
TOURISM STRATEGIES TO CURB CARBON REDUCTION

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Abstract

Following the IPCC's declaration that climate change is now taking place unequivocally; the Davos Declaration has prioritized the need for the tourism sector to respond to the threat of climate change. In response to dangerous climate change, emissions need to be reduced through Tourism's carbon management strategy. The impacts of climate change include tourism industry in growth planning and carbon management practices. The aim of this paper is to determine what tourism stakeholders consider to be the most urgent research needs for tourism development in relation to climate change and carbon management. The overall objective of the Tourism sector's carbon management strategy is to mitigate climate change and grow low-carbon tourism. All stakeholders in the tourism industry, i.e. transportation providers, accommodation establishments, tour operators, tourists and destinations, have enormous potential to reduce greenhouse gas emissions, but only very few have been involved in reducing emissions so far.

Keywords: carbon management strategy, tourism, Climate change, carbon management.

I. INTRODUCTION

According to the World Trade Organization, tourism is now the largest industry in the world. Globally, tourism has total revenue of more than US\$ 7 trillion, accounts for 11.5% of global gross domestic product (GDP), and hires 200 million workers, 11% of the world's workforce. With 960 million international tourist arrivals registered worldwide in 2014, tourism has increased by 25 per cent in the last 10 years. The sheer size of the sector makes it important to understand its impact on the environment [1].

Following the IPCC's declaration that climate change is now taking place undeniably, the Davos Declaration has given priority to the tourism sector's need to respond to the threat of climate change. Early tourism climate change research focused on adaptation to the industry. More recent

studies have begun discussing the need to reduce the impacts arising from tourism on climate change. This presents new geographic and conceptual challenges as tourism research has tended to focus on localized impacts at destinations while climate change impact analysis requires a more holistic view that includes travel to destination areas. Nonetheless, the transport aspect of tourism is a particular concern as it is responsible for the bulk of tourism's impact on climate change [2].

According to the European Environment Agency (EEA), tourism primarily leads to the increase of emissions by means of transport. The first victim is air traffic (which is doing very well, as the number of passengers is expected to double by 2036, to 7.8 billion per annum). That had meant that between 145 and 241 kg of CO₂ per passenger was rejected by a 500 km round trip. So it's no wonder that aviation alone accounts for nearly 2 percent of global CO₂ emissions [3]. The global tourism industry is rapidly expanding. Fuelled by falling air travel prices and a growing global middle class, the number of international holiday makers is currently growing at a rate of 3 – 5 % per year. The new study published in nature climate change, explores how the recent growth of global tourism has impacted green house gas emissions. Tourists contribute to climate change in a number of ways like through travel by air, rail and road for example, and by consuming goods and services, such as food, accommodation and souvenirs [4].

A. Climate Change And Tourism Development: -

1. Development Linkages: Knowing its impacts is important for the industry because its goods also rely on the attractiveness of attractive natural capital—clean beaches and oceans, friendly atmosphere, and wildlife. Therefore tourism can be vulnerable to its local impacts; for example, rangeland destruction or loss of biodiversity. with more than 80 percent consumed by civil aviation. Aviation's contribution to global anthropogenic CO₂ emissions has been estimated to rise to 3–7 percent by 2050. The need to have impacts on climate change and adaptation needs tourism industry in national and local development planning and carbon management practices [5].
2. Strategies, approaches, and solutions: Developing possible solutions and approaches to tackle the tourism implications of climate change is imperative. Indigenous reforestation and ecological restoration programs have proven strong, such as those undertaken by the Chinese government. Certain effective solutions may include awareness campaigns showing that global warming is affecting the ecosystems. Local residents of affected areas can be mobilized as environmental stewards, with motivations for such activity being couched in terms of social responsibility in response to climate change mitigation and adaptation. In addition, local residents educational program of endangered ecosystems for outsiders, describing strategies for sustainable resource use and arguments for reducing carbon emissions from their viewpoint to create interest among outsiders [6].

3. Contribution And Tourism Adaption To Climate Change: -Tourism represents a major contributor to climate change. According to UNWTO-UNEP-WMO, tourism emissions, including transportation, accommodation and activities (excluding, for example, energy used for buildings and facilities) account for about 5 percent of global CO₂ emissions. However, other greenhouse gasses also contribute significantly to global warming. That is particularly relevant in the tourism sector for aviation emissions. Since this measure considers only energy efficiency, and does not include the energy needed to build hotels, airports, highways and runways, it needs to be understood as conservative [6].

B. The Quest For Tourism Sustainability:

The interpretations of the word 'sustainable development of tourism' vary considerably from the viewpoint of the stakeholders issuing them: players in the tourism industry, governments, international non-governmental organizations, local communities, environmental activists and other stakeholders in tourism. Nevertheless, this conceptual fuzziness is likely to have resulted in a lack of coherent regulations or other forms of mandated initiatives to encourage sustainable tourism practices at the same level as in other industries. Today, tourism is seen as an industry that is relatively free from regulation. Accordingly, the implementation of collaborative constructive strategies is critical to achieving natural, economic and socially sustainable changes in tourism efficiency.

1. Adaptation and Mitigation: Tourism is considered a vulnerable and highly climate sensitive economic sector, similar to agriculture, insurance, energy, and transportation, with its close connections to the environment and climate itself. At the same time, tourism leads to greenhouse gas (GHG) emissions, including transportation, lodging and activity emissions. Mitigation of climate change is linked to technical, cultural, and social changes and substitutions that contribute to reductions in emissions. Mitigation can be accomplished through technological innovation and market mechanisms, but significant reduction in GHG emissions can only be achieved by behavioral change, considering the ever-increasing number of people involved in tourism. Emissions related to tourism [7].

C. Carbon Management Strategy: -

In resolving the problems of climate change, the tourism industry has a vital role to play. The explosive growth of tourism poses both a threat and an opportunity. The tourist community itself has reacted to this challenge over the past couple of years and has visibly stepped up its response to climate change. Climate change mitigation needs technological, economic and social changes

and alternatives that can help reduce emissions of greenhouse gases. Mitigation can be accomplished by reducing energy use by, for example, modifying travel behavior, enhancing energy efficiency, increasing the use of renewable energy, carbon offsetting techniques, sustainable destination planning and management, selecting destinations for tour operators and packaging travel goods, as well as other improvements in business practices; While technological innovation has considerable potential for reducing greenhouse gas emissions, this will not be sufficient to achieve absolute reductions in energy use and emissions given the high growth rates in global tourism Behavioral changes (tourists) as well as structural changes (tourism industry) will therefore be important in reversing the trend of growing greenhouse gas emissions and given the great interest in 'green' and holiday options for development, it seems clear that there will be new business opportunities for those actors that embrace mitigation.

1. Transportation sector: By far, transport is the most important sector contributing to greenhouse gas emissions from tourism, and it has been estimated that travel to the destination accounts for 60-90% of the total contribution of travel to climate change. Therefore, any policy aimed at reducing tourism's contribution to climate change needs to take into account transport and, in particular, aviation. Second, any motorized transport that can be avoided would make a major contribution to reducing the cumulative pollution generated by an individual journey. If passengers were to use trains more often than aircraft or vehicles that would significantly reduce the pollution.
2. Accommodation sector and tour operators: A broad range of services are provided by housing, such as hotels, motels, bed and breakfasts, campsites, holiday rentals, and second homes. Overall, an estimated 21 percent of tourism emissions is accounted for by accommodation. In the housing sector, most companies have significant options for minimizing the use of electricity, which usually offers economic benefits. Initiatives in this field, such as the use of renewable energy sources or involvement in environmental management schemes, may also have a huge effect on the positive perceptions of tourism. Tourism mitigation measures usually focus on energy efficiency and the use of renewable energy, but may include a wide range of other measures, such as food supply.
3. Destinations: Given the pace at which the global tourism industry could minimize its exposure to global climate change and the IPCC's demand for a reduction in global CO₂ emissions as of 2017, destinations have the greatest potential to contribute to the rapid reduction of greenhouse gas emissions. This is because they have many stakeholders that can work together to achieve pollution reductions, though destinations can differ greatly in size. Destinations can also aim to use only wind, photovoltaic, solar thermal, geothermal, biomass and waste-based renewable energy. Many studies have explored to what extent renewable energy sources can be used for tourism, especially in

destinations where fossil-fuel-based energy supply is costly and at risk of supply interruptions. Such research suggests that renewable energy sources are typically affordable and technically feasible to use [8].

II. CONCLUSION

The ultimate objective of the carbon management strategy for the tourism sector is to mitigate climate change and increase low-carbon tourism growth. In the tourism industry, all players, i.e. transport providers, hotels, tour operators, tourists and destinations, have immense potential for reducing greenhouse gas emissions, but so far only very few have been involved in reducing emissions. Carbon control strategies include a wide variety of stakeholders and measures, ranging from low-cost initiatives such as energy-efficient lighting to more effort-intensive and investment-intensive measures such as the procurement of fuel-efficient vehicles or energy restructuring. The most important steps are typically those redirecting tourism flows towards low-carbon transport and less distant destinations with extended stay lengths. Alternatively, even in a strong climate policy scenario, rising tourist numbers, though potential benefits for China to restructure its economy towards low-carbon energy mixes are high.

III. REFERENCES

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