



Productivity methodologies, tools, and techniques

Tourism and climate change—Dr. Ravinder N. Batta

With its close connections to the environment and climate itself, tourism is considered to be a highly climate-sensitive economic sector similar to agriculture, insurance, energy, and transportation. Climate is a principal resource for tourism, as it co-determines the suitability of locations for a wide range of tourist activities, is a principal driver of global seasonality in tourism demand, and has an important influence on operating costs, such as heating and cooling, snowmaking, irrigation, food and water supply, and insurance costs. Thus, changes in the length and quality of climate-dependent tourism seasons (e.g., sun-and-sea or winter sports holidays) could have considerable implications for competitive relationships among destinations and therefore the profitability of tourism enterprises. The industry must therefore focus on adaptation and mitigation policies to reduce the impacts of climate change.

Process of adaptation in tourism

A step-by-step approach to adaptation is given in Figure 1. The United Nations Development Programme (UNDP) framework (*Human Development Report 2005: International Cooperation at a Crossroads: Aid, Trade and Security in an Unequal World*. New York: UNDP, 2005) provides four guiding principles for adaptation that are very relevant to tourism:

- 1) Place adaptation in a development context (mainstreaming climate change adaptations);
- 2) Build on current adaptive experience to cope with future climate variability;
- 3) Recognize that adaptation occurs at different levels, particularly at the local level; and
- 4) Recognize that adaptation is an ongoing process.

- Step 1:** Getting the right people involved in a participatory process
- Step 2:** Screening for vulnerability: identifying current and potential risks
- Step 3:** Assessing adaptive capacity
- Step 4:** Identifying adaptation options
- Step 5:** Evaluating adaptation options and selecting course of action
- Step 6:** Implementing
- Step 7:** Monitoring and evaluating adaptations

Figure 1. Developing and implementing a climate change adaptation process.

Climate change mitigations in tourism

Tourism is a significant contributor to climate change. Recent evidence suggests that the sector's contribution to global anthropogenic CO₂ emissions is on the order of only 5% (in 2005), but may be higher (from 5% to 14%) if measured as radiative forcing, i.e., the warming caused by CO₂ as well as other greenhouse gases. Mitigation can be achieved by reducing energy use by changing travel behavior, improving energy efficiency, increasing the use of renewable energy, carbon-offsetting strategies, sustainable destination planning and management, and tour operators' choice of destinations and packaging of travel products, as well as other changes in business practices. While technological innovation has considerable potential to achieve reductions in greenhouse gas emissions, this will, given the high growth rates in global tourism, not be sufficient to achieve absolute reductions in energy use and emissions. Behavioral changes (tourists) as well as structural change (tourism industry) will thus be of importance in reversing the trend of increasing greenhouse gas emissions in tourism (Figure 2).

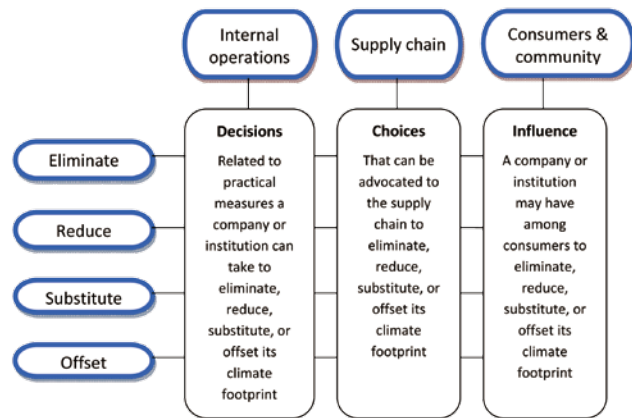


Figure 2. Behavioral change options for tourism enterprises.

The overall objective of climate change mitigation strategies, policies, and activities in the tourism sector is to contribute to the achievement of “carbon neutrality.” For business and institutions, carbon neutrality can be defined by the entire set of policies which an institution or business uses when it estimates its known greenhouse gas emissions, takes measures to reduce them, and purchases carbon offsets to “neutralize” those emissions that remain. Carbon neutrality for a business or institution signifies an entity (organization) that has a zero net contribution of greenhouse gases to the atmosphere. This includes all activities directly controlled by the organization, including travel, purchasing of goods and services, and daily behavior of staff. Carbon neutrality can be achieved by improving the way the organization operates (e.g., through modified procurement considerations), improving the efficiency of operations (e.g., communications and meetings), and upgrading equipment (e.g., vehicle fleets and buildings).

In relation to carbon neutrality, a successful mitigation policy could consider four main steps that any tourism-related business or institution could implement as a practical response to climate change. The first step is to eliminate the emission of greenhouse gases by keeping away from certain activities that can be avoided without a significant change in the tourism product or service quality. The second is to reduce the emission of greenhouse gases by focusing on energy efficiency practices in specific activities. The third step involves substituting practices that are responsible for a large amount of greenhouse gas emissions with practices that have a lower carbon footprint. Finally, the institution or business unit can offset remaining emissions to achieve full carbon neutrality.



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