for railways, € 6 billion for clean urban transport, € 4.8 billion for renewable energies and € 4.2 billion for energy efficiency. Research and innovation will also receive a boost, with € 3 billion given to SMEs to help develop environmentally-friendly products.

Fiscal policies and economic instruments

Early in 2007 the EC proposed a new energy policy as a first step with the aim to become a low-energy economy, whilst making the energy consumed more secure, competitive and sustainable. The aims of the policy are supported by market-based tools (mainly taxes, subsidies and the CO₂ emissions trading scheme), by developing energy technologies (especially technologies for energy efficiency and renewable or low-carbon energy) and by Community financial instruments.

Energy efficiency has been acknowledged as one of the objectives for the European Energy Policy. The Commission has adopted an *Action Plan for Energy Efficiency (2007–2012)* (Communication from the Commission of 19 October 2006 entitled: Action Plan for Energy Efficiency: Realising the Potential [COM(2006) 545 – Not published in the Official Journal) aimed at achieving a 20% reduction in energy consumption by 2020. The Action Plan includes measures to improve the energy performance of products, buildings and services, to improve the yield of energy production and distribution, to reduce the impact of transport on energy consumption, to facilitate financing and investments in the sector, to encourage and consolidate rational energy consumption behaviour and to step up international action on energy efficiency.

In financing energy efficiency, the Commission has enabled the Competitiveness and Innovation Framework Programme (CIP). CIP has at its core small and medium sized enterprises to (a) support innovation activities (including eco-innovation); (b) encourage the use of information and communication technologies; and (c) promote the increased use of renewable energies and energy efficiency. The CIP runs from 2007 to 2013 with an overall budget of € 3.62 billion and is divided in three operational programmes:

- The Entrepreneurship and Innovation Programme (EIP)
- The Information Communication Technologies Policy Support Programme (ICT-PSP)
- The Intelligent Energy Europe Programme (IEE)

Tourism related projects, totalling over € 10 million, have been funded by IEE, include:

- Biofuels and Electric Propulsion Creating Sustainable Transport in Tourism Resorts (BIOSIRE) – aims to establish a shift towards bio-diesel and electric propulsion for fleets, ships and special vehicles in tourist areas in Spain, France, Greece, Italy, Croatia and Austria;
- Excellence in Energy for the Tourism Industry (EETI) – aims to improve energy efficiency in tourism industry, by developing practical solutions and user-friendly tools for energy management in SME hotels across 27 EU countries.
- Renewable Energies for Tourist Accommodation Buildings (RELACS) – aims at involving and motivating a significant number of hotels in implementing RES measures as well as energy efficiency on their buildings.

The 27 EU member countries are responsible for around 14% of world GHG emissions. More than 80% of EU emissions come from the production and use of energy and from transport. The European Union's position is that the international community must take urgent and strong action to prevent global warming from reaching an increase of 2°C.

The EC's most challenging measure for climate change so far has been the Emissions Trading System (ETS) launched in 2005. It is the world's first and largest company level greenhouse gas emissions trading system. With ETS, the EC has made climate change an issue for companies by putting a price on their carbon emissions. From 2012 the EU ETS will include emissions from airline flights to and from EU airports. As a provision of the EU 'climate and energy package', in 2013 the system will be strengthened through a revision of its rules which will play a central role in achieving the Union's climate and energy targets for 2020 and beyond. Companies will increasingly have to buy and auction their emission allowances instead of receiving most of them for free as now.

In addition, the EU's Sixth Framework Research and Development programme (FP6), covering 2002–2006, allocated more than € 2 billion to research that directly or indirectly addressed climate change. Reflecting the increasing urgency of the climate challenge as the manifestations of climate change multiply, funding for climate-relevant research has been substantially increased to € 9 billion in the Seventh Framework Programme (FP7) covering 2007–2013. FP7 has a total budget of € 51.5 billion. This research will support not only European policy action but also international processes in the framework of the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol (European Commission 2007b).

Climate-relevant research under FP7 is focused on four main thematic areas:

- Environment (total budget € 1.89 billion)
- Energy (total budget € 2.35 billion)
- Transport (total budget € 4.16 billion)
- Space and Global Monitoring for Environment and Security (GMES) (total budget € 1.43 billion).

Additional funding will come from other activities and specific programmes. For example, the European Commission's Joint Research Centre will increasingly support EU climate change policies, while the Competitiveness and Innovation Programme (CIP), which is part of Environmental Technologies Action Plan (ETAP), with funding of € 3.6 billion for 2007–2013, is promoting innovation in industry.

Finance of green tourism investments

Box 5.8 provides an example of green tourism investment.

Box 5.8 LEADER II funded project for ecotourism in Po Delta, Italy

EAGGF (Leader II) programme financed the ecotourism management of wetlands in Po Delta area in Italy. It is an area of rich biodiversity with forests, valleys, dunes, wetlands and 450 bird species. The main **objectives** of the Local Action Group (LAG) which was the coordinator of the project, were:

- to increase knowledge about the Delta,
- to strengthen the good image of the area,
- to market its unique characteristics,
- to maximize the returns of the wetland while preserving it, and
- to promote ecotourism.

Actions

- Tourism promotion. This includes: bird-watching itinerary, tourist guide development, participation in specialized international fairs, specialized tour-operators invitations, free guided visits to the park.
- Education and environmental awareness. This includes: handbook for bird watching, information dissemination to 12,000 schools, educational tours to teachers, organization of students' competition.
- Infrastructure and conservation. This includes: introduction of innovative equipment and techniques, such as heated bird-watching cabins, towers, and specialized visitor centres. Visit of experts of the Po Delta to the area of East Cork. Studies of management procedures of the environmental sites of the delta

Outputs/impacts

- awareness raising
- informational and educational materials for tourists
- local community awareness and involvement
- new employment opportunities, especially for local youth
- support of local tourist SMTEs

Budget

- € 343,143 out of which 50% EU contribution.

Source: WWF (2005).

Several other EU programmes although not directly aimed at sustainable tourism have an effect on it. For example, LIFE programme, the EU's main research instrument for nature and environmental protection can demonstrate several projects which affect tourism either directly or indirectly.

5.1.4 Conclusions

New social trends, changes in the way tourism is produced and consumed and a more progressive European tourism policy and fiscal measures show that the greening of tourism is indeed taking place. Tourism is a multifaceted activity comprising various activities and processes such as transportation, destination planning, lodging, consumption of goods and services, employment, natural and cultural heritage, etc., and therefore green tourism policies can also have an important effect in interrelated sectors.

Greening activities are currently taking place in the tourism industry and are not related strictly to alternative tourism and niche market segments but to the whole sector. Main actors in the tourism industry, such as Germany's TUI and the French hotel accommodation group Accor, show examples of good practices in this regard. There is certainly much more to do, nevertheless, green travel and tourism products are expected to increase as the number of tourists globally grows and as more and more consumers become aware of and demand environmentally sound forms of tourism. Furthermore, measures and actions taken in areas such as transportation shall contribute rapidly to the greening of tourism as it is interlinked with other components of the tourism product.

5.2 United States of America

5.2.1 Overview

The United States of America has a population of nearly 300 million people living in an area encompassing 3 million square miles (United States of America Census 2010). Geographically, the United States of America is one of the most diverse countries in the world. In its 50 states, which include Alaska and Hawaii, there are coastlines along the Atlantic and Pacific oceans; the Great Lakes; the world's fourth longest river system (i.e., Mississippi–Missouri River); the flat and fertile Great Plains; vast deserts such as the Mojave; and expansive mountain ranges such as the Appalachians, Rocky Mountains, and the Sierra Nevada. Over 600 million acres (approximately 242 m hectares) or $\frac{1}{3}$ of the lands in the United States of America are public and managed by federal agencies such as the Department of Interior's Bureau of Land Management (BLM), the National Park Service (NPS), and the United States Department of Agriculture's Forest Service (USFS). Public lands and waters provide opportunities for a variety of tourism activities.

Primary issues facing sustainable tourism development in the United States include climate change, biodiversity conservation, heritage conservation, over development, over use, poverty alleviation, pollution, and the challenges of major environmental disasters, such as the Gulf of Mexico oil spill. This case study focuses on what needs to be done to continue enabling policies, voluntary initiatives and current investments in relation to sustainable tourism development.

Box 5.9 provides a summary of key volume and value figures for the United States of America.

Box 5.9 Summary of key United States of America data

Tourist arrival:	60 million (in 2010)
Tourism receipts:	US\$ 134.4 billion (in 2010)
Global share of tourists:	10.5% (in 2010)
Jobs:	Travel and tourism is expected to support directly 5,492,000 jobs (3.9% of total employment) in 2011.
GDP:	Travel and tourism investment is estimated at US\$ 130.9 billion or 5.3% of total investment in 2011.
Exports:	Travel and tourism visitor exports are expected to generate US\$ 171.2 billion (8.5% of total exports) in 2011.
Trends and outlook:	<p>Travel is the United State of America's leading industry export, and as a result, there are a number of initiatives underway to increase travel to the United States of America. One of the most recent initiatives is to break down barriers to travelling to the United States of America. According to a study conducted by Mandela Research (2010), the primary barriers to travel into the United States of America by travellers from China, India, and Brazil were:</p> <ul style="list-style-type: none"> – A highly inefficient and unpredictable visa application approval process. – Lack of personnel to process and interview visa applicants and lack of access to a United States of America consular facility. – Poor planning and communication to applicants.

Source: UNWTO (2011b); WTTC (2011); United States of America Travel Service (2011).

5.2.2 Policies Assisting Sustainable Tourism

Sustainable tourism in the United States lacks a Federal tourism policy (Bricker 2009), yet there are many efforts by governmental, non-governmental, and private organizations that support sustainable tourism development. The following section outlines some of the many initiatives that are moving sustainable tourism development forward in the United States of America from a policy perspective.

Office of Travel and Tourism Industries (OTTI)

The Office of Travel and Tourism Industries (OTTI), housed within the Department of Commerce, increasingly works on domestic and international policy issues related to the United States of America

travel and tourism industry. The OTTI fosters the development of policies that encourage the economic growth of travel and tourism to the United States. Some of these efforts include:

- Promoting growth of United States of America travel exports through bilateral agreements with countries of strategic importance, including the Memorandum of Understanding with China on group leisure travel;
- Representing United States of America tourism interests in intergovernmental organizations to lead the global efforts for travel and tourism policy concerns and issues, including chairing the Tourism Committee for the Organization for Economic Cooperation and Development (www.oecd.org);
- Serving as the official United States of America government observer and participant on committees and activities of the United Nations World Tourism Organization (OTTI p. 1).

Hence, these initiatives elevate the importance of tourism to the United States of America Economy, and provide a place for ongoing dialogue internationally, hence increasing the market position globally.

National Environmental Policy Act (NEPA)

Other policies play an important role in tourism development overall. For example, the environmental and social policies guiding development and other activities on public lands were generated through the National Environmental Policy Act (NEPA) of 1970 (42 U.S.C. 4321 et seq.). The act states that Federal Agencies will:

“[...] prepare detailed statements assessing the environmental impact of and alternatives to major Federal actions significantly affecting the environment. These statements are commonly referred to as environmental impact statements (EISs). Section 102 also requires federal agencies to lend appropriate support to initiatives and programmes designed to anticipate and prevent a decline in the quality of mankind’s world environment”.

(USEPA 2010a, p. 1).

United States Environmental Protection Agency (USEPA)

The USEPA was established in 1970 to “protect human health and the environment” (USEPA 2010b, p. 1). The EPA is responsible for the Clean Water and Air Acts passed by Congress in the 70s and oversight of Superfund sites, which are linked to hazardous waste and environmental accident prevention. In addition, the agency has established environmental standards and introduced concepts of sustainability into their programmes, which are varied and abundant. In relation to sustainable tourism, these voluntary programmes include a range of energy and pollution reduction programmes addressing the building of new developments and the operation of existing structures and facilities. These also include programmes to address marine pollution and to address climate change through the reduction of Greenhouse Gas emissions (see USEPA 2010, p.1). For example, the 100% Green Power Purchasers programme represents organizations that are buying green power to meet 100% of their United States of America organization-wide electricity use. According to the EPA, these power purchases amount to nearly 6 billion kWh of green power annually, which equates to electricity needed for 500,000 average American households (EPA 2010).

In July 2008, the USEPA and the Green Meeting Industry Council (GMIC) agreed to work with the Convention Industry Council’s Accepted Practices Exchange (APEX) and the American Society for Testing and Materials International (ASTM International¹) to develop a uniform measurement of environmental performance, and to define what is “green” according to the meetings and events industry. The result

1 ASTM International is one of the largest voluntary standards development organizations in the world—a trusted source for technical standards for materials, products, systems, and services.

will be an accredited standard to be utilized by the federal government's purchasing programme. According to Harry Lewis with USEPA's Pollution Prevention Division, "the government is one of the largest consumers of meeting services in the country and intends to adopt the standards as a measuring stick in making their spending decisions" (Personal communication, 19 September 2008).

Mandatory Reporting of Greenhouse Gases Rule

The USEPA, under the authority of the Clean Air Act (USEPA 2010a) Appropriations Act, 2009 (United States Government 2010), issued the Final Mandatory Reporting of Greenhouse Gases Rule (USEPA 2010c). The rule requires the reporting of greenhouse gas (GHG) emissions from large sources and suppliers in the United States (USEPA 2010c). This rule demonstrates the beginning of regulatory monitoring of GHGs and proposes fines for non-reporting compliance. Because of the associated concerns with climate change, there are increased business risks (Muneer 2010). Business risks include regulatory uncertainty about how environmental politics will affect large corporations and compliance; risk to reputation and brand, due to negative media exposure (of which investors are paying attention to); the risk of potential increase in direct costs due to several factors such as high carbon prices, and indirect costs of goods and services (Muneer 2010, p. 5).

Other investments in energy use

There are several initiatives underway to reduce GHG emissions, and decrease energy consumption. These initiatives create jobs and stimulate a green economy and demonstrate a wave of investments moving into a green economy, directly and indirectly related to travel. Key initiatives are as follows:

- In October of 2009, President Obama announced US\$ 3.4 billion in investment to encourage the implementation of the "Smart Energy Grid" (DOE 2010). The US\$ 3.4 billion in grant awards are a part of the ARRA and will be matched by industry funding for a total public-private investment worth over US\$ 8 billion;
- Broadband initiatives will also have the ability to assist small businesses in rural America and elsewhere to have access to global markets, "support and encourage innovation, providing the digital platform and tools to entrepreneurs, creating new markets that increase demand for existing and new products, and offering ultra-high speed access" to those who need it (United States Government 2010b, p. 30). The White House believes this type of foundation will enable entrepreneurs and innovative businesses to take risks and make investments (United States Government 2010b);
- There are some State and Federal Incentives for plug-in electric vehicles (for example, US\$ 2500–7500 in credit) and tax deductions for commercial buildings that meet specific energy efficiency standards (Department of Energy, n.d.). However, the majority of enabling conditions within the United States appear to be in the form of voluntary certification programmes, which highlight green practices on a state level. These programmes coupled with the efforts by the EPA are supporting certified products through marketing, government procurement programmes, and award systems.

Public land and water agencies and sustainable tourism

While sustainable tourism enterprises in the United States are predominately privately owned and operated, the Federal government plays an important role in the provision of natural and cultural attractions and the sustainability of public lands and waters where sustainable tourism enterprises are located (Bricker 2009).

There are several agencies involved in tourism, including the Department of the Interior, the Bureau of Land Management (BLM), the United States of America Fish and Wildlife Service, the Department

of Agriculture, and the National Oceanic and Atmospheric Administration (NOAA). These agencies are actively engaging in development through public-private initiatives and active involvement in destination management. In addition, in October of 2009 President Obama signed an executive order entitled 'Federal Leadership in Environmental, Energy, and Economic Performance' (2009). This order focused on energy efficiency, reduction in greenhouse gas emissions, improved usage of water resources, and minimization of waste production. This executive order, along with other statutes and orders, has accelerated the efforts by government agencies in reeling in their negative environmental impacts. Included in these agencies were federal land management agencies such as the National Park Service. With almost 300 million visitors in 2009, it is critical for the National Parks Service to strive towards more sustainable operations (National Parks Service, n.d.). Efforts have included the implementation of shuttle systems, efficient building policies and recycling programmes.

Within the Department of Interior, several agencies are supporting sustainable tourism development. These include the widely recognized National Park Service, with a mission to "conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (NPS 2010) (<http://www.nps.gov/aboutus/mission.htm>). The NPS contracts with over 570 concessionaires, which in turn offer a range of services and activities (for example, food, lodging, guide services, retail shops), which gross in excess of over US\$ 800 million (NPS 2010, p. 1). The majority of NPS contracts fall into Category III, meaning that the concession has no facilities located within park boundaries (for example, guides and outfitters) (Geiger 2008). In 1999, the NPS Concession Environmental Management Programme (CoEMP) was established to address environmental management and compliance of visitor services. According to the NPS, the need for CoEMP evolved because "concessionaires operate in or near our country's most treasured resources – the NPS would be neglecting its founding mission if it did not proactively try to minimize concessionaire environmental impacts" (NPS 2010, p. 1). As an incentive to green concession operations, CoEMP is active in the concession contract development and selection process. In 2010, of over 380 contracts issued, 61 included environmental management system requirements and all contracts encouraged best management practices implementation (NPS 2010).

In addition, CoEMP works with other Federal agencies on concession management. For example, CoEMP and the USEPA work closely under a Memorandum of Understanding to assist small businesses in identifying business-specific best management practices. CoEMP has also worked with the National Wildlife Refuge (NWR) and the Fish and Wildlife Service (FWS) in preparing guidelines for concessions.

To date, several concessions have developed environmental management systems and have been recognized for their achievements. For example, Xanterra Parks and Resorts, the largest state and national park concessionaire in the United States, created an EMS called "Ecologix" for its operation in Zion National Park. Doing this resulted in "a reduction in water consumption by 40%, in solid waste by 59%, and in electricity use by 25%" (NPS 2010, p. 1). Xanterra is also making a difference by minimizing solid waste, developing ecologically sound hotel rooms, recycling grease for use as biodiesel, utilizing renewable wind energy to power a portion of their system, and so on (for more information on Xanterra's environmental performance see their web site at <http://www.xanterra.com/environmental-programme-highlights-372.html>).

Another agency involved with ecotourism and heritage tourism initiatives on public lands is the Bureau of Land Management (BLM). Managing over 40% of all public lands in the United States of America, the BLM is one of the original partners in establishing the National Watchable Wildlife Programme, which now has nearly 300 designated wildlife viewing areas, spanning the country from Alaska to Florida. With respect to sustainable tourism, the BLM has identified tourism as one of the top three industries within all western BLM states (BLM 2010). The organization has worked closely with programmes that minimize environmental impacts, including the "Leave No Trace" programme (see <http://www.lnt.org/>), and is actively promoting heritage-based tourism (i.e., "travelling to experience the places and activities that authentically represent the stories and people of the past and present") (National Trust for Historic Preservation 2010, p. 1) on public lands.

The United States Fish and Wildlife Service (FWS) is responsible for more than 540 wildlife refuge areas and 36,000 fee and easement waterfowl production areas. Wildlife refuges provide habitat for more than 700 species of birds, 220 species of mammals, 250 reptile and amphibian species, and more than 200 fish species. The mission of the United States of America Fish and Wildlife Service is to work "...with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people" (USFWS 2010). As with many Federal land and water agencies, the FWS partners with a range of entities for sustainable tourism initiatives, including, but not limited to, the EPA, the Forest Service, and the National Oceanic and Atmospheric Administration (NOAA).

The United States Department of Agriculture (USDA), relative to sustainable tourism development, includes the Forest Service (FS). The USDA Forest Service (FS) is one of the largest land-managing agencies in the United States of America, with more than 192 million acres (approximately 77.7 hectares) of national forests and wilderness areas. With respect to sustainable tourism, the Forest Service has recognized that partnering with the tourism industry is good business. The Forest Service has been active in promoting and enhancing sustainable tourism development across the country, including working on tourism efforts at the state and local levels. The agency works with over 6,000 private tourism guides on Federal lands and sets policy for 60% of the ski slopes in the country. Some of the most significant examples of the Forest Service's contribution to sustainable tourism are as follows (Bricker 2009; USDA FS 2010):

- Produced the *Built Environment Image Guide* using sustainability concepts to shape the design and construction of facilities
- Participated in grassroots projects in the Ozark Mountains, upper Michigan Peninsula, Tennessee, and elsewhere to foster ecotourism experience
- Developed heritage tourism partnerships with rural communities and tribal governments including the Castleland Resource Conservation and Development partnership with 75 communities and 4 counties in southern Utah; a joint visitor centre with Jemez Indian Pueblo in Santa Fe National Forest; and cooperation with the Michigan Great Outdoors Cultural Tour with the State Historical Society.

Not only are these efforts coordinated by the Forest Service, they are a part of a larger effort by several land and water agencies, private sector organizations, and non-governmental organizations.

The National Oceanic and Atmospheric Administration (NOAA) is a Federal agency housed within the Department of Commerce, whose mission is to "understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs" (NOAA 2010, p. 1). One department, the National Ocean Service (NOS) focuses on coastal resources and ecosystems along nearly 100,000 miles of shoreline and 3.5 million square miles of coastal ocean (NOS 2010, p. 1). In addition to many monitoring and training functions, NOS promotes the Clean Marina Initiative (CMI) programme in conjunction with the USEPA. The CMI is a voluntary, incentive-based programme that provides information, guidance, and technical assistance to marina operators, local governments, and recreational boaters on best management practices that are used to prevent or reduce pollution (Bricker 2009). NOAA's scientific research, educational outreach, and coastal and marine initiatives provide critical information for sustainable tourism development and coastal zone management.

Certification programmes in the United States of America

Various state level environmental departments within the United States of America have expressed backing for tourism certification programmes and include Pollution Prevention, Environmental Protection, Tourism and Recreation, Natural Resources, and Economic Development. With both the supply and demand sides of the equation on the increase, the timing is appropriate and imperative to examine how we can better our sustainable tourism development.

In a recent study of state certification programme participants (Bricker and Schultz 2010), the Global Sustainable Tourism Criteria were utilized as a basis for understanding businesses agreement with components of sustainable tourism, including: a) Sustainable Management, b) Social and Economic Benefits or Impacts to the Local Community, c) Cultural Heritage, and d) Environmental Benefits and Impacts. Findings from the study indicated numerous strengths among businesses involved in sustainable tourism certification programmes. For example, 79% of respondents indicated they had implemented a sustainability management system; more than 65% indicated they had incorporated sustainable design elements into their business, such as respecting the natural and cultural heritage of their surroundings, and land use was in compliance with local zoning and/or protected heritage laws and regulations. Certified businesses in tourism, to a great extent:

- Were in compliance with local guidelines and reducing negative impacts on communities where they operate (68% and higher)
- Had effective employee training engagement (77% and higher)
- Measured customer satisfaction and had accurate and complete marketing materials (92% and higher)
- Purchased local and/or fair trade goods and services (77%)
- Agreed that their business did not jeopardize water, energy, sanitation, local land use (90% and greater)
- Contribute to protection of heritage (76% and higher)
- Include elements of local heritage and culture (88% and higher)
- Respect the intellectual property rights of local communities (91%)
- Conserve resources through purchasing, measurement of waste, energy, water (74% and higher)
- Minimize the use of harmful chemicals and substances, and manages all chemicals properly (89% or greater).

There continues to be increasing examples of the industry making investments in sustainability. Aside from the increase of sustainable tourism certification programmes, other examples are evident within various corporate chains.

Within the hotel and lodging industry, in 2007, Marriot International partnered with Conservation International to begin a campaign to reduce their overall environmental impact. Their efforts included water and energy conservation strategies, leverage of their supply chain and protection of critical rainforest. These measures have included wide-scale installation of low-flow showerheads and toilets, replacement of incandescent light bulbs, purchase of pillows and key cards made from recycled materials. As a result of these efforts, the company saved in excess of US\$ 1 million in 2008 (Marriott International 2009).

As a major sector within the tourism industry, restaurants account for approximately 10% of the American economy and they utilize $\frac{1}{3}$ of the energy within the retail sector (Green Restaurant Association n.d.). In addition to the energy that is being utilized directly, there are the additional impacts of food production and transportation. Movements towards vegetable-based, organic and local are more environmentally, socially and economically sustainable. Furthermore, restaurant and food service are an identified sector in the EPA's 100% Green Power Purchases programme (USEPA 2010).

Harrah's Entertainment which includes such tourism mainstays as Caesars and Bally's has also begun to recognize the value of sustainable practices and the influence it can have on the bottom line. Collectively, the brands under Harrah's Entertainment yield US\$ 10 billion annually. Through their efforts, these efficiency measures are generating more than US\$ 10 million annually, while making a positive impact on the environment through major water and energy reduction strategies (Harrah's Entertainment n.d.).

5.2.3 Conclusions

Tourism is an important economic driver in the United States. While lacking a formalized system for sustainable tourism initiation, there are many programmes, both government and non-government organizations rallying around sustainability concepts and utilizing these concepts in making not only the environmental case for sustainability, but increasingly the economic case. Within the United States of America, 172 Mayors from across the country signed a Memorandum of Understanding to adopt the GSTC Criteria in their respective cities. In addition, public lands (e.g., NPS, USDA FS, BLM, USFWS) are host to a large percentage of the tourism attraction and products within the United States – and increasingly, there are major initiatives within these agencies to adopt sustainability frameworks and programmes. Further, state-wide certification programmes are on the rise – with nearly half of the states within the United States of America adopting some type of certification initiative. Limited research has indicated those that participate in sustainable certification programmes are generally in-line with the GSTC Criteria.

While there are several initiatives underway, enabling sustainable tourism must continue to be driven by all sectors in society-supportive marketing venues, supportive tax incentives and government procurement programmes, adoption by educational and vocational institutions, and programmes that build partnerships with land managing agencies, tourism marketing entities, and the industry are a must. Uniting under the GSTC framework has begun, through the adoption of the Criteria by Mayors, to certification programmes framing their programmes more holistically around a universal set of sustainable tourism principles – it is the culminating whole that enables progress. A case has been made to create greater international cooperation to allow the tourism industry to grow, which includes streamlining and more effectively servicing tourist visa entry.

The combined efforts of private, public, and non-governmental sectors addressing sustainability show signs of forward momentum and increasing importance of a green economy in the United States. As the tourism industry demonstrates upward momentum, trends suggest it can be a significant economic green driver, with increased support from diverse stakeholders moving the market share towards support for sustainability.

5.3 South America

5.3.1 Overview

Traditionally, ecotourism and cultural tourism have provided some interesting examples in terms of offering economic opportunities for local and rural communities in South America. There have been a large number of initiatives over the last decades that have addressed sustainable tourism development in different countries in the region. Some of them are well documented in the literature, such as the cases of Patagonia (Schlüter 1999) in Argentina; the Galapagos Islands in Ecuador (Edgell 2006), the Eduardo Avaroa Reserve, in Bolivia (Ellingson and Seidl 2007); Andean communities in Peru (Mitchell and Reid 2001); and the Amazonas, in Brazil (Wallace and Pierce 1998).

On a different scale and scope, like most developing regions of the world, South America presents challenges associated with the development of large, usually unplanned, metropolises and urban regions that struggle to combine initiatives to foster the contribution of tourism to the green economy. Here, we aim to address the contribution of tourism to the green economy, presenting examples from both extremes of the spectrum and present good practices between tourism and the green economy illustrated by cases that are less common in the literature.

This case study of South America covers the following key elements: to contextualise tourism in the sub-continent, particularly in terms of its markets and products; to discuss the challenges in the context of this sub-continent and how they relate to tourism; to provide examples of successful cases of sustainable tourism development in different countries in South America, notably small and rural communities and to present a detailed case study from the state of São Paulo which illustrates many of the generic points made in this report, focusing on a large developed region. In contrast to most examples presented

in South America, the case study of São Paulo is not about a small local community, but about how tourism can also be incorporated in a large fast-growing economy. The section concludes by looking forward in terms of key issues that are relevant for tourism to contribute to the development of the green economy in South America.

5.3.2 Challenges and Opportunities

Energy use and GHG emissions

The total volume of CO₂ emissions from South America has increased steadily since 1990. Given the lack of data and information, the official figures only consider emissions from fossil fuel burning and cement production, excluding those caused by land use change and deforestation, which tends to underestimate the level of regional emissions. It is estimated that Latin America and the Caribbean are responsible for approximately 9.9% of the GHG (greenhouse gas) emissions of the planet (Samaniego 2009) but only a small portion of those emissions is attributed to tourism.

Climate change – impacts on water and biodiversity

IPCC (2007) states that climate change has severely affected South America in recent years. Unusual extreme weather events have been recorded, such as heavy rains in Venezuela (1999, 2005), flooding of the Argentinean Pampas (2000–2002), drought in the Amazon (2005), hailstorms in Bolivia (2002) and in the Greater Buenos Aires (2006) and Hurricane Katrina in the South Atlantic (2004). There was also a considerable increase in rainfall in the south-eastern region of Brazil, Paraguay, Uruguay, Argentinean Pampas and some parts of Bolivia. Moreover, there is a trend of decreased rainfall in southern Chile, south-western Argentina and southern Peru. With the recorded increase of approximately 1°C in the average temperature in South America, an acceleration of the glaciers melting was registered, which is considered a critical issue in Bolivia, Peru, Colombia and Ecuador, where water availability is already compromised either for consumption or for hydroelectric power generation. It is likely that the Andean glaciers will have disappeared in the coming decades, severely affecting the availability of water. Biodiversity will also be seriously affected, with the risk of species extinction in many areas of South America. There is a tendency to savannization in Amazonia and desertification in north-eastern Brazil.

With regard to coastal regions, there is already an acceleration in the rise of sea level, which increased from 1 mm/year to 2–3 mm/year in southern South America. This will affect the regions with lower altitudes, the mangrove regions (Brazil, Ecuador, Colombia and Venezuela), the availability of drinking water on the Pacific coast and cause irreversible changes to the coral reefs. Impacts on mangroves and coral reefs will affect the availability of stocks of fish and seafood. The flooding of low-lying areas will affect the quality and availability of freshwater. The coastal erosion due to rising sea levels and the extensive coastal inundation will cause negative socioeconomic impacts and health problems in the affected areas.

The impacts resulting from climate change tend to drastically affect tourism destinations. Climate is an important factor in the decision making process of tourists and it sets the high and low seasons and seasonality. In Peru, heavy rains led to the cancellation of a significant number of packages purchased for Machu Picchu in 2010. This caused 20% to 30% of tourists to cancel their trips and about 40% postponed their trip to Peru.

In many parts of South America, the main attraction is the natural environment and its biodiversity, such as the Amazon forest, the national parks, beaches and coral reefs, glaciers, pampas, the Pantanal – the largest wetland in the world, Patagonia, and so on. Climate affects a wide range of resources that are essential to tourist attractions, such as the snow conditions for skiing, sunny beaches, biodiversity, levels and quality of the water, presence of infectious diseases, insects, coastal erosion and inundation, among other impacts. It is worth emphasizing that in Brazil, for example, most of the tourism infrastructure is

concentrated on the coast, in places quite vulnerable, since coastal tourism is a key tourism segment in the country.

The effects caused by extreme weather events in the tourism destinations of South America may bring secondary impacts of a socioeconomic nature, such as the decline of tourism demand, change of investors' behaviour, which will look for new destinations and thus shrink the economy in the other sectors of the supply chain related to tourism.

Sizing and growth of sector

Tourism is one of the fastest growing activities in South America. Nevertheless, the region attracts fewer tourists, particularly international visitors, than the potential offered by its destinations. In 2010, for example, South America received approximately 23.5 million international tourists, which is 15.7% of the tourists received in the American continent and 2.5% of the total number of international arrivals worldwide (UNWTO Tourism Barometer 2011). In the same year, the total income generated by tourism in South America was just over US\$ 20.6 billion. Tourism represents approximately 1.6% of the GDP and 5.2% of the exports of goods and services of this subcontinent (ECLAC 2008). Brazil and Argentina were the countries that generated the most revenues through international tourism in South America, accounting for 50.7% of total revenue (Brazilian National Tourism Plan 2007–2010). In most South American economies, domestic tourism generates more revenue than international tourists. However, information and data about domestic tourism in these countries are less accurate and not readily available.

South America was the sub-region of the Americas that had the smallest decrease in tourist arrivals in 2009, when many regions struggled with the economic recession. Overall, South America, particularly Brazil, was in a good economic condition to resist the crisis. Although data relating to international tourism show a slow increase due to the Brazilian currency appreciation, which discouraged inbound international tourists, domestic tourism has grown at a rapid pace, driven by the strengthening of the country's economy. In 2009, approximately 175 million domestic air travels were made in Brazil, representing a 26.4% increase in comparison to 2005. Studies of the Brazilian Institute for Applied Economic Research (IPEA) show that the impact of the crisis was much milder in the main tourist activities than in the overall economy, suggesting that the tourism sector has a capacity of resilience to economic crisis, at least in the short term (IPEA 2009). With regard to employment generation, tourism employed 2.27 million people in Brazil in 2008 (an increase of 32.7% over 2002), a number that corresponds to 5.76% of the total number of formal jobs in the country (Ministerio do Turismo 2010).

Argentina has also experienced a good phase with regard to international tourism. The strengthening of the economies of neighbouring countries and the devaluation of the peso against the Brazilian real, the dollar and the euro are among the factors that have motivated tourists to visit the country. The weak Argentinean currency also discouraged outbound international tourism, boosting domestic tourism in the country. It is estimated that in 2006 almost 21 million Argentineans travelled to domestic destinations (Secretaría de Turismo de Argentina 2010).

In Uruguay, the growth of tourism is more evident in Montevideo, where it recorded a 16% increase in the number of international arrivals in the first five months of 2010 in comparison to the same period in 2009. The relevance of domestic tourism is evident by the 720,000 Uruguayans who travelled to domestic destinations from December 2008 to November 2009 (Ministerio de Turismo y Deporte 2010).

In Chile, domestic tourism is more significant than international tourism. According to the National Institute of Statistics, 3.3 million domestic tourist arrivals were registered in 2009, compared to 2.7 million international arrivals in the same year (Servicio Nacional de Turismo de Chile 2010). In Venezuela, there were 22 million domestic tourists in 2008, compared to only 857,000 international tourists in the same period, which shows the enormous importance of domestic tourism for the country. In Ecuador and Colombia improvements of 11% and 5% in international tourism were recorded over the previous year. Venezuela and Bolivia continue to limit their potential for international tourism because of political instability (Ministerio del Poder Popular para el Turismo 2010).

In terms of employment, research undertaken by IPEA (2009) in Brazil demonstrates that tourism is one of the economic activities that requires fewer investments to generate jobs. For example, the hotel industry, a segment of intensive labour and extensive involvement in tourism, demands investments of US\$ 9,000 to generate one full time job. This figure is much lower than that required by other economic sectors such as textile industry (US\$ 15,000), construction (US\$ 16,000) and metallurgy (US\$ 38,000).²

Box 5.10 below summarises some of the key volume and value figures for South America.

Box 5.10 Summary of key data for South America

Tourist arrival:	23.5 mn international tourists (in 2010)
Tourism receipts:	US\$ 20.6 bn (in 2010)
Global share of tourists:	2.5% (in 2010)
Jobs:	Travel and tourism is expected to support directly 5,829,000 jobs (3.0% of total employment) in 2011*
GDP:	The direct contribution of travel and tourism to GDP is expected to be US\$ 121.1 bn (3.3% of total GDP) in 2011*
Exports:	Travel and tourism visitor exports are expected to generate US\$ 33.5 bn (4.9% of total exports) in 2011*
Trends and outlook:	South America was the strongest performer in the Americas after the last global economical crisis, which helped to build up the dynamic intraregional flows. The tourism sector will continue to play an important role in many of the region's economies, in terms of job creation and production, as well as currency generation.

*NB: Relates to Latin America

Source: UNWTO (2011b), ECLAC (2008), WTTC (2011).

Potential for addressing local development and poverty reduction

There are a number of examples in South America which demonstrate the importance of tourism in promoting local development. Box 5.11 demonstrates an example from Argentina where the NGO RESPONDE – Turismo en Pueblos Rurales identifies and promotes activities with rural people at risk of disappearing or in crisis by negative population growth. This NGO aims to generate social and economic opportunities for the recovery of these communities, with financial support from private partners.

² The values are originally presented in the research in Brazilian Real currency (R\$). It was made a conversion to the US dollar on 5 July, 2010. Exchange rate: R\$ 1.00 = US\$ 0.5634.

Box 5.11 NGO RESPONDE, Argentina

In the small towns of Irazusta, Parera and Andalhuala, communities receive tourists and provide the services of accommodation, food, guides and handicraft. In order to maximize the local benefits, communities are encouraged to purchase goods and services within the town itself, so that the local economy is bolstered. A wider benefit of the project is that the local library in Irazusta, which remained closed for 33 years, was reopened and now offers Internet access for the population. In addition, a small historical museum was opened and an area for camping and recreation was created. In Andalhuala, the project was aimed at the recovery of cultural heritage, and included the construction of a hostel for accommodation of tourists, the provision of food services, recreation and tourism and the creation of a cultural and social centre with a small museum, library, Internet cafe, customer service and display of local products. In all cases, the local community was prepared to carry out the proposed activities in order to boost the local economy and create sustainability.

Source: www.responde.org.ar.

Box 5.12 provides an example of wider community development based on ecotourism at the Yachana Lodge in the Ecuador. Projects are financed by mixed income, including donations by visitors, and inter-institutional cooperation (USAID, UNICEF, CIDA Canada, KFW Germany, Rainforest Concern England, Rotary Club, religious organizations, schools, among others). All the income generated is used to invest in the project itself, which also offers health services to the community.

Box 5.12 Yachana Lodge, Ecuador

Yachana Lodge is an award winning, Amazon ecotourism destination. It was the 2008 winner in the National Geographic Ashoka Changemakers Geotourism Challenge as the best example of geotourism in the world. The lodge is not only an ecotourism destination, but also a training center fully integrated with Yachana Technical High School where students get practical, hands-on experience. The Lodge is also part of the Yachana Foundation and has been successful with its work in the Amazon due to its strong community ties. The foundation is responsible for the following community enhancements:

- Construction of the elementary school and donation of the land so community members could build houses closer to the school and their children would not have to travel for miles to get to classes. The elementary school, run by the government, uses a “school canoe” everyday to bring 80 students from nearby communities to the elementary and middle school with fuel for the canoe provided by the Foundation.
- Created the farmers’ organization made up of 24 communities called Amenicer Campesino. This group helped build the Mondaña Medical Clinic in 1997 and was the key association of a successful and continuing programme of agricultural technical assistance in the cultivation of organic cacao.
- The Foundation is the largest employer in the region with many members of families working for the organization. Tourism activities have a broad affect by generating income for families who provide services to the lodge: e.g. demonstrations for visitors in gold panning, use of their land to visit a special species of bird, and supply of vegetables and fruits for the school and lodge kitchens.
- Built 21 schools throughout the Amazon.

- Provided agricultural and conservation training programmes in dozens of communities and reforested hundreds of hectares in the region. Through its conservation programme, 1,800 hectares (4,450 acres) of rainforest are protected and used for community education and development of tourism activities.
- The organization has also started 16 micro-credit programmes in different villages.

Source: http://www.yachana.org.ec/yachana_foundation.php.

Box 5.13 shows a final example of tourism's role in local development in South America.

Box 5.13 Ecotourism Tomarapi Lodge, Bolivia

Ecotourism Tomarapi Lodge, located 4 hours from La Paz, in the Sajama National Park, is another project that also follows the community-based tourism model. The Sajama National Park is a traditional tourism destination in Bolivia. However, the park was not generating significant income for the local community and did not foster local development. This motivated the residents of Caripe to build and organize the Ecotourism Tomarapi Lodge. The project provides accommodation, food and local guide services, sale of handicrafts and is developing services related to the touristic use of Sajama National Park. A total of 26 families, out of the 33 existing in the area, are partners of this enterprise. The direct benefits of the project are the distribution of income among the stakeholders and the generation of jobs in the administration and operation of the services at the hostel. This initiative was investigated by the National Protected Areas Service, and was supported and advised by German financial (KfW) and technical cooperation (GTZ).

Source: UN (2010).

5.3.3 Overcoming Barriers: Enabling Conditions

A worldwide greener tourism economy relies on several factors beyond the scope of tourism businesses and organizations, including, for example, the development of cleaner transport technologies, or more efficient construction techniques for buildings like hotels and convention centres. In South America, while many initiatives considered for developed countries can be applied to large metropolises like Buenos Aires, Rio de Janeiro, Santiago and São Paulo, there are some enabling conditions that need to be addressed in order to enhance the contribution of tourism to the green economy. This section presents some of these required conditions, particularly for small and local communities outside the major urban areas in South America.

Private sector orientation

The following examples show how the private sector in South America has been enabling a move towards tourism which is more sustainable.

Box 5.14 provides the example of the Inkaterra hotel group in Peru, which seeks to be the leading Peruvian organization in geotourism and conservation in the region, with the objectives to create jobs in ecotourism for local communities; to contribute in the fight against global warming with the carbon sequestration provided by its 17,000 hectares of protected forest; to conduct an environmental education programme with the local community and guests, and to encourage research that supports environmental conservation.

Box 5.14 Private sector involvement, the case of Inkaterra, Peru

Inkaterra has worked to establish permanent conservation areas. It currently manages and monitors 40,800 acres of rainforest in the Amazon Basin in southeast Peru. In addition, it manages 12 acres of cloud forest in the Machu Picchu Historical Sanctuary, which are located on the grounds of its Machu Picchu Pueblo Hotel. As part of its management efforts, it has also restored natural habitats leading to successful reintroduction of native species in these areas. For example, as part of the restoration of the cloud forest area, it planted trees and plants attractive to native Peruvian birds, such as the Cock of the Rock (Peru's national bird) and butterflies. 192 bird species have now been sighted within the hotel grounds (18 of them hummingbirds) and 111 species of butterflies. Through a restoration project focused on orchids, its gardens now contain the largest native orchid collection open to the public in Peru, with 372 orchid species. In addition, it established a rescue centre for Spectacled Bears (also known as Andean Bears), an endangered species, while working to rehabilitate rescued bears in the wild.

It has developed a Canopy Walkway and Canopy Tree House on the grounds of its lodge in the Amazon, and has developed organic gardens that provide produce for its lodges, as well as native plants traditionally used as local food and medicine. Revenues generated by these activities support Inkaterra's projects, including the protection of endangered flora and fauna in Peru through its InkaTerra Association, an NGO established in 2001 to support research on biodiversity conservation.

Each of its hotels also practises energy, water and waste management conservation, and regularly participates in local clean-up campaigns that involve both staff and guests. Employees of the company are provided with opportunities for advancement through training, interest-free loans and other employee benefits, as well as opportunities to develop individual agro-forestry, beekeeping, aquaculture, farming, and other sustainable livelihood projects. Inkaterra's long-term commitment to both natural and cultural heritage conservation through the development of a viable ecotourism business model has led to innovative and successful sustainable tourism practices that have attracted widespread recognition in Peru, and throughout the Americas.

Source: http://www.tourismfortomorrow.com/bin/pdf/original_pdf_file/inkaterra.pdf.

Finance of green tourism investments

In order to adapt tourism destinations and businesses to the green economy, it is necessary to set out a plan that analyzes the financial projections of the destination and the businesses involved, in particular identifying the amount and type of finance required to carry out the proposed projects. Usually it is necessary to assist the initial construction and start-up costs associated with the development of new projects or the expansion and adaptation of the current tourism initiatives.

There are many different sources available to help finance tourism projects whether the project is prepared for for-profit businesses, not-for-profit organizations and communities or tourism investors. Public funding is common in large scale projects. Usually it comes from domestic public institutions such as ministries, secretaries (e.g. tourism, planning, development), provincial, state or local authorities, pro-poor government programme, among others. Some countries have public programmes developed specifically for this purpose, such as Programma de Financiamento para o Turismo, in Brazil, and Programa Nacional de Inversiones Turísticas, in Argentina. International governmental organizations such as the World Bank and the International Finance Corporation usually participate as providers of infrastructure and financial incentives. NGOs, public-private partnerships (PPPs), private sector organizations (tour operators, trade associations and so on), foundations and banks have also contributed a lot in the first financing stages of many projects. The participation of civil society through community associations, member fees or local donors is also common.

The Inter-American Development Bank (IDB) is an institution that deserves specific mention in this context. The IDB aims to help accelerate the economic and social development of its member countries in Latin America and the Caribbean, promoting the investment of public and private capital in the region. Its aims are to achieve development in a sustainable and climate concerned way. Tourism is among the areas that receive support from IDB, which considers requests for loans and technical cooperation to finance studies and investment projects that contribute to tourism development in the member countries. The IDB is one of the main sources of financing for most Latin American countries.

Other institutions that have been prominent in funding sustainable tourism projects are the WWF (World Wildlife Foundation), KFW Germany, USAID (United States Agency for International Development), UNICEF (United Nations Children's Fund), CIDA (Canada International Development Agency), Rainforest Concern England, Rotary Club, among others.

Government

Many countries and regions in South America still experience some political instability, making businesses lack the confidence to make long-term investments. In this case, the involvement of governments in tourism projects is appreciated and important in order to provide commitment and engagement.

Local investment

Small and local communities usually lack well-trained human resources, as most people living outside the major cities tend to have lower levels of formal education. Tourism provides an excellent opportunity for these communities as jobs can be created in this area with a minimum amount of training skills. Nevertheless, if those communities are going to manage their own tourism businesses and organizations, specific programmes have to be set up to provide them with opportunities to successfully achieve their tourism ventures. In Brazil, for example, SEBRAE (the Brazilian Service of Support for Micro and Small Enterprises) provides support for the development of small and medium enterprises, including tourism activities. This is achieved by the establishment of training courses, consultancy services, lectures, seminars and publications in order to create a network of knowledge for small and micro enterprises.

The example of São Paulo

This section on South America concludes with an expanded case study on the state of São Paulo. The state of São Paulo, in Brazil, is the wealthiest state in the country, with a GDP of just over a third of the Brazilian economy. It is also one of the wealthiest regions in Latin America. Publishing a document containing proposals for public policies for the green economy, São Paulo is considered a pioneer in Brazil. Inspired by the British tradition of green papers (official documents released at the start of the process of building policies, in order to generate debate on critical issues), the document published by the Secretariat for the Environment of the State of São Paulo aims to further debate in various segments of society state policy on the green economy.

The document entitled *'Green Economy: Development, Environment and Quality of Life in the State of São Paulo'* results from the first attempt of internalization of the green economy theme at the environmental governance system and the government of the state of São Paulo. The work is a response to the international movement headed by UNEP's Green Economy Initiative in terms of current economic and environmental challenges. It includes chapters on renewable energy, green technology, sustainable transport, sustainable construction, sanitation, water conservation, agriculture and forestry, economic instruments, indicators, and tourism. The document proposes recommendations for the sustainable development of these sectors, including suggestions that would help the sectors to generate income and green jobs, at the same time addressing the issue of climate change. In order to make these kinds of recommendations practicable, the state of São Paulo launched the Green Economy Financing

Line, which aims to finance projects of small and medium enterprises that aim to reduce greenhouse gas emissions.

With regards to tourism, the state of São Paulo is one of the main destinations in Brazil. With 645 municipalities and immense cultural diversity, it is not only the most visited state in Brazil, but also the one that generates more domestic tourists. Data from 2006 shows that it received 29% of the Brazilian domestic tourist flow, and is also responsible for generating 41.3% of the domestic demand. Among the top 30 most visited Brazilian cities, five are located in the state of São Paulo. With three major domestic airport hubs, the main international airport gateway and the largest port in Brazil, São Paulo welcomes 47% of international tourists visiting the country. In December 2006, the state had 19.4% of tourism sector jobs (IPEA 2008). The state of São Paulo has the largest hotel industry in Brazil, with 20.2% of the hotel businesses in the country (ABIH 2005).

The biological diversity and potential for ecotourism in particular in the state of São Paulo is outstanding, with no fewer than 81 conservation areas. There are 21 ecological stations, 13 state forests, 27 state parks and 16 experimental stations, nurseries, reserves and forest parks. The Serra do Mar State Park is spread throughout the Brazilian coast and contains the largest continuous area of preserved Atlantic Forest in Brazil. In Vale do Ribeira is located the Alto Ribeira Touristic State Park, which contains one of the largest groups of caves in Brazil.

The Strategic Ecotourism Project, one of the 21 Strategic Environmental Projects of the Secretariat for the Environment of the State of São Paulo, aims to strengthen ecotourism and sustainable tourism strategies for nature conservation and preservation and contribute to regional and socioeconomic development. It is a project developed by the Ecotourism Management of the Forest Foundation.

Among its strategies, are:

- Structuring and strengthening of public management for ecotourism in protected areas of the State
- Consolidation of its potential for sustainable tourism in the hinterland of protected areas
- Standardizing and strengthening of the ecotourism services chain in the protected areas and their hinterlands.

One of the main actions of the Strategic Ecotourism Project is the Project Ecotourism in the Atlantic Forest (officially called 'Project of Development of Ecotourism in the Region of the Atlantic Forest of the State of São Paulo'), which contributes to structure and promote public visitation in six protected areas of this biome in São Paulo. This action is an initiative of the state of São Paulo, through the Secretariat for the Environment, with the partnership of the Inter-American Development Bank (IDB). It aims to consolidate tourism as a sustainable form of regional socioeconomic development and to ensure nature conservation. This will occur through the consolidation of the tourism value chain in the surrounding areas of the parks and through the strengthening of public management for ecotourism in the protected areas. The Project Ecotourism in the Atlantic Forest expects investment of US\$ 15 million.

Environmental education is included in the project in a number of ways. Sites will have an environmental interpretation centre with themes relevant to each park, according to their location and potential. The themes of each park will complement each other and aim to encourage tourists to visit all the sites that are part of the project.

Investment should enhance the attractiveness of the parks, help meet the expectations of the visitors and improve the ability to collect funds for the parks and communities, in order to contribute to regional development. Investment includes not only equipment for ecotourism practice, but also accommodation improvements, food services, sale of handicrafts and other payable tourism services. All of which is underpinned by encouraging the participation of both communities and the private sector in the management of regional tourism, according to appropriate guidelines and regional planning.

By 2012, the project's intermediate goals are to:³

- Increase the average expenditure of tourists from R\$ 90 per day to R\$ 136 per day;
- Increase the number of tour operators in the region from 681 to 1,013;
- Increase the number of visitors from 170,000 to 300,000 per year;
- Increase the average daily expenditure of the tourist that uses the parks' accommodation from R\$ 70 to R\$ 108;
- Increase the average occupancy rate at the parks' accommodation from 20% to 60%; and
- Increase direct jobs in the tourism sector of the 14 cities of Vale do Ribeira from 1.34% to 2.01%.

Studies indicate that the project will present the following results:

- Expansion and upgrading of tourism infrastructure, with adaptation of the type and quality of tourism facilities and services
- Structuring and implementation of a proper marketing and communications programme, promoting tourism in the parks
- Improvement in accessibility and interconnection between the parks, providing synergy in the use of equipment and operation of tourist services
- Improvement of socioeconomic conditions of populations, which will be possible through the participation of local communities in regional tourism, training and professionalization of local labour to work with tourism.

One interesting fact about this programme is that five of the six parks benefited by the project are located in Vale do Ribeira region, where the municipalities with the lowest HDI (Human Development Index) of the State are located. It is also, together with Serra do Mar, the region with highest biodiversity and concentration of preserved Atlantic Forest, acknowledged by UNESCO as a World Heritage Site. In order to change this situation, the Project is preparing the communities to assume jobs that take into consideration this huge patrimony. The idea is to substitute the old jobs that used to exploit the forest, without any concerns about sustainability, for green jobs, that are in harmony with the objectives of preservation of the site. The extraction of palm cabbage, for example, is the source of income for many families in the areas surrounding the parks. Nevertheless, this activity is illegal and the tree species that they extract from are endangered. Thus, the project aims to prepare these communities for jobs that both generate income and protect the forests. Ecotourism is a strategic activity in this context. The communities are now being trained to work on new jobs, such as: trail monitor, apiculture, agroforestry (so that they can plant in their properties the palm trees that they will later cut in order to extract the palm cabbage), handicrafts and business plans.

The green economy is a subject that has received prominence in the state São Paulo and the trend is a strengthening of this debate. At the end of 2010, the city of São Paulo hosted an international conference on the green economy, which brought together leaders and authorities on the subject in various productive sectors, including tourism. More than 1,300 people, from 15 Brazilian states and representatives of 20 countries participated in the International Green Economy Business Exchange.

5.3.4 Conclusions

South America is a land of contrasts. Although in general terms the region lacks most of the infrastructure usually found in developing parts of the world, this sub-continent is also home to prosperous cities and regions. Tourism is a key element in the development of South America, providing the necessary

3 Intermediate results of the Programme Ecotourism in the Atlantic Forest (not published).

infrastructure needed in many communities of the region, while acting as a vehicle to improve social, cultural and environmental benefits.

Efforts to develop tourism as part of the green economy can be a way of accelerating progress by the provision of more efficient and less polluting technologies. This provides the chance for most underdeveloped areas to bridge the technological gap while at the same time offering more harmonious solutions to the fragile environment in which they are located.

What the successful cases presented in this section demonstrate is that tourism development per se is not enough to enrich and provide more sustainable realities. The development in training and education, basic infrastructure such as sewage, housing and transport, as well as the empowerment of communities are required. So far financial investments have been made from institutions located outside the communities, usually coming from the federal government or overseas organizations. What has not yet been attained in most of these successful cases is the economic empowerment of these communities so they can have the ability to become independent from external sources.

As a final comment, most of the cases in South America have been working in isolation, without benchmarking best practice alternatives. It is crucial that these initiatives develop their networks and collaborate amongst themselves when new projects are financed. The successful cases should be stimulated to invest outside their regions, selling their expertise to other communities aiming to follow the same path.

5.4 Asia

5.4.1 Overview

Tourism in Asia is growing at a fast rate and many countries in Asia rate tourism as one of the main contributors to their economy. However, although the concept of sustainability has sparked a paradigm shift of economic development in Asia and many countries have existing policy frameworks for greening the tourism industry, there are not many cases that have been highly evaluated and successful enough to be a model to other countries.

In contrast, the private sector has been active in investing in the greening of the tourism industry. This is notable in the more developed tourism destinations such as Hong Kong, Taiwan, Malaysia, Thailand and Nepal.

Promoting the right climate and providing the right incentives for investment is essential for the greening of the tourism industry. Encouraging collaboration and participation among stakeholders may assist in developing and implementing any efforts by reducing potential and actual conflicts of interest and values.

5.4.2 Challenges and Opportunities

Asia has experienced rapid economic growth over the past 15 years although there is a mixed picture of growth across the region. East Asia has the strongest expansion of its economy while South Asia's economy is in a rebound. South East Asia's economy on the other hand has increased faster with 7.4% per annum and Central Asia's economy has just recovered from the global economic downturn in 2010 (Asian Development Bank 2010). However, such growth does have environmental consequences and the central governments in Asian countries have gradually recognized that the conventional way of economic growth, at the expense of the environment, has to be changed (Zhang 2008).

The diverse cultures, high biodiversity and standards of service found in Asia will continuously attract international tourists and tourism development and facilitate their further economic development. However, the tourism industry can be seen as a potentially polluting industry mainly through the consumption of transport services, among other factors. Examples can be found such as Pattaya, Thailand

where both general refuse and sewage from hotels was disposed at sea with less than 10% of the coral reefs in the area surviving. At other popular tourism sites such as the Himalayas, litter and discarded waste has been a major problem for a number of years and recently promoted a successful clean-up campaign for part of the area (Shah, McHarry, and Gardinar 2002).

The Asian region has been addressing issues of sustainability in the tourism industry since the mid-1990s recognising that sustainable development is the only way to effectively address environmental concerns and at the same time contribute to economic growth, creating employment and conserving the local heritage and culture (UNESCAP 2001a).

Key issues for the tourism industry are effective planning and enforcement, environmental policy formulation and voluntary initiatives. Many Asian countries have accepted the principles of sustainable tourism, but actual implementation by tourism stakeholders is slow and only partially successful. Environmental policies, laws and regulations are often formulated without any consultation with the tourism sector and this is prevalent in Asian countries with particular reference to establishing reserves and sanctuaries. Voluntary initiatives such as certification are created not as a result of legislation but adopted by those who see economic, social and marketing benefits.

Sizing and growth of sector

Countries in Asia and the Pacific are increasingly competing for international tourism, with the Asia and Pacific region attracting 204 million visitors in 2010. This is a growth from 109 million arrivals in 2000. Growth is expected to continue to contribute more to the socio-economic development of Asia through direct impact such as employment and gross domestic product (GDP). “A double-digit growth rate is a common result for destinations in this region, where international travel is boosted by a strong development of the local economies. With 23 million additional visits the region has secured a share of 22% of the international tourism market... The region’s 13% growth in 2010 was double the world average and, following a modest 2% decline in 2009, confirms Asia as the world’s strongest growing region over the past two years” (UNWTO 2011b).

However, the wealth of Asia differs among and within its region depending on the government system, geographical features, culture and history. This is indicated in the tourism receipt of the region as shown in table 5.1.

Table 5.1 International tourism receipts by (Sub) region

	Change			USD\$			Euro			Market share (%)
	Local currencies, constant prices (%)			(billion)		Receipts per arrival	(billion)		Receipts per arrival	
	07/06	08/07	09/08	2008	2009	2009	2008	2009	2009	2009
World	5.5	1.3	-5.7	941	852	970	640	611	690	100
Asia and the Pacific	10.0	4.6	-0.7	208.9	203.7	1,120	142.1	146.1	810	23.9
North-East Asia	8.3	8.4	0.7	99.9	100.3	1,020	67.9	71.9	730	11.8
South-East Asia	16.0	-1.0	-6.3	59.8	54.3	870	40.6	38.9	630	6.4
Oceania	6.4	2.9	5.2	33.7	33.5	2,520	22.9	24.0	2,210	3.9
South Asia	6.8	7.4	-0.2	15.5	15.6	1,550	10.6	11.2	1,110	1.8

Source: UNWTO (2010).

Box 5.15 below summarizes some of the key volume and value figures for Asia and the Pacific.

Box 5.15 Summary of key data for Asia and the Pacific

Tourist arrivals:	203.7 mn (in 2010)
Tourism receipts:	US\$ 204.3 bn (in 2009)
Global share of tourists:	22% (in 2010)
Jobs:	Travel and tourism is expected to support directly 63,891,000 jobs (3.5% of total employment) in 2011
GDP:	The direct contribution of travel and tourism to GDP is expected to be US\$ 523.0 bn (2.7% of total GDP) in 2011
Exports:	Travel and tourism visitor exports are expected to generate US\$ 288.6 bn (4.3% of total exports) in 2011
Trends and outlook:	Emerging destinations, especially in Asia and the Pacific, are expected to continue growing, taking advantage of a far from exhausted demand from neighbouring countries. In the advanced economies, major challenges to the projected growth are linked to the economic outlook, including high unemployment and weak consumer confidence. 2011's prospects expressed by UNWTO's Panel of Experts also remain very optimistic overall (with expectations in Asia and the Pacific and in the Americas at the highest).

Source: UNWTO (2011b), WTTC (2011).

Energy use and GHG emissions

The air transport industry is one of the main factors for tourism development in general including Asia. Recent trends such as open skies agreement, alliances between airlines and the emergence of low-cost airlines have liberalized the industry. Asia has seen some phenomenal growth in low-cost regional carriers and this helps to intensify the tourism industry. Some Asian airlines such as Air Asia and Malaysia Airlines have taken steps to help reduce the fuel consumption of aeroplanes through routing strategy and flying more direct routes at the most economical speed and practising continuous descent approaches (Air Transport Department, n.d). Flying lighter and cleaner aircrafts also help to improve fuel efficiency. The cost is lower and enables the airlines to have competitive edge over competitors. Airlines also have introduced carbon-offsetting schemes for passengers to make a contribution which help fund selected environmental projects (Eisenkopf and Knorr, n.d).

Water

In Boracay, Philippines, coliform pollution was found in the water supply and in inshore waters as well as algae on coral. In 1996, the increasing demand from local residents and tourist created an urgent need for both adequate water systems and sewerage disposal. A piped water scheme was initiated in 1997 with a bilateral project funded by the Canadian government to resolve the situation (Nicholson 1997).

While in some parts of Asia, there is an issue of water shortage, in other parts there is an issue of water wastage. To address this there are initiatives at several tourism sites to recycle waste water in order to maintain attractions such as golf courses (see section 2.1.1). Holiday Inn in Phuket, Thailand, has

invested in its own water treatment plant for wastewater to be usable to maintain the hotel's garden and leisure facilities (Cooper et. al, 2005).

Cultural heritage

Tourism also has improved the preservation efforts and maintenance of Buddhist monasteries and Hindu temples in the Nepal and Indian Himalayas. Tourists have contributed directly through fees towards the preservation of monasteries and temples while local communities are more willing to spend more on preserving their heritage if their incomes improve. Zurick (1992) mentioned that *Khumbu Sherpa* ceremonies such as the *Mani Rimdu* festival at *Thyangboche* Monastery have attracted international recognition, which has financed the construction of local religious sanctuaries, albeit the commercial nature of tourism has changed the nature of the ceremonies it preserves.

Changing consumer patterns

Organizations also undertake voluntary action to implement codes of conducts to influence consumer behaviour. One good example can be shown from Pacific Asia Travel Association (PATA) Traveller's Code in box 5.16.

Box 5.16 Voluntary codes

Pacific Asia Travel Association (PATA) Traveller's Code: Sustaining indigenous cultures

1. Be Flexible. Are you prepared to accept cultures and practices different from your own?
2. Choose Responsibly. Have you elected to support businesses that clearly and actively address the cultural and environmental concerns of the locale you are visiting?
3. Do Your Homework. Have you done any research about the people and places you plan to visit so you may avoid what may innocently offend them or harm their environment?
4. Be Aware. Are you informed of the holidays, holy days, and general religious and social customs of the places you visit?
5. Support Local Enterprise. Have you made a commitment to contribute to the local economy by using businesses that economically support the community you are visiting, eating in local restaurants and buying locally made artisan crafts as remembrances of your trip?
6. Be Respectful and Observant. Are you willing to respect local laws that may include restrictions of your usage of or access to places and things that may harm or otherwise erode the environment or alter or run counter the places your visit?

Source: PATA (2011).

5.4.3 The Case for Investing in the Greening of Tourism

While public sector and NGOs may be proactive in investing for the greening of the tourism industry, the government sector can also play its role by supporting the other stakeholders in creating the necessary climate to induce investment in sustainable tourism.

The economic impacts of sustainable tourism development in Asian countries has proved to be beneficial and encouraging (see table 5.2).

Table 5.2 Economic impact of tourism for selected Asian countries

Countries	Economic impact
Bangladesh	Tourism has contributed 0.3% to the GDP. Direct employment is just over 100,000 people and indirect employment could be over 200,000. Tourism diversifies Bangladesh's economy and acts as a poverty alleviation tool.
Cambodia	Tourist spending amounted to approximately US\$ 526 million in 2003, which contributed 12% to the GDP and generated employment for 100,000 people. In 2004, the estimated income from tourism was US\$ 777 million, which generated employment for about 180,000 people.
Hong Kong	Tourism is a major economic pillar and source of foreign exchange earnings. Total tourism expenditure by 21.8 million visitors in 2004 amounted to US\$ 11.8 billion.
Indonesia	Revenues from tourism amounted to US\$ 4.7 billion and tourism is ranked second as a source of foreign exchange earnings. Tourism contributed 5.55% to total output, 5.49% to total salaries and 8.28% of the workforce.
Japan	Tourist consumption contributed 5.6% of total domestic production value added and accounted for 5.7% of GDP in 2003. Tourism accounted for about 4.42 million jobs, about 6.8% of the total employed population.
Laos	Tourism earns US\$ 118.9 million in foreign exchange earnings in 2004.
Macau	Increased tourist arrivals in 2005 helped the economy and improved consumer and business confidence. Total visitor receipt amounted to US\$ 1.93 billion in the second quarter of 2005.
Nepal	The economic importance of tourism in Nepal has been due to economic linkages, foreign exchange earnings, employment and improved socio-economic conditions in remote rural areas. In 2004, foreign exchange earned from tourism amounted to US\$ 180 million, which contributed to 3–4% of GDP.
Singapore	Singapore welcomed 8.3 million international visitors with tourism receipts of about SGD\$9.6 billion in 2004. Tourism contributed 3% of the GDP and accounted for 150,000 jobs.
Sri Lanka	Tourism in Sri Lanka generated an annual average value of US\$ 317 million from 2000–2003 while creating more than 175,000 direct and indirect jobs.
Thailand	Tourism receipts for 2004 amounted to a total of almost US\$ 9.8 billion.

Source: UNESCAP (2005a).

However, when revenues arising from tourism-related economic activities in destination countries are not available for investment and reinvestment or consumption of goods and services in the same countries, the tourism industry will experience leakages. The Seventh UN Commission on Sustainable Development (CSD) meeting (1999) identified financial leakages as the key area to address by the stakeholders. The leakages occurred due to various factors such as importation of foreign building material, skilled labour and luxury products, and packaged travel arranged with powerful trans-national corporations (Shah and others 2002).

While Cambodia has seen a tremendous increase in tourism receipts between 2003 and 2004 when it almost doubled its income to US\$ 777 million, it suffers leakages through imported goods necessary for the tourism industry. The Cambodian government has been encouraging people to plant crops and flowers and raise animals of high quality for the tourism industry to address the leakage issues and as a part of a poverty alleviation programme. This is a similar experience to neighbouring Laos where the overall leakages for imported goods and services is estimated to be around 56% in 2003, which means that for each US\$ 100 spent by a tourist, about US\$ 44 stayed in the economy.

Khan and others (2002) re-estimated tourism multipliers for Singapore using data from the 1983 input-output tables. Multipliers which embody direct and indirect and induced effects of tourism expenditures on output, income, employment, and import leakages are generated and compared to multipliers produced in previous studies of Singapore and selected small island economies. The income multiplier of .94 generated in this study is comparable to those of Hawaii, Hong Kong or the Indian Ocean

Islands. Their findings suggested that, along with earlier studies of Singapore, the economic importance of tourism has been increasing. This can be triangulated to the growth and the ambitious targets for Singapore as shown in table 5.3.

Table 5.3 2015 Targets for Singapore tourism industry

Indicator	2004	2015 target
Tourism Receipts (SGD\$ billion)	10	30
Visitors Arrivals (million)	8	17
Tourism Employment	150,000	250,000

Source: STB (2005).

Stakeholders are encouraged to seek solutions to better support the local communities through assessment and development of strategies to maximize benefits with joint initiative among stakeholders for its implementation.

5.4.4 Overcoming Barriers: Enabling Conditions

Private sector orientation

Environmental institutions can take advantage of the positive influences of globalization and public pressure to engage the private sector through eco-labelling, obtaining green government procurement, using corporate ratings and disclosure programmes (Zhang 2008). There should be an awareness of the return on sustainable practices. Certification schemes, a part of eco-labelling, usually aim to make the tourism industry more sustainable. These set standards and help to distinguish sustainable tourism operations from others. An example of certification can be drawn from Thailand and its Green Leaf programme. Established in 1998 and supported by the government, utility suppliers and the industry, the programme has aimed to achieve efficiency in hotels and promote environmental awareness. Specific objectives of the programme are to:

- Promote knowledge and support studies and research in the creation of a good understanding of environmental conservation
- Assist owners and operators in the tourism industry to develop environmental quality standards in their work place
- Develop standards of environmental practices for tourism and tourism-related business in response to consumer requirements.

The programme has developed its own criteria and the audit is undertaken by third-party audit. Special attention is given to water saving, waste management and recycling. The Asian Productivity Organization (2009) rated the Green Leaf programme as a good initiative in the Asian context.

A further example in the accommodation sector is the Malaysian multi-national corporation, YTL Group of companies which has a number of hotels and resorts in the Asia region. The group has implemented many initiatives to promote more sustainable tourism by increasing the total amount of renewable energy generated from 21GWh to 25.8GWh. This equates to almost 39% of their total energy use and the levels of emissions have fallen considerably. For example the level of carbon dioxide that the YTL Group emits each year has been reduced by over 60% in the last decade (Sustainability Report, 2009). Further details of the group's initiatives for their hotel properties are given in box 5.17 below.

Box 5.17 YTL group of resorts, Malaysia

At the hotels and resorts, a wide range of energy saving practices have been employed and are currently being used to reduce the Group's overall carbon footprint.

- Electrical appliances (for example lights, air-conditioning) are switched off whenever possible. This is practiced by all staff at all times
- Water outlets are not left running, leakages are always monitored, and plumbing issues are repaired where needed to reduce wastage. Leakage detectors have been installed to help identify underground water pipe leaks
- Equipment has been upgraded to reduce carbon emissions. For example, Pangkor Laut Resort upgraded their marine equipment from 2-stroke outboard motors to 4-stroke, which produces less carbon emissions
- Rainwater harvesting practices are employed at all hotels and resorts
- All hotels have been retrofitted to improve energy efficiency and sustainability (for example, motions sensors have been installed in public spaces so that lights are on only when needed); and
- Bulbs with a lower wattage have replaced previously used ones.

In keeping with the Group's sustainability practices, a 'reuse, reduce, and recycle' policy has also been adopted for all its hotels and resorts. This involves educating all hotel staff on the importance of conservation, using environmentally friendly products, and employing sustainable practices in hotel operations.

- Plastic bags and laundry bags are re-used where possible, waste material and rubbish is managed properly, and all maintenance and building material is recycled and/or donated for other use (For example, waste wood and building material is not burned but instead reused, donated, or resold where possible to locals or recycling facilities);
- Guests are given the option to reduce water wastage and detergent release by having their towels and bed linens replaced every other day instead of every day;
- Shower gels from guest rooms are recycled for staff use at the canteen for washing hands;
- Plastic laundry bags have been replaced with a reusable version at most of our resorts;
- Non-harmful, biodegradable chemicals and detergents from an environmentally-friendly company are used;
- Eco solutions are employed wherever possible (For example, dried coconut husks are used to help prevent hillside soil erosion due to heavy downpour);
- As a spin-off from hosting the 2009 Asia 21 Summit, JW Marriott Kuala Lumpur has begun to offer guests a choice of holding sustainable meetings and events - through not serving bottled water, straws, or coasters, and serving a menu comprised of locally-sourced cuisine; and
- Pangkor Laut Resort and Tanjong Jara Resort have stopped serving bottled water at all food and beverage outlets - in instances where bottled water is used, the bottles are sold to recycling plants.

Source: YTL Corporation (2010).

Destination planning and development

The policy frameworks implemented by many Asian countries integrate and pursue the development of economic, social and environmental sustainability. Many have multiple purposes such as poverty alleviation and maximizing economic benefits. The challenge for the Asian region is to move away from the mentality of 'Grow First, Clean up Later' to an integrated approach of 'Green Growth' that reinforces environmental sustainability (UNESCAP 2005b). The UNESCAP Regional Policy Dialogue in 2005 proposed Asia and the Pacific strive towards eco-efficiency and environmental sustainability. The dialogue also explored the means to apply specific government policy to promote 'Green Growth' and the reformation of tax and budget policies to achieve optimum eco-efficiency in allocating resources.

In addition, developing Asian countries need to address other social issues such as providing water and sanitation services to the poor, improving basic public infrastructure, alleviating poverty and improving the environment. The integration of environmental policies with other policies such as economy, investment, energy, transportation, land use and other urban development is essential to harmonize all policies and sustainability issues while enhancing the synergy between environment and economy.

Many countries in Asia have developed their own tourism plans at various levels to chart their path in developing the tourism industry. The integration of sustainability principles into these plans is essential and must go hand-in-hand with reliable implementation and monitoring processes by relevant authorities.

The following examples are found from around the region:

- In Bhutan foreign travellers have only been allowed to enter the country since 1974. The country has carefully strategized their tourism industry through a strict sustainable tourism policy in order to preserve local culture and prevent environmental degradation. Bhutan pursues 'high-value, low-impact tourism' and measures its success in terms of 'gross national happiness' rather than gross domestic product (Ringbeck 2010). More than 72% of the country is still forested where parts of it have been declared as wildlife reserves and many mountains are closed to trekking for fear of littering and pollution.
- Under the Kyoto Protocol, there is a scheme that allows industrialized countries to invest in emissions-reducing projects in developing countries as an alternative to more expensive ones at home. This is known as the clean development mechanism (CDM). Such a financial scheme may be the starting point for Asian countries to rethink their current tourism industry to a greener one (Ringbeck 2010). One of the pioneering CDM projects (a commercial wind power project, in the Philippines) is located at Bangui Bay, Illocos Norte. The project, which was completed in May 2005, displaces grid electricity generated from highly polluting fossil fuels and in so doing reduces greenhouse gas emissions by an approximately 51,855 t CO₂-e (t of carbon dioxide equivalent) annually for the first 7-year crediting period. The windmill itself has become a tourism attraction and draws tourism supporting industry to the area (Castro 2006).
- Asian countries will feel more pressure from stricter international standards on developing less carbon-intensive industries (Asia Business Council n.d.). Some standards will be technology-intensive such as China's large solar industry and Japan's technologically advanced building controls industry. Other standards will be labour-intensive such as retrofitting buildings with energy-saving solutions such as solar water heaters, insulation, and better lighting controls. This technology advancement should benefit countries with fragile environments such as the Maldives. The Maldives, which earns around \$ 1 bn a year, plan to shift entirely to renewable energy over the next decade to become the first carbon-neutral nation and fight climate change which is seen as a real threat to the country. The Maldives has already been proactive in greening its tourism industry. In the late 1992, the Marine Research Section (MRS) of the Ministry of Fisheries and Agriculture (MOFA) of Maldives estimated that over US\$ 2 million per year was spent by visiting divers to watch the sharks, which is about 100 times more generators of revenue through dive operations than if they are fished for consumption for export. The relevant government agencies decided to gazette 15 dive sites as protected areas in 1995 with a further 10 sites added in 1999 (Robinson 2001). The protected areas also created awareness among locals on the importance of underwater

beauty, not only for the national pride and heritage but also for the country's overall development which is highly dependent on tourism.

- China has a seven-point strategy as a basic framework for sustainable tourism development that seeks to balance the rational use of resources for positive economic impact along with environmental protection (United Nations 2001). One of the thrusts of the strategy is to let the market mechanism work on its own and encourage the government to establish cooperative institutional safeguards. From the macroeconomic level, this strategy will help traditional industries that use resources inefficiently to be replaced.

Local investment

Collaborative efforts can enable local or regional institutions to launch and operate their sustainable agendas. The Capacity Building for Sustainable Tourism Initiatives Project (STP) is an international NGO working in Vietnam with specific focus on the negative impacts of tourism on Vietnam's ethnic minority groups and biophysical environment. STP worked with The World Conservation Union (IUCN) with its counterpart the Institute for Tourism Development Research (ITDR) to coordinate their activities with government counterparts and implement STP activities in a consultative and collaborative manner. Activities include establishing the Sustainable Tourism Resource Centre (STRC), conducting training for capacity building and advocating sustainable tourism development. These activities have included more stakeholders to ensure successful synergies to the agendas. This was evident from the National Workshop for Development of a National Ecotourism Strategy Vietnam, which was a joint effort of STP and ITDR with the support from Vietnam National Administration of Tourism (VNAT), Economic and Social Commission for Asia and the Pacific (ESCAP) and Swedish International Development Agency (SIDA). The workshop has increased awareness of sustainable tourism development among the tourism officers in Vietnam.

5.4.5 Conclusions

Tourism has already become one of the major propellers of the economy in Asia and with its rapid growth it will continue to do so in the future. Asia and many of its countries have long developed policy frameworks for greening the tourism industry. Many developed nations in Asia have shown their capacity to shift their conventional economic model to the green model for economic stimulus and sustainability. Asian developing nations use tourism as a tool of development and poverty eradication with increasing regards to the green and sustainability issues. Some Asian countries have been innovative and at the forefront of the issues in greening their tourism industry with concepts and schemes such as YTL's carbon footprint reduction scheme. With diversity of culture and nature combined with high standards of service found in Asia, this region will continuously attract tourists especially within the Asia region itself and the tourism development ensure further economic development.

5.5 Africa

5.5.1 Overview

This case study explores how investment in sustainable tourism can contribute towards sustainable development in Africa. It investigates how tourism can be used to create employment, conserve biodiversity and contribute towards the reduction of poverty. Three main themes are explored in relation to sustainable tourism: (1) investment, (2) effects on the economy, and (3) the enabling environment. This section has been compiled using a desk-based review of existing and available information on sustainable tourism in Africa. Since no systematic macro-economic analysis exists for sustainable tourism investment on the continent, the section provides a series of illustrative examples to give a sense of some of the best practices taking place.

A number of tools are being used on the continent to encourage sustainability, including policies, guidelines, standards, and certification. However, additional investment is required on the continent, particularly with regard to the use of appropriate environmental technologies and training. The enabling conditions for sustainable tourism in Africa are similar to elsewhere. The areas described here include policies and strategies, investment regulations, infrastructure and land, tax incentives, and human resources. A series of challenges face Africa in achieving sustainable tourism development.

5.5.2 Challenges and Opportunities for Tourism in a Green Economy

There are a number of challenges that Africa faces in driving sustainable tourism investment. These are outlined below in relation to the central themes of the enabling environment: the economy, the environment and society and culture. These are as follows.

Enabling environment

There is limited implementation of good policies; corruption; lengthy bureaucratic processes and high costs of doing business. In addition there is the need for adequate supporting infrastructure (for example transport, education, communication, public health, electricity). Some tourism opportunities, such as joint-ventures and conservancies, are complex and take time to negotiate.

Economic and financial issues

To attract responsible private sector developers, destinations need to provide an enabling environment including stable land tenure, political stability, access, suitable infrastructure, a suitable natural destination, and medium- to long-term commitment. High costs of taxes, levies and government fees; sufficient economies of scale to develop viable market linkages may not necessarily translate into well-paid jobs with good working conditions.

Environmental issues

Adequate planning, coupled with conservation management and environmental management systems (for example waste, energy, resource use) is necessary to maintain the integrity of the tourism resource base. Fragile ecosystems (for example, mountains, coastal zones) and endangered species require the most attention.

Social and cultural issues

Negative social and cultural impacts of tourism need to be avoided and mitigated. Vocational training in hospitality and other supportive skills are vital. Workers' rights need to be defended and protected. Participatory processes are vital.

Source: Spenceley (2010).

There are also a number of opportunities to overcome the constraints to sustainable tourism development in Africa. These are outlined below.

Enabling environment

- Development of enabling policies, that are based on sound research and participatory development processes
- Development of appropriate instruments and programmes to implement and regulate those policies consistently (for example focussing on yield, rather than numbers of tourists)
- Simplifying and supporting the development and operation of business through suitable licensing and regulatory instruments
- Vigorously tackling corruption and poor governance by providing transparent and equitable solutions
- Providing trust, space and time for innovation by the private sector
- Monitoring and evaluation of the impact of policy, and providing mechanisms for feedback and adaptation
- Targeted capital infrastructure development to support tourism, related to demand, and enhancing the destination for residents simultaneously.

Economic

- Creating incentive and taxation instruments that support, rather than punish commercial success
- Provide mechanisms to ensure living, or minimum wages, across the sector, in participation with the private sector
- Promote value for money in tourism products and destinations, coupled with good service and good experiences
- Invest in marketing and promotion
- Establish good market linkages between the destination and source markets
- Promote strong local value chains, so that local businesses can overcome barriers to engaging in tourism markets, and sell their goods and services to the tourism sector
- Monitor and evaluate the economic and financial returns to society and local people.

Environmental

- Ensure adequate planning, design and location for tourism development, which is cognisant of the impacts on the local environment and resource use
- Avoid negative environmental impacts where possible, and mitigate damage when it occurs
- Provide access to information and technical assistance to support conservation, wise use of resources (for example energy and water), and reduce the negative impacts of waste
- Vigorously protect fragile ecosystems and endangered species.

Social and cultural

- Provide access to vocational training for local people in hospitality and tourism (including guiding and craft development)
- Protect the rights of workers to safe and healthy working conditions
- Use tourism to conserve, rehabilitate and re-invigorate cultural heritage and traditions
- Adopt participatory processes for planning and decision making with local people
- Tackle and resolve conflicts as they arise, and try to find win-wins
- Recognise that people living in tourism destinations are an integral part of the asset
- Ensure that enhancements in destinations improve the well-being of residents, as well as tourists (for example healthcare, education, sanitation, and infrastructure).

Source: Spenceley (2010).

5.5.3 The Case for Investing in the Greening of Tourism

Investment in sustainable tourism projects and programmes has been observed across the African continent, catalysed by initiatives from actors including governments, donor agencies, the private sector and non-governmental organizations. Although there are no aggregate figures on the level of investment in sustainable tourism in Africa in general, some notable examples are described here, and can be used to give an indication of the trends and activities. Where possible, examples have been included that illustrate economic, social and environmental sustainability. This section explores the current level of tourism investment in sustainable tourism by different actors; additional investment that is needed; and sustainable tourism tools used in Africa.

Sizing and growth of sector

International tourist arrivals in Africa have witnessed important growth in recent years, from 14.8 million in 1990 to 35.4 million in 2005 and to an estimated 48.8 million in 2010. Africa has been the fastest growing destination in the world, recording an average annual growth of 6.4% between 2000 and 2010 (WTTC 2010). In terms of international tourism receipts, Africa has recorded some decline in 2008 and 2009 (table 16). While world international tourism receipts in 2009 was US\$ 852 billion, Africa accounted for only 3.4% and the Middle East accounted for 4.8% (UNWTO 2010), equating to US\$ 29.1 billion.

Table 5.4 International tourism receipts in Africa and share

	International Tourism Receipts (US\$ billion)		International Tourism Receipts LCU, constant prices, change (%)			Share (%)
	2008	2009	07/06	08/07	09/08	2009
Total Africa	30.2	29.1	9.7	-3.5	-4.4	3.4
North Africa	10.8	9.9	7.4	-3.9	-4.3	1.2
Sub-Saharan Africa	19.4	19.1	10.9	-3.3	-4.4	2.2

Source: UNWTO (2010e).

There is huge commitment in Africa to increase investment in travel and tourism. From the figures obtained from WTTC, capital investment in Africa has risen significantly from US\$ 21.4 billion in 2005 to US\$ 36.5 billion in 2010 (WTTC 2020) (see table 5.5). These figures include fixed investment expenditure by travel and tourism service providers and government agencies to provide facilities, capital equipment and infrastructure for visitors.

Table 5.5 Travel and tourism capital investment in Africa US\$ billion

	2005	2006	2007	2008	2009	2010
Total Africa	21.4	23.7	30.0	34.9	34.1	36.5
North Africa	8.4	8.5	11.1	13.9	13.0	13.5
Sub-Saharan Africa	12.9	15.2	18.9	21.0	21.0	23.0

Source: WTTC (2010a).

Government activities to support travel and tourism, such as tourism promotion, aviation, administration, security services, resort area sanitation services, among others, have increased substantially from US\$ 3.56 billion – 6.27 billion in 2010 (see table 5.6).

Table 5.6 Government travel and tourism expenditure in Africa, US\$ billion

	2005	2006	2007	2008	2009	2010
Total Africa	3.56	3.93	4.49	5.15	5.61	6.27
North Africa	1.78	1.93	2.22	2.66	3.01	3.32
Sub-Saharan Africa	1.78	2.00	2.27	2.49	2.60	2.95

Source: WTTC (2010a).

Employment in the Travel and Tourism sector in Africa has also seen some increases but with the global economic crisis some decrease was observed since 2008 (see table 5.7). It is estimated that around 15 million people are employed in this industry. From a selected number of African countries in Table 5.8, employment in the hotel and restaurant sector as a percentage of total employment ranges from 0.3% in Mali, to 6.7% in Mauritius.

Table 5.7 Travel and tourism economy employment, 2005–2010 (x 1000)

	2005	2006	2007	2008	2009	2010	Average growth 2005–2010
Total Africa	15,241.9	15,253.6	16,385.5	16,527.7	15,311.7	15,106.7	-0.07%
North Africa	4,994.6	5,307.0	5,626.8	5,527.7	5,198.7	5,034.2	0.28%
Sub-Saharan Africa	10,247.3	9,946.6	10,758.7	11,000.0	10,113.0	1,072.5	-0.20%

Source: WTTC (2010a).

Research also found that female participation in tourism varies from as little as 5.3% in Algeria, to up to 87.4% in Ethiopia within the hotel and restaurant sector (see table 5.8).

Table 5.8 Employment in hotel and restaurant sector, average: 2001–2008

Country	% Employment in hotel and restaurant	% Women in total hotel and restaurant employment
Algeria	1.7	5.3
Botswana	2.8	68.0
Egypt	1.8	6.6
Ethiopia	2.4	87.4
Madagascar	0.6	54.2
Mali	0.3	82.0
Mauritius	6.7	32.0
Morocco	0.5	15.0
Namibia	3.4	55.2
Senegal	0.9	57.5
Sierra Leone	0.3	46.9
Tanzania	2.1	73.9
Uganda	2.6	73.3

Source: Computed from WTTC (2010a).

Box 5.18 below summarises some of the key volume and value figures for Africa.

Box 5.18 Summary of key data for Africa

Tourist arrivals: 48.8 mn (in 2010)

Tourism receipts: US\$ 29,105 mn (in 2009)

Global share of tourists: 5.2% (in 2010)

Jobs: Travel and tourism is expected to support directly 7,806,000 jobs (3.0% of total employment) in 2011

GDP: The direct contribution of travel and tourism to GDP is expected to be US\$ 76.5 bn (4.0% of total GDP) in 2011

Exports: Travel and tourism visitor exports are expected to generate US\$ 53.4 bn (8.2% of total exports) in 2011

Trends and outlook: According to the latest UNWTO barometer “Certainly, Sub-Saharan Africa should continue to benefit from the worldwide exposure during the FIFA World Cup last year, which provided an invaluable boost to the image not only of the host country, but also to that of other destinations in Southern Africa and even the rest of the continent. South Africa now has to prove its ability to capitalise on its improved infrastructure, increased self-confidence and the momentum generated by the mega-event. However, the immediate challenge is the consolidation of the results achieved last year”. (UNWTO 2010)

Source: UNWTO (2011b), WTTC (2011).

Economy-wide effects of increased investments in sustainable tourism

One of the 'truisms' of tourism is that it can be used as a tool to reduce poverty in destinations. Current thinking on this issue indicates that this can be true, but that aside from direct employment, there is limited indirect benefit (for example from procurement of goods and services) unless there is an active programme to strengthen value chain linkages for the poor or to create 'inclusive businesses' (Spenceley 2010). However, uncontrolled tourism development can also have detrimental impacts on society. This can include negative impacts on natural and cultural heritage, higher prices including land, food, services and housing, prostitution, drugs and so on. Tourism can also have negative impacts on the environment, including pollution, degradation and depletion of biological diversity, and disruption of natural habitats. Sustainable tourism provides a tool to avoid and mitigate negative impacts, and promote benefits to the environment and society.

Data on the economy-wide impacts of sustainable tourism investment are almost non-existent at the aggregate level for Africa. Therefore, in order to assess the economy-wide effects of sustainable tourism investment on output, jobs, livelihood, poverty reduction and environmental conservation, the general economic impacts of tourism in Africa is highlighted. Subsequently, several case studies are presented, to better understand local impacts.

Current level of investment in sustainable tourism programmes

Government initiatives

Governments have a key role to play in providing the enabling environment for tourism to thrive. This includes creating a stable political and economic climate, secure land tenure, safety for visitors, favourable conditions for investors, and ensuring a good reputation and 'brand' for their tourism destinations. These conditions are created through government-led policies, plans and laws that guide and regulate the sector (Spenceley 2010).

Noteworthy initiatives include Namibia's conservancy programme, which gives rural communities the rights to use wildlife on their lands, Zanzibar's Strategy for Growth and Poverty Reduction (NASCO 2009), and the Seychelles Ecotourism Strategy (Seraphine 2010). Other innovative approaches include responsible tourism policies developed in South Africa and the Gambia, and Botswana's policy to promote high-value, low impact tourism (Spenceley 2010). To illustrate some of the programmes, three examples from South Africa and Namibia are described below:

- **Government-led poverty relief programme:** South Africa's Department of Environmental Affairs and Tourism's Poverty Relief Programme ran between 1999 and 2003. It aimed to manage and administer poverty relief proposals and spin-off projects in the tourism and environment sectors, with a special focus on infrastructure investment and product development (such as heritage sites, rock art and conservation). Funding was allocated to 157 projects which had goals including job creation, development of new tourism products, provision of training and capacity building. Project proponents also had to ensure that projects were sustainable in the long term (DEAT, undated). Between 2000 and 2002 the budget allocation for tourism infrastructure and product development for the programme was almost R 300 million (approximately US\$ 30 million). During the 2001/2 period, the programme created 1847 jobs, at a cost of an estimated R 81, 100 per job (approximately US\$ 8200) (DEAT, undated). However, the environmental impacts of these programmes have not been assessed.
- **Public private partnerships in South Africa:** The parastatal responsible for national parks in the country, South African National Parks (SANParks), developed a programme of private concessions, or public-private partnerships. This programme was preceded by a change in policy that allowed the private sector to invest in, and operate, tourism within the national parks (a realm that had previously been reserved for government). The initiative was driven by the need to stimulate investment that was ecologically sensitive in protected areas. Prospective concessionaires not only submitted financial bids, but also environmental and socio-economic proposals (Spenceley 2004). By 2007 this programme had led to an increase in tourism infrastructure investment in national

parks of US\$ 14.7 million by the private sector, an extra 620 jobs, and a guaranteed spend of US\$ 1.6 million per year in local communities (Varghese 2008).

- **Conservancies in Namibia.** The Namibian government has devised a conservancy land-tenure system, so that communities could generate revenue from wildlife resources on their land. Legislation was passed that allowed communities living in communal lands to acquire common property rights to manage and use their wildlife resources with conservancies. A conservancy is an area of land where people acquire the rights and responsibilities for the consumptive and non-consumptive use and management of wildlife and natural resources, on behalf of the community (Ashley and Jones 2001). Since the conservancy programme began, private benefits to communities have increased annually from less than N\$ 600,000 in 1998 to N\$ 41.9 million (US\$ 5.7 million) in 2008, with the primary growth coming from the tourism industry. Tourism joint ventures conservancies now represent 856 tourist-beds, 789 full-time jobs and over 250 seasonal positions. In addition, the private sector has invested more than N\$ 145 million (US\$ 19 million) in tourism in communal conservancies since 1998 (MET, undated).

For other countries in Africa, the general tendency is to support direct investment in tourism infrastructure (for example hotel infrastructure), but not necessarily investment in sustainable tourism (for example 'green' hotels). The reasons for this may include a general lack of awareness within the public sector of the importance of sustainable tourism, and also a lack of understanding of how to develop it in practice.

Donor agency initiatives

Donor agencies operating in Africa include multilateral and bilateral agencies. Multilateral development agencies provide financial support and professional advice for economic and social development activities in developing countries. Bilateral agencies form agreements with governments on a country-by-country basis, in order to provide financial and technical development assistance (Spenceley 2010).

Notable examples of multilateral initiatives include the International Finance Corporation's anchor investment programme in Mozambique. This was designed to create stable land tenure opportunities in the Maputo Special Reserve, and other protected areas, and to leverage investment from operators with good environmental practices. When launched in 2007, the programme hoped to leverage US\$ 1 billion for resorts that maximise benefits at the local level, through joint-venture partnerships (Visser 2008). The World Bank has also been contributing towards tourism investment through its Transfrontier Conservation Area programme in Mozambique. A US\$ 5 million Community Enterprise Fund was devised as part of this programme, to provide grant funds to communities within TFCA's towards initiatives including capital in tourism ventures, tourism or conservation training, and livelihood activities linked with tourism and conservation (World Bank 2005).

A number of United Nations agencies are also working in tourism in Africa. These include the United Nations World Tourism Organization (UNWTO)'s Sustainable Tourism Eliminating Poverty (STEP) Initiative, which supports a variety of projects that aim to reduce poverty by developing tourism products, and building capacity in destinations. Currently there are 43 projects in more than 18 countries in Africa (see www.unwtostep.org). Also, the United Nations Industrial Development Organization (UNIDO)'s Collaborative Actions for Sustainable Tourism Project (COAST) aims to promote the conservation, management and monitoring of this coastal biodiversity in nine East and West African countries (see coast.iwlearn.org). The United Nations Development Programme (UNDP)'s programme is also supporting conservancy development in Namibia described above, and a project to mainstream biodiversity in industry in the Seychelles (see www.undp.org/africa) (Spenceley 2010).

Some examples of sustainable tourism initiatives by bi-lateral agencies in Africa include the United States Agency for International Development (USAID), which is supporting the Global Sustainable Tourism Alliance (GSTA) in Mali, and other tourism interventions in protected areas of Rwanda, Mozambique, Kenya, and Tanzania (see www.usaid.gov). The Agence Française de Développement (AFD) is working in the Quirimbas and Limpopo National Parks in Mozambique (see www.afd.fr/jahia/Jahia/lang/en/home); Gesellschaft für Technische Zusammenarbeit (GtZ), is working on ecotourism, livelihood

interventions and value chain linkages in Benin, South Africa and the Central African Republic (see www.gtz.de/en); Kreditanstalt für Wiederaufbau (KfW) is financing protected area infrastructure and management and concessions processes in more than 12 countries in SSA (see www.kfw.de); and the Norwegian Agency for Development Cooperation (NORAD) which is working on tourism infrastructure and Community-based Natural Resource Management (CBNRM) in Zambia, South Africa, Tanzania, Mozambique, Uganda and Malawi (see www.norad.no/en) (Spenceley 2010).

Private sector initiatives

There are many notable private sector tourism investments in Africa that promote sustainable tourism, such as Beyond and Wilderness Safaris. Both of these companies have an extensive network of lodges, with an impressive track record of active conservation, sensitive accommodation development, and ensuring local economic benefits to communities. It is estimated that collectively they have invested over US\$ 16 million in tourism infrastructure in 110 lodges in 9 African countries over the past thirty years (Spenceley 2010). The global economic crisis had a rapid impact on demand for the luxury tourism, and Wilderness Safaris report that within three months their reservations went from being ahead, to 25% behind the previous year. In addition, lead times shortened while the time to close booking files lengthened as a result of travellers taking their time to shop around in the search for better value deals or discounted prices. Consequently, occupancy levels in some countries declined from 65% to 59%. However, Wilderness was able to limit the impact on the bottom line by significantly reducing expenditure, without compromising on guest experience or facility maintenance. This resulted in a 4% increase in its gross profit percentage over the previous year. It also reduced its fixed cost base by 13% compared to the prior year. The Group therefore managed to post a profit for the year of Botswana Pula (BWP) 48 million (US\$ 7.2 million), generating BWP 131 million (US\$ 19.6 million) of cash from its operations (Wilderness Holdings 2010). However, without comparative data from equivalent sustainable and non-sustainable business, it is not possible to say whether the company's approach to sustainable tourism was a critical factor in contributing towards its resilience.

There are also many other notable companies working on the continent that have taken a proactive approach towards sustainable development. These include Great Plains Conservation, which uses a similar approach to Wilderness Safaris, while also applying carbon offset programmes to finance conservation. The Banyan Tree is a luxury hotel group working in Africa, Asia and South America, that supports linkages with communities and conservation NGOs (see www.banyantree.com). Other excellent companies include Masakutu in The Gambia (see www.makasutu.com); Singita in South Africa, Tanzania and Zimbabwe (see www.singita.com); the Mantis collection in South Africa, Rwanda, Zambia and Mozambique (see www.mantiscollection.com); Nkwichi Lodge (www.mandawilderness.org) and Guludo Beach Lodge (www.guludo.com) in Mozambique; and also enterprises that have been certified as sustainable by programmes such as Heritage (<http://www.heritagecertification.com/>), Fair Trade in Tourism South Africa (www.fairtourismza.org.za), and the EcoRating Programme in Kenya (www.ecotourismkenya.org) (Spenceley 2010).

NGO initiatives

There is a vast array of NGOs working on sustainable tourism in Africa including international agencies and home-grown non-profit institutions. For example, the African Safaris Lodges (ASL) foundation manages an innovative programme creating long-term partnerships between safari lodge operations and the people of the surrounding communities, in order to generate wealth and improve well-being.⁴ The International Gorilla Conservation Programme (IGCP), which is a consortium of three international NGOs, AWF, CARE and Flora and Fauna International (FFI),⁵ is supporting Mountain Gorilla conservation in the Virunga Massif between Rwanda, the Democratic Republic of Congo, and Uganda. In addition to brokering joint-venture partnerships between communities and the private sector to develop tourism

4 www.asl-foundation.org.

5 www.igcp.org/.

lodges, they have also supported participatory sustainable tourism planning in the region (see www.igcp.org, Makambo 2009). Technoserve has been providing support to ecotourism ventures with business planning, financial and management skills, and also piloting ways to promote locally owned tourism enterprises to create destination circuits (Spenceley 2010).⁶ Other NGOs include SNV, which promotes poverty reduction through tourism, using a combination of approaches that strengthen destination management and value chain linkages, notably in Tanzania, Rwanda, Mozambique, Zambia, Mali, Ghana, and Kenya (Spenceley and others 2010). Conservation International has been involved in infrastructure development in Ghana, through the construction of a canopy walkway and capacity building with the Richtersveld World Heritage Site communities in South Africa (see www.conservation.org)

Additional investment required

A recent review of environmental practices in a series of tourism case studies in Sub-Saharan Africa demonstrated that environmental management systems require more investment and technical support. Some tourism operators are implementing systems to measure their energy, water and waste, and to reduce negative impacts. However, in general, the majority of tourism enterprises on the continent do not have access to, or cannot afford, to use renewable energy technology, or do not know how to implement recycling or water conservation measures. Recycling is often particularly difficult in remote areas, where the economies of scale are not sufficient to sustain commercial recycling, or where the infrastructure does not exist to process separated waste (and is commonly land filled together anyway) (Spenceley 2005; Spenceley 2010). Therefore investment is needed to encourage businesses to use environmental technologies, and to raise awareness of their importance and value.

An example of how this is manifested in a particular destination is Mauritius. On Mauritius the majority of solid waste is sent to a central landfill site, but there are some commercial recycling companies that process waste oil and batteries. In addition, some hotels compost their garden waste, but kitchen waste is no longer given to pig-farmers due to concerns about contamination and swine flu. However, all large resorts are required by law to have their own sewage treatment facilities, and many are interested in installing low-energy technologies due to the high cost of electricity, and are particularly interested in the time period for returns on their investment. The Association des Hôteliers et Restaurateurs – Ile Maurice (AHRIM) is driving the development of a handbook for its members on good environmental practices, in a programme supported by the Commonwealth Secretariat (Spenceley and Bashain 2010; Spenceley and Saini 2010). This type of ‘patchy’ application of environmental technologies, and investments is not unusual in Africa. Ensuring a consistent application of sustainable tourism principles requires an integrated and comprehensive approach.

Linkages to the local economy

Tourism has the potential to make indirect contributions through its linkages with other sectors of the local economy. The UNCTAD (2008) study demonstrates cases where tourism can build linkages that benefit the community and local producers. The study investigates the contribution and impact of foreign and local investment in hotel businesses in Botswana, Kenya, Mauritius, Republic of Tanzania and Uganda. In Kenya 84% of food, beverages and cleaning products are purchased from local suppliers for both types of investors, and a similar pattern is observed in Mauritius (around 90%), Botswana and Tanzania. However, the impact could be higher if the quality could be increased and if there was better packaging and branding and improvement in labour skills. In Uganda, domestic-owned hotels tend to have a better link with local communities than foreign-owned hotels. The study tends to indicate that countries with a long history of tourism have forged a better linkage with local communities.

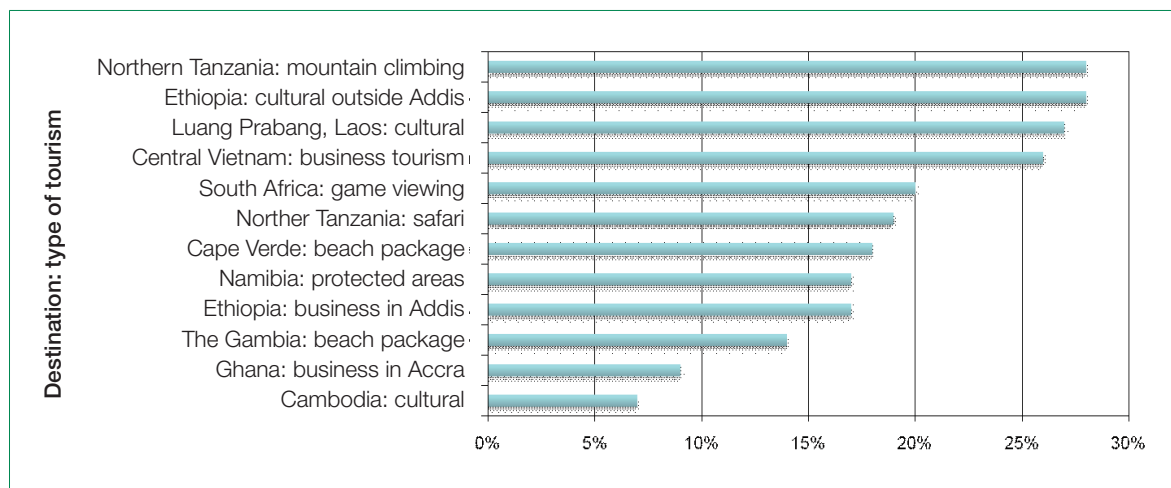
There are instances where tourism development can have negative social, cultural and environmental impacts as shown by Gössling (2003) in the case of Zanzibar. Gössling (2003) depicts the case of a small fishing village on the east coast of Zanzibar, in Kiwengwa, where most of the tourism development, and

6 www.technoserve.org.

the majority of hotels, are located. Gössling found that very few from the local villages are employed in the hotels due to lack of qualifications. Most come from Zanzibar Town and mainland Tanzania. However, the development of tourist infrastructure (since 1994) has had significant impact in generating new job opportunities in the formal and informal sector of the tourism industry, and has intensified trade activities since the building of a tarmac road between Zanzibar Town and the east coast, which reduced travel times and increased the available means of transport. Gössling observed that after tourism had become a major economic sector, much of the local population shifted their labour from traditional activities such as fishing and seaweed farming, to tourism-related activities. It was also found that the price of fish had risen quite substantially after the growth of tourism. It is shown that changes caused by tourism are far more complex than economic theory suggests. Economically, tourism has substantially increased local income, but it has also led to a focus on individual benefit and dissolving kinship relationships, encouraged the abandonment of traditional resource-use strategies, contributed to the commoditization of local natural resources, and spread the idea that these resources can be replaced with imports. Overall, tourism has fundamentally disrupted the local socio-economic system and led to a self-reinforcing cycle of ecosystem degradation.

There has been an increasing use of value chain analyses in Africa that show the distribution of economic activities and benefits generated by tourism. They can be used to identify where the poor participate in tourism value chains, how much they benefit, and what blockages exist for them to benefit from tourism, and how livelihoods are affected. For example, the Overseas Development Institute found that, in 2008, on Mount Kilimanjaro, 35,000 climbers spent an average of US\$ 1376 per day, and supported an estimated 10,900 jobs for local people as porters, guides and cooks (Mitchell and Keane 2008). When compared with other destinations, the proportion of tourist spending that reaches the poor is higher than for cultural tourism in Ethiopia, game viewing in South Africa and Tanzania, beach tourism in Cape Verde and business tourism in Accra (see figure 5.2).

Figure 5.2 Total income earned by the poor as a percentage of total tourism expenditure in destinations



Source: Coles and Mitchell (2009).

The reasons for the high proportion of money reaching the poor includes that climbing is labour intensive, and that the length of stay is relatively high too. Similar analyses by SNV, and the International Trade Centre, have been used to devise interventions to improve market linkages for the poor. For example in Zanzibar a VCA identified constraints including a business environment that does not favour small businesses; the inability of suppliers to meet the requirements of the private sector, and limited vocational training for local people (see table 2; [Error!No se encuentra el origen de la referencia.1](#)). Interventions designed to address the problems include simplifying tax structures and business registration processes and providing appropriate technical training (Steck, Wood. and Bishop 2010).

Table 5.9 Pro-poor revenue from tourism in Zanzibar

Revenue from each sector and the benefit of each to 'the poor'					
	Accomm and hotel meals	Restaurants	Retail	Tours and excursions	Services/ other
Revenue (US\$)	152 million	7.5 million	6.6 million	5.2 million	0.8 million
% Total Revenue	88.4	4.4	3.7	3	.5
% Pro-poor benefit	7.3	47	27	18.8	Not known
Net pro-poor benefit	11.2 million	3.6 million	1.7 million	1.0 million	Minimal

Source: Steck and others (2010).

Increasingly, value chain studies are being used in Africa to provide valuable information that can firstly measure how much tourism contributes towards poverty reduction, and secondly, to suggest interventions can be applied to overcome the barriers, and to reduce or remove persistent poverty.

5.5.4 Enabling Conditions and Policy Frameworks

This section explores the requirements and barriers to tourism approaches that support sustainable tourism investments, and some suggestions of how to overcome them. The areas explored include policies and strategies, investment regulations, infrastructure and land, tax incentives, and human resources.

Private sector orientation

In Mauritius the private sector is driving a process to improve environmental performance in the accommodation sector. The Commonwealth Secretariat is supporting the Association des Hôteliers et Restaurateurs – Ile Maurice (AHRIM) to encourage sustainable environmental practices in the hotel and restaurant industry. Building on an Environmental Charter developed by the industry in 2002, the initiative will produce a handbook on environmental good practices for hotels and restaurants, building on international best practice, and cognizant of local conditions (Spenceley and Bashain 2010; Spenceley and Saini 2010). However, a general weakness of voluntary guidelines is that they are not systematically used by all. A mixture of voluntary and regulatory measures may therefore be more productive in making sustainable tourism more widespread.

Destination planning and development

Based on its White Paper on Tourism Development and promotion, which spearheaded the concept of 'responsible tourism', South Africa has seen the development of National Minimum Standards of Responsible Tourism. These are aligned with the national guidelines on responsible tourism, and also the Global Sustainable Tourism Council's criteria.⁷ These will be rolled out to the entire tourism industry in 2011. In the Seychelles, UNDP's US\$ 11.2 million "Mainstreaming biodiversity" programme includes a component to develop a sustainable tourism label and encourage Environmental Management Systems to be adopted by tourism operators. The sustainability label was initiated by the former Department of Transport and STB, as goals of the national Ecotourism Strategy (Seraphine 2010; Spenceley 2010, Twining-Ward 2009).

Africa is also a continent that has seen the growth of tourism certification in recent years. The general aim of tourism certification is to foster responsible environmental, social and cultural behaviour and

7 www.gstcouncil.org.

provide a quality product to consumers. Certification provides a mechanism through which enterprises can achieve voluntary standards of performance that meet or exceed baseline standards or legislation. While many schemes focus mainly on accrediting environmentally good practice and biodiversity conservation, some schemes promote a pro-poor approach, by rewarding enterprises that are committed to employing and training local people, and purchasing local goods and services; supporting local small, medium and micro enterprises (SMEs); encouraging local participation in decision making; and improving local access to basic infrastructure (Roe, Harris and de Andrade 2003). Currently there are eleven tourism certification programmes operating in Africa, and six in the process of development (Spenceley and Seif 2010) (see table 5.10).

Table 5.10 Tourism certification schemes in Africa

Country	Name of programme
Botswana	Botswana Tourism Board
Egypt	Green Star Hotel Initiative
Kenya	Ecotourism Kenya Eco-rating scheme
Madagascar	Green Label
Morocco	Zakoura Microcredit Foundation Programme*
Namibia	Eco awards Namibia
Seychelles	Seychelles Sustainability Label*
South Africa	Audubon Green Leaf
	Baobab Green Leaf Certification Programme
	Fair Trade in Tourism South Africa
	Green Flag Trails
	Green Leaf Environmental Standard
	Green Stay SA*
	Green Wilderness*
Heritage Environmental Rating Programme	
Zambia	South Luangwa Environmental Awards*

* Denotes scheme in development.

Source: Spenceley and Seif (2010).

African certification programmes recently participated in a consultation process to develop an international certification accreditation programme, by the Global Sustainable Tourism Council. When implemented, this will allow programmes that are aligned with the GSTC Criteria (and therefore aligned with internationally recognised criteria for sustainable tourism), to be recognized.

In recognition of the advances in sustainable tourism in Africa on the global stage, many African initiatives have performed particularly well within international sustainable tourism awards. Some of the highlights are described in Table 5.11. South Africa also boasts its own responsible tourism award: the Federated Hospitality Association's Imvelo Awards.

Table 5.11 International tourism awards for African enterprises and destinations

Award programme	Beneficiary
World Travel and Tourism Council (WTTC) Tourism for Tomorrow Awards ⁸	Botswana Tourism Board – Winner, destination stewardship award, 2010
	Wilderness Safaris – Finalist global tourism business award 2007, 2010
	Namibia's Communal Conservancy Tourism Sector (NACSO) – Finalist, Community benefit award, 2010
	Singita Grumeti, Tanzania – Finalist, Conservation award, 2010
	Bushman's Kloof, South Africa – Finalist Conservation award, 2006
	Damaraland Camp, Namibia (Wilderness Safaris) – Winner, conservation award, 2005
	Grootbos Nature Reserve, South Africa – Finalist Conservation award, 2008
	Manda Wilderness Project, Mozambique – Finalist Conservation award, 2005
	CCAfrica – Finalist, Community Benefit award, 2005
FTTSA – Finalist, Community Benefit award, 2008	
Skal International Ecotourism Awards ⁹	Serena Hotels, Kenya – Global corporate establishment, 2008
	Campi ya Kanzi, Kenya, 2005
Virgin Responsible Tourism Awards ¹⁰	Guludo Beach Lodge, Mozambique – Winner, Best for poverty reduction, 2009
	Great Plains Conservation, South Africa – Winner, Best for conservation of wildlife and habitats, 2009
	Nkwichi Lodge, Mozambique – Winner, best small hotel, 2008
	Gamewatchers Safaris and Porini Camps, Kenya, Best for conservation of wildlife and habitats, 2008
	Gambia is Good Project, The Gambia – Winner, Best for poverty reduction, 2008
	Borana, Kenya – Winner, Best for poverty reduction, 2007
	Azafady, United Kingdom/Madagascar – Winner, Best Volunteering Organization, 2007
	Oi Malo Lodge and Trust, Kenya – Overall Joint winner

Tourism policies and institutional framework

To develop its tourism industry sustainably, a country requires coherent national tourism policies and strategy instruments for long-term tourism development and for maximising the socio-economic benefits of tourism in relation to the fight against poverty and protecting the social and physical environment. Some countries, like Malawi, lack a national tourism policy, but there are strategies which address issues in tourism development in national policies for other sectors.

Africa has examples of excellent policies for sustainable tourism. Fair Trade in Tourism South Africa (FTTSA) conducted a Sustainable Tourism Situational Analysis in Southern African Development Community countries in 2009. The report highlights national policies by member countries, and gives an indication of how tourism development is regulated. For instance, tourism development in Botswana is regulated by Tourism Policy 1990; Tourism Act, 1992, as amended; Tourism Regulations, 1996; Tourism

8 www.tourismfortomorrow.com/The_Awards.

9 <http://www.skal.org/html/ecotourism/2008/eco2008.asp>.

10 www.responsibletourismawards.com.

(Licensing) Order, 1996; Finance (Tourism Industry Training Fund) Order, 1996; Financial Assistance Policy (FAP-Tourism), 1996; Tourism Master Plan, 2000; Botswana National Ecotourism Strategy, 2002. Meanwhile, Mozambique's tourism development, is guided by Tourism Law, 2004; Strategic Plan for the Development of Tourism in Mozambique 2004–2013; Action Plan for Absolute Poverty Reduction (PARPA), 2006; National Tourism Code of Conduct, 2007 (FTTSA 2009). Other policies supporting tourism include Zanzibar's Strategy for Growth and Poverty Reduction, the Seychelles Ecotourism Strategy, and responsible tourism policies developed in South Africa and the Gambia (Spenceley 2010). The Seychelles has developed a comprehensive national ecotourism strategy, called SETS-21 (2003) as part of its national tourism strategy. SETS-21 includes natural environment, marine environment, community-based tourism, cultural heritage, handicrafts, beaches, and city redevelopment goals. These various goals are addressed on both policy and management levels (FTTSA 2009). One instance where there has been a 14-year drive towards pushing sustainable tourism from a policy level, is in South Africa, but so far little tangible change has been observed within the mainstream private sector (Spenceley 2010).

However, having good policies and plans alone is not enough. For example, it is not unusual for countries in Africa to have excellent strategies, policies, master plans and even good legislation. Sometimes these have even been developed by external technical expert consultants, and sometimes these consultants have adopted a participatory approach to their development. However, if they are not implemented, or are not enforced and regulated, they can simply become expensive glossy documents that gather dust on shelves. For example, tourism master plans can be problematic. These may include zoning for particular types of land use in certain areas, which are adopted and approved by government. However, when investors come they are permitted to develop in ways and in locations that contravenes the plan.

While many African countries have national policies on tourism, very often they are not adhered to. For instance, in a Mozambique Policy Report (Luis 2008:40) it is mentioned that "Despite Mozambique's solid labour legislation, challenges still remain. In general there is a lack of awareness about the regulations. This means that many people are still working long hours for low wages". The Report also highlights that there is a weak cooperation amongst sectors, which has compromised overall tourism development in Mozambique. The Tourism Policy emphasises community participation, and this is beginning to have an impact on tourism development.

While at the institutional level an integrated approach is undeniably required to better coordinate activities and to achieve developmental goals, it is almost impossible to come up with a universally accepted framework due to differences that exist between each and every country. However, in many cases the prime body is the tourism ministry, combined with other ministries such as environment, natural resources and wildlife (for example Kenya, Botswana, United Republic of Tanzania just to name a few).

Investment regulations

The investment regulations in the African region have been, to a varying degrees, complex, hostile, inconsistent and very poor, with the exception of a few. However, there are broad consistencies across countries that are now emerging. In most cases, as Emery (2003) found, there are institutional differences, bureaucratic delays and rent-seeking behaviour by officials. For example, in Mozambique, simply registering a company can be a long and expensive process while in Kenya, for instance, it is theoretically easy, but outmoded legislation and a Registrar General's office with no resources made it unnecessarily cumbersome. Emery also found that licenses in many cases may be granted for political reasons and explained that once companies have started their operations they face a different series of interactions with government agencies such as foreign exchange controls, labour and social security. Another problem that has been noted is the duplication of information and a few countries have been successful in implementing a "one-stop-shop" such as Kenya, Mali, Mauritius, Senegal, and South Africa among others.

To increase investment in Africa, the degree of regulatory and bureaucratic complexity has to be reduced. The World Bank's Doing Business indicators provide an indication of countries which have

progressed in facilitating the ease of doing business. The top 10 countries in 2011 in Sub-Saharan Africa and Middle East and North Africa sub-regions are depicted in table 5.12 below.

Table 5.12 Ease of doing business ranking in Africa

Ease of doing business rank	Sub-Saharan Africa	Middle East and North Africa
1	Mauritius	Saudi Arabia
2	South Africa	Bahrain
3	Botswana	United Arab Emirates
4	Rwanda	Qatar
5	Ghana	Tunisia
6	Namibia	Oman
7	Zambia	Kuwait
8	Seychelles	Egypt, Arab Rep.
9	Kenya	Yemen, Rep.
10	Ethiopia	Jordan

Source: www.doingbusiness.org.

Changes in investment regulations are getting more dynamic to provide a better platform to encourage investment. Box 5.19 presents a few cases where changes to boost investment have been brought in.

Box 5.19 Recent changes to boost investment in selected African countries

Angola reduced the time needed for trading across borders by making investments in port infrastructure and administration.

Burundi made paying taxes simpler by replacing the transactions tax with a value added tax.

The Democratic Republic of Congo reduced by half the property transfer tax to 3% of the property value.

The Republic of Congo reduced its corporate income tax rate from 38% to 36% in 2010.

Madagascar continued to reduce corporate tax rates. Madagascar improved communication and coordination between customs and the terminal port operators through its single-window system (GASYNET), reducing both the time and the cost to export and import.

Mali eased property transfers by reducing the property transfer tax for firms from 15% of the property value to 7%. Mali eliminated redundant inspections of imported goods, reducing the time for trading across borders.

Niger reduced its corporate income tax rate.

The Seychelles removed the tax-free threshold limit and lowered corporate income tax rates.

Syria eased business start-up by reducing the minimum capital requirement for limited liability companies by 50%. It also decentralized approval of the company memorandum.

Zimbabwe eased business start-up by reducing registration fees and speeding up the name search process and company and tax registration. Zimbabwe reduced the corporate income tax rate from 30% to 25%, lowered the capital gains tax from 20% to 5%.

Source: www.doingbusiness.org.

Investment needs to be regulated to generate and ensure sustainable impact. Investments are sometimes directed to develop particular areas or to conserve environment. In many countries, for instance, investments in tourism are regulated, for example, in Botswana, a minimum investment of US\$ 200,000 is required for foreign companies to invest. However, this sum can be reduced to US\$ 100,000 if invested as a joint venture with local citizens. Under the Botswana Tourism Act of 2006, Foreign Direct Investment (FDI) is not permitted in some activities, which are reserved for locals only or for companies that are wholly owned by citizens of Botswana. In the United Republic of Tanzania as well, the minimum levels of investment are US\$ 300,000 for foreign investors and US\$ 100,000 for domestic investors to benefit from incentives. In Mauritius, the minimum number of rooms for a foreign-owned company is 100, compared to 60 for a locally owned hotel. There was also a minimum amount stipulated for the construction costs per room, in an effort to keep quality standards high. These conditions have recently been removed and Mauritius has now embarked on a more targeted approach. In Uganda, for investors to secure an investment licence to benefit from the taxation and incentive policies under Uganda's Incentive Allowance Scheme, foreign investors require a minimum of US\$ 100,000, compared to US\$ 50,000 for domestic investor (UNCTAD 2008).

The majority of African countries have an Environmental Impact Assessment (EIA) process, which requires that an environmental assessment is undertaken before a tourism enterprise can be approved for development. The EIAs are most commonly used for proposed developments in sensitive environmental areas and protected areas. The EIAs can be used as a tool to guide decision making, and to encourage environmentally-friendly tourism development. However, the recommendations of EIAs to mitigate or avoid negative environmental impacts are not always applied, and the ability of many decision makers to critically review them is limited. Sometimes EIAs in Africa have simply been cut-and-pasted from other developments; they are not reviewed with a critical eye; and activities recommended to mitigate environmental impacts are not monitored or enforced during development (Spenceley 2010). An example of the EIA requirements in Mauritius is provided in Box 5.20.

Box 5.20 Environmental impact assessment processes in Mauritius

Requirements for Environmental Impact Assessments (EIA) in Mauritius are described in the *Environmental Protection Act* (2002). Inland hotels require Preliminary Environmental Reports, which are used by the Minister to decide if a full EIA is required. These reports need to include:

- A site plan indicating the location of the undertaking.
- A non-technical summary, prepared by a consultant.
- A certificate of ownership of the relevant land, or evidence of permission of the owner for development.

Coastal hotels, marinas, golf courses, sea defences (breakwaters, groins, jetties, revetments and seawalls) and coastline modifications require full EIAs. If an EIA is requested, the Act states that an EIA should include:

- The precise location and surroundings of the development, the zoning of the site and the number of similar undertakings in the area.
- The principle, concept and purpose of the development.
- The direct or indirect effects that the undertaking is likely to have on the environment.
- An assessment of the social, economic and cultural effects which the undertaking is likely to have on the people and society.
- Any actions or measures proposed to avoid, prevent, change, mitigate or remedy the likely environmental effects.

- An assessment of the inevitable adverse environmental effects that the undertaking is likely to have on the environment, people and society.
- Any alternative manner or process in which the undertaking may be carried out in order to reduce harm to the environment.
- An environmental monitoring plan for the operation phase, and for new infrastructure, an environmental management plan to be implemented during the construction phase.
- Information on the decommissioning of the project at the end of its life cycle and associated impacts, proposed measures to return the site as far as possible to its former state, or rehabilitation measures.

Source: Spenceley and Bashain (2010).

Infrastructure and land

Tourism is an activity that depends on a certain amount of basic infrastructure being available, and the success of a tourism destination can depend on the quality of its infrastructure (UNESCAP 2001b). The main infrastructure limitations in Africa include airports, roads, power supply, health and sanitation, and telecommunications (and internet). These infrastructure constraints are, of course, not only important for the development of vibrant tourism destinations, but for the well-being of the people who live there too. However, South Africa is an exception. Here the majority of the cities have good infrastructure, while rural areas have fewer facilities. In terms of tourism development, this may mean that either donors or the private sector may need to invest in infrastructure to support a viable tourism industry.

To attract foreign direct investment, the public sector must significantly invest in infrastructure such as airports, roads, communication networks, attractions, heritage and cultural sites. The obstacles faced in financing infrastructure from public coffers in Africa, often mean that countries approach international development banks and donors for support. In some areas countries have turned to the private sector to develop and public private partnerships (PPPs).

Land is another factor which is fundamental to the growth of tourism. Appropriately designated areas should be defined and designated and zoned for tourism within planning frameworks. Stable land tenure is critical for tourism investment and operations to be viable in the long term (Spenceley 2010) (see box 5.21).

Box 5.21 Land tenure policies in Namibia: the conservancy programme

The conservancy programme in Namibia demonstrates how important stable land tenure is. Fundamental questions such as “Who owns it?”, “Who can use the resources on it?”, “How does investment take place on it?”, and “How it is transferred to others?” create a complex array of factors that can affect the stability of a nation, and can influence the affluence of its people.

A conservancy is an area of land where people acquire the rights and responsibilities for the consumptive and non-consumptive use and management of wildlife and natural resources, on behalf of the community. The Namibian conservancy programme provides an example of how land tenure and responsibility for wildlife has been used as a mechanism for financial and economic growth.

The programme has provided a mechanism that has led to the sustainable use of wildlife resources, stable land tenure for rural Namibians, and improved livelihoods. It has also provided the basis for communities to develop tourism enterprises within conservancies: either through joint-ventures with the private sector, or as community-based tourism operations. Government provided the policy and legislative framework that has allowed the conservancy system to prosper to the extent that conservancies now cover nearly 17% of the country.

Source: Spenceley (2010).

Tax incentives

Investment incentives are sometimes necessary to increase the beneficial impacts of tourism. Policies to attract foreign direct investment are much needed especially as local resources and expertise are deficient. Investment Promotion Agencies (IPAs) have been created in almost all the countries and have the responsibility for the administration of investment incentives. Host governments have offered a range of incentives to attract foreign investment such as tax holidays, duty-free access to imports, availability of land, preferential loans, accelerated depreciation on environmentally friendly assets, training grants for locally employed staff, among others. UNCTAD (2010) cites the case of Mauritius where new incentives have been introduced to attract high-end tourism investments under the Integrated Resort Schemes. There are also double taxation treaties which encourage investors to locate in foreign countries.

Human resources

There is a serious need to develop human resources and increase the availability of qualified and trained workforce to work in the tourism industry, particularly indigenous personnel in delivering 'locally-flavoured' quality services for tourists. Enhancing the general skills of the local workforce will also strengthen linkages, and develop entrepreneurial talents which lead to sustainable development.

From a private sector perspective, there are some key constraints faced regarding vocational tourism training. Over eighty private sector representatives from nine African countries were interviewed about tourism training in 2006. The most frequently cited problems with existing training were a scarcity of local trainers; no follow up on training; and scarce financial resources for training (see table 5.13) (Spenceley and Rozga 2007).

Table 5.13 Key training issues raised by large and small tourism companies in Africa

Purpose and reasons for training	% N=86	Problems with existing training	% N=87
Increase efficiency	78%	Scarcity of local trainers	44%
Performance improvement	76%	No training follow up	42%
Need for greater professionalism	73%	Scarce financial resources	41%
Acquire skills	71%	High turnover of employees	32%
Upgrading to international standards	69%	Trainers with poor communication skills	30%
Gain knowledge	63%	Poorly designed training	30%
Correction of repetitive mistakes	52%	Inexperienced trainers	29%
Changes in technology	47%	No relevance of training and bottom-line of business	29%

Purpose and reasons for training	% N=86	Problems with existing training	% N=87
Launching new products or services	46%	Lack of awareness of availability of training	27%
To be better than my competitor	45%	Unqualified trainers	24%
Changes in systems	39%	Inappropriate attendees at training	23%
Obtain accreditation	28%		
Countries where research took place: Ghana, Kenya, Madagascar, Mozambique, Rwanda, Senegal, South Africa, Tanzania, and Zambia			

Source: Spenceley and Rozga (2007).

Vocational skills are needed for basic entry-level positions in the tourism industry. One of the positive aspects of the tourism industry is that it is labour intensive and requires many low-skilled labour inputs to function properly. This aspect is especially beneficial for developing nations with a need for job creation. Both private and public sector schools are present in Africa where these skills are taught, but for the most part these are woefully under-resourced and graduates are under-prepared for the marketplace. Additionally, these schools do not have capacity to teach large numbers of learners (they train between 60–150 people per annum) (Spenceley and Rozga 2007). Tourism training is critical if African's are to achieve suitable levels of skill to obtain and retain decent jobs with good salaries. In addition, the better quality of hospitality that is provided, the greater likelihood of tourism businesses being successful, competitive, and to succeed in times of economic crisis.

Public sector tourism skills are those needed by employees who work for public entities, parastatal entities or non-governmental organizations (NGO) related to tourism. These entities are quite varied and include Ministries of Tourism, Tourism Boards, Conservation (environmental) and Preservation (historical and cultural) NGOs, Wildlife Reserves, National Parks and local and regional government offices. In many cases employees will have tangential skills, but not exact skills related to tourism. Excluding Kenya and South Africa, there are few programmes, short courses or resources for employees in these institutions to acquire the necessary tourism skills. In the cases where employees do have these skills, they have generally acquired them abroad. For the most part these are not skills that can easily be learned on the job (Spenceley and Rozga 2007).

While tourism provides employment opportunities, most of the jobs are in low-skilled categories and are poorly paid, and local people may earn less than expatriates. For example in Botswana, locals earned about US\$ 2,316 annually, whereas expatriates working in equivalent positions earned between US\$ 10,428 and US\$ 41,736 annually (Mbaiwa 2003).

Some international initiatives have included the International Finance Corporation funded Global Business School Network's (GBSN) Tourism Training Network (TTN) project. This aims to address the shortage of human capital and management capacity in the tourism industry by strengthening African tourism management training. The TTN will build the capacity of local training institutions and better align tourism training to the needs of the private sector. The goal of this project is to increase the capacity of training institutions to create sustainable quality tourism management programmes that offer locally-relevant courses (Spenceley and Rozga 2007). Since 2004 the GBSN has developed local case studies with the United States International University in Kenya; built faculty capacity at the Ghana Institute of Management and Public Administration; and has strengthened the Enterprise Development Services Centre at Lagos Business School in Nigeria. It also helped to develop a Teaching the Practice of Management faculty training programme that has reached over 200 faculties from 30 business schools in Africa.¹¹

Vocational tourism is well developed in South Africa and Kenya, with a number of training institutions and national frameworks for courses. Mauritius is also a well cited example in improving the supply of talents in the tourism industry. It has a dedicated hotel training school and two universities which have tourism related programmes at undergraduate and postgraduate levels.

11 <http://www.ifc.org/gbsn>.

5.5.5 Conclusions

As a fast growing destination, with a significant commitment to invest in travel and tourism, consideration of green tourism in Africa is paramount. This section has shown positive examples of green tourism across the African continent, including conservancy programmes, environmental management programmes for hotels, ecotourism projects and many more, providing benefits to the environment, local communities and the economy.

However, the general approach to date has been to support direct investment in tourism infrastructure, but not necessarily in sustainable tourism. This is due to a general lack of awareness within the public sector of the importance of sustainable tourism and also a lack of understanding of how to develop it in practice.

Governments have a key role to play in providing the enabling environment for green tourism. This includes creating a stable political and economic climate, secure land tenure, safety for visitors, favourable conditions for investors, and ensuring a good reputation and 'brand' for their tourism destinations. These conditions are created through government-led policies, plans and laws that guide and regulate the sector.

Ideally, all tourism investment should focus on sustainable development principles. This includes the application of tools such as the Global Sustainable Tourism Council (GSTC) criteria, the UNWTO Global Code of Ethics, and planning instruments such as the UNWTO/UNEP 'Making tourism more sustainable: a guide for policy makers'. Firstly, investment is needed to disseminate these tools to those who are investing in tourism (for example governments, conservation agencies, the private sector, NGOs and so on). However, all too often, important guidelines and tools are not practically applied in Africa. Therefore information needs to be presented in a practical, easy to understand format, and in a style that is appropriate to different types of investors. Green tourism investment principles should therefore be integrated into investment regulations, so that they are applied consistently.

Secondly, support is required in capacity building and training programmes for policy makers, decision makers, planners, architects and others in sustainable tourism principles: particularly regarding how they can integrate them into their work. Thirdly, this training may need to be followed up with technical assistance to support investors and developers as they actually implement sustainable tourism. For example, support to policy makers may include helping them to develop appropriate policies and regulations to encourage investment that follows principles of sustainable investment (such as the government-led programmes in Namibia and South Africa). Finally, the coordination of green tourism interventions is vital, to avoid overlapping or conflicting activities in destinations. Proactive examples of agencies working together in multi-stakeholder platforms include SNV's work in Zanzibar (see Steck and others 2010), and USAID-GSTA's programme in Mali (USAID/GSTA/PD/OMATHIO undated; Spenceley 2010).

While at the institutional level an integrated approach is undeniably required to better coordinate activities and to achieve developmental goals, it is almost impossible to come up with a universally accepted framework due to differences that exist between each and every country. However, key actions to facilitate the development of green tourism, and to enable the benefits to reach the local communities include:

- Development of national tourism policies and strategies for long-term tourism development and for maximising the socio-economic benefits of tourism in relation to the fight against poverty and protecting the social and physical environment.
- Reducing the regulatory and bureaucratic complexity to encourage sustainable investment.
- Attracting foreign direct investment – the public sector must significantly invest in infrastructure such as airports, roads, communication networks, attractions, heritage and cultural sites. The obstacles faced in financing infrastructure from public coffers in Africa often mean that countries approach international development banks and donors for support.

- Developing appropriately designated areas, defined and zoned for tourism within planning frameworks.
- Developing stable land tenure, which is critical for tourism investment and operations to be viable in the long term.
- Strengthen value chain linkages.
- Developing human resources and increase the availability of qualified and trained workforce to work in the tourism industry.
- Enhance the general skills of the local workforce as well as public sector tourism skills.
- Make better use of research and technology to mitigate negative impacts and the results of initiatives must be monitored and evaluated.

Conclusions

Tourism is a leading global industry, responsible for a significant proportion of world production, trade, employment, and investments. In many developing nations it is the most important source of foreign exchange and foreign direct investments. Tourism growth, environmental protection, and social wellbeing can be mutually reinforcing. All forms of tourism can contribute towards a green economy transition through investments leading to energy and water efficiency, climate change mitigation, waste reduction, biodiversity and cultural heritage conservation, and the strengthening of linkages with local communities. Making tourism businesses more sustainable will foster the industry's growth, create more and better jobs, consolidate higher investment returns, benefit local development and contribute to poverty reduction, while raising awareness and support for the sustainable use of natural resources.

The potential economic, social and environmental costs of a "business as usual" in the tourism industry are not always considered when evaluating the cost of investments toward sustainability. Concern about required investments and the availability of financing sources are common when considering actions for making tourism more sustainable. Tourism market tendencies indicate that the main drivers towards investment in sustainable tourism relate to consumer demand changes, actions to reduce operations costs and increase competitiveness, coherent policy and regulations, technology improvements, stronger efforts for environmental and social responsibility and natural resource conservation. These are leading transformation of the industry and determining the returns on investments.

In a business as usual (BAU) scenario up to 2050, tourism growth will imply increases in energy consumption (154%), greenhouse gas emissions (131%), water consumption (152%), and solid waste disposal (251%). On the other hand, under alternative greener investment scenarios (in energy and water efficiency, emissions mitigation and solid waste management) within a range of US\$ 118 to US\$ 248 billion, the tourism sector can grow steadily in the next decades while saving significant amounts of resources and enhancing its sustainability. Additional tourism GDP growth will be in the range of 3 to 7% above the BAU scenario, with a significant reduction in the expected growth of negative environmental impacts. This will result in potential avoided costs that can be reinvested in socially and environmentally responsible local activities – such as local transportation and staff capabilities and skills –, increasing the indirect and induced effects of tourism expenditure on local development. In particular, the spending by foreign visitors from wealthier regions to developing countries helps to create much needed employment and opportunities for development, reducing economic disparities and poverty.

Tourism can have positive or negative impacts depending on how it is planned, developed and managed. Various enabling conditions are required for transforming tourism to contribute to social and economic development within the carrying capacities of ecosystems.

To promote sustainable tourism in a green economy, the national, regional, and local economy should first provide a good investment climate, featuring security and stability, regulation, taxation, finance, infrastructure, and labour. There is also a need for policy coherence which can include economic instruments and fiscal policy to reward sustainable investments and practices and discourage the most costly externalities associated with uncontrolled tourism expansion. In the case of tourism, higher government and private tourism authorities should coordinate with ministries responsible for the environment, energy, agriculture, transport, health, finance, security, and other relevant areas, as well as with local governments.

By steering the direction of policy and spearheading sustainability efforts, government authorities can motivate and influence other stakeholders – both public and private – to engage in behaviour that

bolsters a destination's sustainability. It is necessary that tourism promotion and marketing initiatives emphasize sustainability as a primary option. To create local development opportunities, marketing efforts should ensure access to domestic and international markets by sustainable local, small, medium, community-based and other tourism suppliers (especially in developing countries).

Finally, policymakers should set baselines and measurable targets with regard to short, medium-, and long-term results of sustainable tourism promotion and marketing. It is important to note that the 'success' of tourism destinations should be evaluated not only in terms of 'arrivals' but also in terms of broader economic, social and environmental drivers, as well as its impacts. Sustainable tourism policymaking should be based on sound quantitative analysis. Valuation exercises (like choice experiments) can help identify opportunities for sustainable tourism development from the demand side. Tools like input-output and general equilibrium models, business surveys, and the Tourism Satellite Accounts (TSA) can support policy design and business strategy. The effects of tourism can vary dramatically between destinations. More quantitative studies are necessary to clearly understand the reasons for such variations, to expand the evidence base at a national and sub-national level on tourism and local employment, procurement through local supply chains, poverty reduction, environmental benefits, and other relevant areas. Domestic tourism (in many countries the most important source of tourism income) should be further analyzed. Business performance and ROI on "green" investments are key variables to study.

Acronyms

ABIH	Brazilian Association of the Hotel Industry
ADEME	French Environment and Energy Management Agency
AHRIM	Association des Hôteliers et Restaurateurs – Ile Maurice
APEX	Accepted Practices Exchange
ARRA	The American Reinvestment and Recovery Act
ASL	African Safaris Lodges
ASOGAL	Association of Cruise Operator Companies in Galapagos
ASTM	American Society for Testing and Materials International
BAU	Business as Usual
BIOSIRE	Biofuels and Electric Propulsion Creating Sustainable Transport in Tourism Resorts
BLM	Bureau of Land Management
BRIC	Brazil, Russian Federation, India and China
BRPIT	Business Ready Programme for Indigenous Tourism
BWP	Botswana Pula
CBD	Central Business District
CBD	Convention on Biological Diversity
CBNRM	Community-based Natural Resource Management
CBS	Centraal Bureau voor de Statistiek
CCJ	Cultural Collaborative Jamaica
CDM	Clean Development Mechanism
CEPAL	Comisión Económica para América Latina y el Caribe
CIDA	Canada International Development Agency
CIP	Competitiveness and Innovation Framework Programme
COAST	Collaborative Actions for Sustainable Tourism Project
CoEMP	Concession Environmental Management Programme
CSD	Commission on Sustainable Development
CSR	Corporate Social Responsibility
DFI	Development Finance Institutions
DMO	Destination Management Organization
EAFRD	European Agricultural Fund for Rural Development

EAGGF	European Agricultural Guidance and Guarantee Fund
EC	European Commission
EDEN	European Destinations of Excellence
EEAS	Energy Efficiency Accreditation Scheme
EETI	Excellence in Energy for the Tourism Industry
EFF	European Fisheries Fund
EIA	Environmental Impact Assessment
EIP	Entrepreneurship and Innovation Programme
EISs	Environmental Impact Statements
EMAS	Eco-Management and Audit Scheme
ERDF	European Regional Development Fund
ERT	Environment Related Tourism
ESCAP	Economic and Social Commission for Asia and the Pacific
ESF	European Social Fund
ETS	Emissions Trading System
EU	European Union
FAP	Financial Assistance Policy
FDI	Foreign Direct Investment
FFI	Flora and Fauna International
FONAFIFO	Fondo Nacional de Financiamiento Forestal
FTTSA	Fair Trade in Tourism South Africa
FWS	Fish and Wildlife Service
G1	Green Scenario 1
G2	Green Scenario 2
GBSN	Global Business School Network
GDP	Gross Domestic Product
GEF	Global Environment Facility
GER	Green Economy Report
GHG	Greenhouse Gas
GMES	Global Monitoring for Environment and Security
GMIC	Green Meeting Industry Council
GSTC	Global Sustainable Tourism Criteria
GtZ	Gesellschaft für Technische Zusammenarbeit
Ha	Hectare
HCT	Hotels, catering and tourism

HDI	Human Development Index
HVAC	Heating, Ventilating and Air Conditioning
IATA	International Air Transport Association
ICOMOS	International Council on Monuments and Sites
ICT	Information and Communication Technologies
ICT-PSP	Information Communication Technologies Policy Support Programme
IDB	Inter-American Development Bank
IEA	International Energy Agency
IEE	Intelligent Energy Europe Programme
IFAD	International Fund for Agricultural Development
IGCP	The International Gorilla Conservation Programme
ILO	International Labour Organization
IMO	International Maritime Organization
IPA	Investment Promotion Agencies
IPCC	International Panel on Climate Change
IPEA	Institute for Applied Economic Research
ITDR	Institute for Tourism Development Research
ITF-STD	International Task Force on Sustainable Tourism Development
IUCN	International Union for Conservation of Nature
JAMS	Jamaican Arts and Music Summer
KfW	Kreditanstalt für Wiederaufbau
LDC	Least-developed countries
LEADER	Links between rural development actions
LED	Light-emitting Diode
M and E	Monitoring and evaluation
MOFA	Ministry of Fisheries and Agriculture
MRS	Marine Research Section
Mt	Million metric tons
NACSO	Namibia's Communal Conservancy Tourism Sector
NECSTouR	Network of European Regions for a sustainable and competitive tourism
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration (
NORAD	Norwegian Agency for Development
NOS	National Ocean Service

NPS	National Park Service
NWR	National Wildlife Refuge
ODI	Overseas Development Institute
OECD	Organization for Economic Development and Cooperation
OSH	Occupational safety and health
OTTI	Office of Travel and Tourism Industries
PARPA	Action Plan for Absolute Poverty Reduction
PATA	Pacific Asia Travel Association
PIR	Passive Infra-Red
PLC	Public Limited Company
PPI	Pro-poor income
PPP	Public Private Partnerships
PPT	Pro-Poor Tourism
RELACS	Renewable Energies for Tourist Accommodation Building
SANParks	South African National Parks
SCBD	Secretariat of the Convention on Biological Diversity
SEBRAE	Brazilian Service of Support for Micro and Small Enterprises
SESAR	Single European Sky ATM Research
SET	Seychelles Ecotourism Strategy
SIDA	Swedish International Development Agency
SIFT	Sustainable Investment and Finance in Tourism
SME	Small and Medium Enterprise
SNSBR	Sun n Sand Beach Resort
SNV	Netherlands Development Organization
SPAN	Strengthening the Protected Area Network
STB	Singapore Tourist Board
ST-EP	Sustainable Tourism for Eliminating Poverty initiative
STP	Sustainable Tourism Initiatives Project
STRC	Sustainable Tourism Resource Centre
TEEB	The Economics of Ecosystems and Biodiversity
TFCA	Transfrontier Conservation Area
TIES	The International Ecotourism Society
TSA	Tourism Satellite Account
TTN	Tourism Training Network
UNCCD	United Nations Convention to Combat Desertification

UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNEP-FI	UNEP Finance Initiative
UNESCAP	United Nation Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNWTO	World Tourism Organization
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	United States Department of Agriculture's Forest Service
VAT	Value-added Tax
VCA	Value Chain Analysis
VDV	Association of German Transport Companies
VNAT	Vietnam National Administration of Tourism
WEF	World Economic Forum
WIBDI	Women in Business Development
WMO	World Meteorological Office
WRI	World Resources Institute
WTP	Willingness to pay
WTTC	World Travel and Tourism Council
WWF	World Wildlife Fund

Drivers and Likely Implications of Investment in Sustainable Tourism Strategic Areas

Strategic area	Sustainability drivers	Likely implications
Energy	<ul style="list-style-type: none"> • Increased energy costs • Likely carbon surcharges • Customer expectations (particularly from Europe and North America) driving operators and entire supply chain • Availability of low-carbon technology • Possible government incentives • Decreasing costs of renewable energy technologies • Eco-labels and/or voluntary standards • Regulations/legislation on energy efficiency and performance of buildings 	<ul style="list-style-type: none"> • Maintain or reduce operating costs for tourism operators through energy efficiency • Increased customer satisfaction • Investment in energy efficiency (retrofits, improvements) • New energy-efficient investment stock • Investment in more energy efficient features and services (such as efficient refrigeration, television and video systems, air conditioning and heating, and laundry) • Differentiation of operators and their value chains • Modest shift toward short-haul versus long-haul tourism, with the effect increasing with energy costs (and offset to the extent efficiency is increased)
Climate change	<ul style="list-style-type: none"> • Costs of GHG emissions (driven by post-Kyoto rules) • Concern of customer base about footprint • Host government policies and priorities (climate change mitigation and energy) • Uptake of Corporate Social Responsibility (CSR) • Climate change impact on tourism sites 	<ul style="list-style-type: none"> • Same as for energy efficiency • Increased substitution of fuels toward electricity, particularly increased investment in passive solar collectors and PV, alternative fuels for vehicles • Increased number of project developers orienting business strategies toward lower-carbon footprint • Expectations of broader stakeholder base • Demand for carbon offsets and other mechanisms to compensate for residual emissions
Water	<ul style="list-style-type: none"> • Water scarcity • Price for water and conflicts • Expectations from travellers for responsible water management • Expectations from major tour operators 	<ul style="list-style-type: none"> • Reduction in water costs from internal water efficiency • Investments in water saving technology in rooms, facilities (such as laundry and swimming pools) and attractions (such as golf courses, gardens, and water-based attractions) • Increase in number of rooms/visitors in water-constrained destinations • Slight advantage to destinations with more abundant water supplies in terms of variety of activities and cost of water resources • Increased use of water treatment systems, at firm/project level and destination

Strategic area	Sustainability drivers	Likely implications
Waste	<ul style="list-style-type: none"> • Customer demand for clean destination • Public opinion • Degradation of water resources owing to waste dumping and waste water • Pressure from major tour operators 	<ul style="list-style-type: none"> • Lower pollution and natural resource • Improved solid waste management • Reduction of open waste dumping sites and poorly managed landfills • Investments in waste water management equipment, treatment and disinfection. • Investment in sanitary landfills and solid waste recycling capacity • Lower sewage and clean-up fees
Biodiversity	<ul style="list-style-type: none"> • Increased tourist preference for experiences that involve contact with wildlife and pristine (or near pristine) ecosystems • Expectations from guests that operators protect the natural resource base • Government regulations regarding sensitive ecosystems such as coral reefs, coastal wetlands and forests • National policies to attract resources through tourism capable of protecting critical biological habitat • Ecosystem services potential for tourism revenue generation 	<ul style="list-style-type: none"> • Demand for nature-based tourism likely to accelerate as pristine areas become increasingly rare • Increased number of policies and related practices in mainstream tourism to more effectively protect sensitive ecosystems • Improved design of individual projects and destinations incorporating biodiversity protection <i>in situ</i>, and through compensatory mechanisms • Increased incorporation of natural areas in tourism development and greater transfer of benefits toward natural areas through entrance fees and Payment for Environmental Service (PES) schemes
Cultural heritage	<ul style="list-style-type: none"> • Tourist preference for experiences that involve contact with authentic cultural landscapes • Expectations from guests that their tourism operators respect and protect traditional culture • Increased awareness of World Heritage Sites • Recognition and appreciation for cultural diversity 	<ul style="list-style-type: none"> • Respect and recognition of traditional culture, particularly in context of assimilation into a dominant culture. Help to community members to validate their culture, especially when external influences of modern life cause the young to become dissociated from traditional life and practices. • Protection of traditional lands and natural resources on which the culture has traditionally relied. • Help to reduce poverty within a community or cultural group; Increased opportunities for young to remain in community instead of seeking alternative opportunities in cities and towns; Meeting needs of cultural group, such as health care, access to clean water, education, employment, and income. • Reduced risk of losing unique cultural attributes

Strategic area	Sustainability drivers	Likely implications
Linkages with local economy	<ul style="list-style-type: none"> • Demand for more contact with local communities • Greater number and variety of excursions in a given destination • “Buy local” movement in food and beverages sector • CSR uptake • Public and private initiatives of local workers training • Growth of specialized niches (ecotourism, rural tourism, adventure tourism, sports fishing, agrotourism, and community-based tourism) • Development of infrastructure and supporting industries 	<ul style="list-style-type: none"> • Concerted efforts by tourism authorities, local officials and civil society organizations to increase local content • Responses by tourism operators and increasing use of indicators to track local contribution (which feed into tourism satellite accounts) • Deepening of supply chain in local economy, generating increased indirect employment • Increased spending in local economy from income effects in direct and indirect employee consumption and purchases • Improved income distribution among industry stakeholders • Decreased leakage (imports of intermediate goods and foreign workers)

Source: Compilation.

Expected Effects from Investments in Sustainable Tourism

Impact Key area	Business opportunities	Job creation	Investment and capital formation	Local development
Energy	<ul style="list-style-type: none"> • Reduction of operating costs leading to bottom line profits. • Potential for certification and differentiation based on energy performance. • Productivity improvements through efficient equipment use. 	<ul style="list-style-type: none"> • Neutral net effect on job creation within the tourism sector from differentiation (consumers preferences would shift from one destination to another). • Increased local job creation in energy efficiency technicians and related personnel. • Indirect job creation in related businesses. 	<ul style="list-style-type: none"> • Investment in retrofit of existing assets. • Increased physical capital from investment in new energy efficient infrastructure and equipment. • Reduced pressure in natural capital through less fossil fuels generated energy. 	<ul style="list-style-type: none"> • Increased job creation in related businesses (energy retrofits and renewable energy production and installation). • Energy efficiency in related businesses (across value chain, from suppliers to customers). • Lower vulnerability of local economy to oil shocks. • Contribution to climate change mitigation.
Climate change	<ul style="list-style-type: none"> • Potential for certification and differentiation based on climate change strategy. • Savings from fossil fuel substitution (reduced volatility, perhaps long-term savings). • Local and global carbon markets. • Integration with forest and biodiversity conservation projects. • Payments for Environmental Services (PES). 	<ul style="list-style-type: none"> • Neutral net effect on job creation within the tourism sector from differentiation (consumers preferences would shift from one destination to another). • Indirect job creation in related businesses. 	<ul style="list-style-type: none"> • Investment in low-carbon technology. • Increased physical capital from fixed investment in low emissions technology. • Increased natural capital depending on energy source being reduced. • Intangible capital increases with knowledge and expertise in low-carbon efficiency, installation, operation and management. 	<ul style="list-style-type: none"> • Increased job creation in related businesses (energy, climate change mitigation). • Contribution to resilience strengthening in local economy. • Contribution to climate change mitigation projects. • Attraction of investment for mitigation projects.

Impact Key area	Business opportunities	Job creation	Investment and capital formation	Local development
Water	<ul style="list-style-type: none"> Reduction of operating costs leading to bottom line profits. Potential for certification and differentiation based on water consumption and management. Integration with water resource management and conservation initiatives. Payments for Environmental Services (PES). 	<ul style="list-style-type: none"> Neutral net effect on job creation within the tourism sector from differentiation (consumers preferences would shift from one destination to another). Indirect job creation in related businesses. 	<ul style="list-style-type: none"> Increased physical capital from fixed investment in pipelines, dams and water production technology. Increased natural capital from water reservoirs maintenance and improvements. Intangible capital increases with knowledge and expertise in sustainable water resources use. 	<ul style="list-style-type: none"> Increased job creation in related businesses (water management). Possible reduction in water sales from local suppliers. Reduction of water stress. Lower prices of water services.
Waste	<ul style="list-style-type: none"> Reduction of operating costs leading to bottom line profits. Potential for differentiation based on clean site reputation. Market opportunities for biogas energy. Recycling business growth. 	<ul style="list-style-type: none"> Neutral net effect on job creation within the tourism sector from differentiation (consumers preferences would shift from one destination to another). Indirect job creation in related businesses. 	<ul style="list-style-type: none"> Increased physical capital from fixed investment in sanitary landfills and energy cogeneration. Increased natural capital from water reservoirs maintenance and improvements. Intangible capital increases with knowledge and expertise in waste management. 	<ul style="list-style-type: none"> Growth of new businesses and jobs related to solid waste management, collection, disposal and recycling. Reduction of aquatic pollution and disease risk. Increase of safe water supply. Reduction of destination's sewage and clean-up fees.
Biodiversity	<ul style="list-style-type: none"> Potential for certification and differentiation based on natural attractions and biodiversity conservation. Payments for Environmental Services (PES). Integration with biodiversity based businesses. 	<ul style="list-style-type: none"> Neutral net effect on job creation within the tourism sector from differentiation (consumers preferences would shift from one destination to another). Indirect job creation in related businesses. 	<ul style="list-style-type: none"> Increased physical capital from fixed investment in necessary infrastructure. Increased natural capital from natural resources conservation. Intangible capital increases with sound conservation attitudes. 	<ul style="list-style-type: none"> Increased job creation in related businesses. Visitation of natural attractions in accordance to carrying capacity. Protection of buffer zones. Ecosystem restoration. Mitigation of climate change impacts. Investment on biodiversity based businesses (i.e. bioprospection).

Impact Key area	Business opportunities	Job creation	Investment and capital formation	Local development
Conservation of cultural heritage	<ul style="list-style-type: none"> • Potential for certification and differentiation based on cultural landscapes. • Increased business with traditional micro and small enterprises. • Increased business of authentic goods and cultural services. 	<ul style="list-style-type: none"> • Neutral net effect on job creation within the tourism sector from differentiation (consumers preferences would shift from one destination to another). • Indirect job creation in related businesses. 	<ul style="list-style-type: none"> • Increased physical capital from fixed investment in necessary infrastructure. • Increased natural capital from cultural landscapes conservation. • Intangible capital increases with sound conservation attitudes. 	<ul style="list-style-type: none"> • Increased job creation in related businesses. • Visitation of cultural attractions in accordance to carrying capacity. • Ecosystem restoration. • Investment on local culture based businesses. • Competitive positioning of authentic destinations.
Linkages with local economy	<ul style="list-style-type: none"> • Reduction of operating costs through local procurement and hiring. • Potential for certification and differentiation based on stronger community based business. • Scale effect on local business opportunities because of built reputation. • Reduction of turnover and better human resource management. 	<ul style="list-style-type: none"> • Positive net effect on job creation within the tourism sector. • Indirect job creation in related businesses and support industries. 	<ul style="list-style-type: none"> • Increased physical capital from fixed investment in infrastructure. • Increased natural capital due to sustainable clusters neutral environmental impact. • Intangible capital increases with knowledge and awareness to promote the sustainable use of natural resources. 	<ul style="list-style-type: none"> • Creation of tourism clusters and strengthening of support industries. • Reduction of leakage and increase of income in the local economy. • Development of micro and small locally owned businesses. • Recruitment and training of local employees.

Source: Compilation.

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