



McGill

Centre for Research in Air and Space Law
Centre de recherche en droit aérien et spatial

Occasional Paper Series

No. XVII

November 2016

Sustainable tourism and the impact of climate change on the Caribbean

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Occasional Paper Series: *Sustainable International Civil Aviation*

The attached Occasional Papers have been prepared by a group of scholars associated with the Institute of Air and Space Law (IASL) at McGill University. They are the result of a collaborative effort between the IASL and the Centre for International Sustainable Development Law and are designed to be part of a book prepared by authors from both groups which will eventually be published by the Cambridge University Press under the title *Sustainable International Civil Aviation*.

As the title of the book suggests, bringing together these various scholars and papers is the central theme of the sustainable development of international aviation. In particular, the work of the International Civil Aviation Organization (ICAO), the primary United Nations body tasked with regulating the environmental aspects of international aviation, and the provisions of the Chicago Convention which lays down powers of the Organization and the fundamental rules of international air law, form the primary focus of this collection. At the next ICAO Assembly in September-October of 2016, ICAO has the ambitious mandate to finalise a global scheme to limit CO2 emissions from international aviation. As many of the articles contained in the book are of immediate relevance to the discussions due to take place at ICAO, publishing and disseminating these draft chapters will contribute to the growing interest and debates on the issue of the environmental impact of aviation. It is hoped that these papers will contribute to the work of the Assembly and that informed readers and delegates participating at the ICAO Assembly will have constructive comments to share with the authors.

Readers are invited to send their comments to the authors whose e-mail addresses are set out on the title page of each paper as well as a copy to the following address: edannals.law@mcgill.ca

The authors and the Editors of this collection of papers thank all readers for their attention and their comments.

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SUSTAINABLE TOURISM AND THE IMPACT OF CLIMATE CHANGE ON THE CARIBBEAN

by

Nicole Gonzales

The developing states in the Caribbean, Small Island Developing States (SIDS), Southeast Asia and Africa have been identified to being most at-risk with regard to the anticipated effects of climate change.¹ On top of that, the Caribbean region is also one of the most highly tourist-reliant regions in the world.² The dependence of the tourism sector on the Caribbean's climate-sensitive ecosystem makes it so that climate change will have a substantial impact on tourism. At the same time, greenhouse gas (GHG) emissions resulting from touristic activities will have a deteriorating effect on the climate, which in turn will affect tourism. Because of this strong two-way relationship between the tourism sector and climate change, policies and measures directed to mitigate the negative effects of climate change may in turn have a negative impact on tourism as well.

The social, economic and environmental impacts of climate change on tourism are predicted to be of considerable magnitude in the long term. The degree of these impacts will further depend on the extent the world can mitigate greenhouse gas emissions on a global basis and the Caribbean region can adapt its tourism sector to the changing climate conditions.

This article aims to elucidate the relation between sustainable tourism and climate change, the importance of aviation to the Caribbean tourism sector and the impact of climate change mitigating measures on Caribbean island states. Furthermore, it proposes a few ways to create a stronger position for Caribbean island states against climate change and its mitigating measures through the United Nations Framework Convention on Climate Change (UNFCCC) framework, and specifically with regard to international aviation greenhouse gas emission, through ICAO.

¹ Daniel Scott C Michael Hall, Stefan Gossling, "The challenges of tourism as a development strategy in an era of global climate change," (Ministry of Foreign Affairs, Finland, 2012), 8.

² UNWTO, "From Davos to Copenhagen and beyond: advancing tourism's response to climate change,"(2009), World Tourism Organisation
<www.unwto.org/pdf/From_Davos_to%20Copenhagen_beyond_UNWTOPaper_ElectronicVersion.pdf>.

I. THE IMPORTANCE OF TOURISM TO CARIBBEAN ISLAND STATE ECONOMIES

Tourism is an extremely significant global source of revenue and employment, worldwide indirectly creating 1 out of every 11 jobs and contributing to 5% of global GDP and US\$ 1.260 billion in international tourism receipts.³ The United Nations World Tourism Organization ("UNWTO") estimates that international tourist arrivals worldwide will reach 1.8 billion by 2030 at an increase of 3.3% a year from 2010 to 2030.⁴

However, to Caribbean island state economies, tourism is even more crucial as it significantly contributes to their economies both through direct and indirect earnings through the development of craft industry, infrastructure and hotels, and the creation of jobs in tourism related sectors such as transportation, construction and security.⁵ In 2015, the direct contribution⁶ of tourism to the Caribbean region's GDP was US\$ 16.8 billion, 4.7% of the region's total GDP, and tourism directly supported 709,000 jobs. The total contribution⁷ of tourism amounted to US\$ 53.1 billion, 14.8% of the total GDP of the Caribbean and directly and indirectly supported 2.255 million jobs.⁸

The direct contribution of travel and tourism to the Caribbean's GDP is expected to grow annually by 3.4% from 2016 to 2026, which amounts to US\$ 24.1 billion. Its total contribution of travel and tourism is also expected to grow annually by 3.4% from 2016 to 2026, which amounts to US\$ 76.2 billion.⁹

As most tourists arrive to the Caribbean region by air, air transport is an essential contributor to the continuous growth of tourism in the region. Air transport is furthermore essential to the import of products necessary to accommodate the higher standard and quality of living demanded by tourists, such as food and drink, entertainment, shopping and other services and goods. The relationship between air transport and tourism is also mutually reinforced and interdependent as tourism provides passengers, and thereby creates new and increased business to the air transport sector.¹⁰

³ UNWTO, "Tourism Highlights 2016," (2016).

⁴ UNWTO, "Tourism towards 2030, global overview," *World Tourism Organization* (2011).

⁵ CARICOM, "The CARICOM Environment in Figures," (2009).

⁶ The direct contribution of travel and tourism to the GDP includes visitor exports, domestic expenditure and purchases by tourism providers (including imported goods)

⁷ The total contribution of travel and tourism to the GDP includes the domestic contribution, the domestic supply chain, capital investment, government collective spending, imported goods from indirect spending and induced impacts.

⁸ World Travel & Tourism Council, "Economic Impact 2016, Caribbean," (2015).

⁹ Ibid.

¹⁰ Julio Orozco, "Caribbean Airlift and Caribbean Tourism," <http://www.caribjournal.com/2014/08/08/caribbean-airlift-and-caribbean-tourism/#>.

Most Caribbean island states have been defined by the UN Statistics Division¹¹ as 'Small Island Developing States', and one island (Haiti) has been classified as a 'Least Developed Country'. The importance of tourism is therefore not only with regard to its direct or induced contribution to an island's economic development, but also to its potential to reduce poverty as tourism is a labor intensive activity with a low entry barrier that the region's poor can take advantage of. However, in order for tourism to have such an alleviating effect, tourism jobs must be properly remunerated and its employees given opportunities for advancement.¹²

II. CLIMATE CHANGE AND TOURISM IN CARIBBEAN ISLAND STATES

The tourism sector is unlike many other sectors, as the consumer of tourism (the tourist) travels to the producer and the product (in this case, the Caribbean island) as opposed to the other way around. The dependency of Caribbean tourism on the island's environment, such as its beaches, forests, reefs, and local communities, is indisputable.¹³ Considering this dependency, the impact of global climate change on the environment of the Caribbean islands is of vital importance for the continuation and further development of their tourism sector. In turn, (increased) tourism is a burden to an island's environment, producing increased amounts of waste and using scarce resources such as land, water and energy.¹⁴ It is expected that both the direct environmental impact of tourism as well as global climate change will have a broad range of environmental, economic and social impacts on Caribbean island states and its tourism sector.

Tourism's CO₂ emissions are expected to grow substantially in absolute terms and, through this, considerably contribute to climate change.¹⁵ The CO₂ emissions from tourism may grow by about 135% to 2035, totaling approximately 3059 Mt, based on a Business As Usual scenario for 2035, which would make tourism an increasing source of greenhouse gas emissions in the medium- to long-term future.¹⁶

¹¹ United Nations, "Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings," <http://unstats.un.org/unsd/methods/m49/m49regin.htm>.

¹² United Nations Environmental Programme, "Making tourism more sustainable: a guide for policy makers," *UNEP* (2005): 13.

¹³ "Climate not only determines the length and quality of the tourism season, it is also an important driver of tourism demand to some regions, because it affects the natural environment in ways that can either attract or deter visitors." Murray Simpson, Daniel Scott, and Ulric Trotz, "Climate change's impact on the Caribbean's ability to sustain tourism, natural assets, and livelihood," (Inter-American Development Bank, 2011), 1.

¹⁴ CARICOM, "The CARICOM Environment in Figures."

¹⁵ C. Michael Hall, Daniel Scott, and Stefan Gössling, "The Primacy of Climate Change for Sustainable International Tourism," *Sustainable Development* 21, no. 2 (2013): 115.

¹⁶ B. Amelung D. Scott, S. Becken, J-P Ceron, G. Dubois, S. Gossling, P. Peeters, M. Simpson, "Climate change and tourism: responding to global challenges," *UNWTO* (2008).

The direct environmental impact of climate change to the Caribbean may include such phenomena as a rise in sea levels, an increase of frequency and intensity of extreme storms, warmer temperatures, and changes in marine biodiversity.¹⁷ As most of the tourism-related infrastructure lies in the islands' coastal zones, the rising of the sea level and the increase of frequency and intensity of extreme storms will affect the islands' beaches, coral reefs, waterfronts and sea defenses. More resources will have to be put into the protection and maintenance of these coastal areas. Secondly, a prolonged and more violent hurricane season may put tourists off from visiting the island during that period of time. The warmer temperatures may cause extra cooling costs, changes in plant, wildlife and insect population and distribution, and an altered seasonality which may negatively impact the agreeable temperatures that draw tourists to the Island. Furthermore, the warming of the sea surface temperature will lead to coral reef bleaching and changes in marine biodiversity, thereby affecting snorkeling and diving tourism.

Indirectly, the environmental changes will impact the islands on an economic and social level as well. Beach loss will have a negative effect on resort attractiveness, room rates and property value.¹⁸ Prolonged hurricane seasons may cause longer interruptions to businesses and higher insurance premiums. More violent hurricanes will threaten the properties of the local population which can cause social unrest and money that could have gone to poverty alleviation may have to be invested in recovering the damages of climate change.¹⁹ The altered tourism demand will cause a decrease in visitor arrivals and expenditures, resulting in less foreign exchange income, less jobs and higher local unemployment.²⁰

III. SUSTAINABLE TOURISM TO BALANCE OUT CLIMATE CHANGE

Because of the climate-sensitive nature of Caribbean tourism, the impact of climate change is of the utmost importance for the further development of the tourism sector. Tourism, however, is also one of the contributors to climate change. The UNWTO estimated that greenhouse gas emissions contributed by tourism transport, accommodation and activities combined amounted to 5% of global CO₂ in 2005, of which most was accounted for by air transport (40%).²¹ Given that much of the tourism to the

¹⁷ Simpson, Scott, and Trotz, "Climate change's impact on the Caribbean's ability to sustain tourism, natural assets, and livelihood," 2. D. Scott, "Climate change and tourism: responding to global challenges."

¹⁸ Daniel Scott, Stefan Gössling, and C. Michael Hall, "International tourism and climate change," *Wiley Interdisciplinary Reviews: Climate Change* 3, no. 3 (2012): 220.

¹⁹ Cornelia Herzfeld Ramon Bueno, Elizabeth A. Stanton, Frank Ackerman, "The Caribbean and climate change, the costs of inaction," *Stockholm Environment Institute* (2008): 8-9.

²⁰ Jamaica Observer, "A case for compensation for climate change destruction," *Jamaica Observer*, (2014), http://www.jamaicaobserver.com/columns/A-case-for-compensation-for-climate-change-destruction_15733479.

²¹ D. Scott, "Climate change and tourism: responding to global challenges."

Caribbean is in the form of 1-2 week package holidays sold in North American and European markets, the vast majority of visitors to Caribbean island states arrive by air. The continued growth of tourism by 3.3% to 2030 will therefore increase the absolute CO₂ emissions in the sector substantially.²² Therefore, in order to conserve the environment that the tourism sector depends on and to balance out climate change and tourism while still remaining profitable, the tourism sector should strive to become sustainable.

A. DEFINITION OF SUSTAINABLE TOURISM

In 1987, the World Commission on Environment and Development described sustainable development as 'a process to meet the needs of the present without compromising the ability of future generations to meet their own needs'. This concept has since evolved and expanded into the three dimensions of sustainable development, namely economic, social and environmental stability. With regard to sustainable tourism, the United Nations Environmental Programme ("UNEP") currently defines this as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of the visitors, the industry, the environment and host communities".²³

The UNWTO has subsequently developed guidelines and management practices to all forms of tourism in all types of destinations in order to promote (more) sustainable tourism. A suitable balance of the economic, social and environmental aspects of tourism is necessary to establish sustainability. However, it is also argued that tourism may never be totally sustainable, but that the "sustainable development of tourism is a continuous process of improvement".²⁴ The continuous path to sustainability requires, on the one hand, a high level of tourist satisfaction to create a meaningful experience for the tourist whilst continuously remaining aware of the ongoing sustainability issues. On the other hand, strong political leadership is necessary to build consensus and ensure participation by all relevant stakeholders.

On a global level, a multi-stakeholder conference in 2007 on the complex relationship between the tourism and travel sector and climate change resulted in the Davos Declaration.²⁵ The Davos Declaration contains global guidelines for sustainable tourism. Brought forth by the Declaration are the four key areas that require action from the tourism sector:

²² Daniel Scott C. Michael Hall, Stefan Gossling, "The primacy of climate change for sustainable international tourism," *Wiley Online Library* 21(2013): 118.

²³ United Nations Environmental Programme, "Making tourism more sustainable: a guide for policy makers," 12.

²⁴ *Ibid.*

²⁵ The Second International Conference on Climate Change and Tourism was organized by the UNWTO together with the United Nations Environment Programme (UNEP), the World Meteorological Organization (WMO) and supported by the World Economic Forum (WEF) and the Swiss Government, in Davos, Switzerland from 1 to 3 October 2007.

1. Mitigate the GHG emissions derived especially from transport and accommodation activities;
2. Adapt tourism businesses and destinations to changing climate conditions;
3. Apply existing and new technology to improve energy efficiency; and
4. Secure financial resources to help poor regions and countries.²⁶

B. SUSTAINABLE TOURISM PROJECTS AND ORGANIZATIONS IN THE CARIBBEAN

The Caribbean region has seen a number of sustainable tourism projects and organizations in the last decade.

The Caribbean Challenge Initiative (“CCI”) is a collaboration between nine Caribbean island states²⁷ that aims to provide leadership for the sustainable use, conservation and effective management of the marine and coastal environment across the Caribbean. The CCI plans to conserve at least 20% of their near-shore marine and coastal environments in national marine protected areas systems by 2020, and to create the National Conservation Trust Funds dedicated to solely fund park management.²⁸ Since its initiation in 2008, the CCI states have declared 50 new marine and coastal protected areas. Furthermore, in May 2013, the CCI organized the Summit of Caribbean Political and Business Leaders to launch phase two of the CCI; the largest coordinated, multi-national conservation initiative in the region. The Summit committed \$64 million from business and political leaders worldwide to the conservation of the Caribbean.

At the UN Conference on Small Island Developing States, 2014 was proclaimed to be the International Year of Small Island Developing States. The Conference celebrated the contributions made to the world by SIDS, the challenges faced by them, and the efforts made to address sustainable development and global issues.²⁹ It also noted the ‘sustainable development of Small Island Developing States through genuine and durable partnerships’, wherein the CCI was highlighted as one of these important partnerships.³⁰

²⁶ UNWTO, "From Davos to Copenhagen and beyond: advancing tourism’s response to climate change". 11.

²⁷ The island states currently participating in the Caribbean Challenge Initiative are Bahamas, British Virgin Islands, Dominican Republic, Grenada, Jamaica, Puerto Rico, St. Kitts & Nevis, St. Lucia, and St. Vincent and the Grenadines

²⁸ Caribbean Challenge Initiative, "Caribbean Challenge Initiative," <www.nature.org/ourinitiatives/regions/caribbean/caribbean-challenge.xml>.

²⁹ United Nations, "International Year of Small Island Developing States," <http://www.un.org/en/events/islands2014/#&panel1-2>.

³⁰ Caribbean Challenge Initiative, "UN Conference on Small Island Developing States," http://www.caribbeanchallengeinitiative.org/index.php?option=com_content&view=article&id=72:un-conference-on-small-island-developing-states&catid=14:upcoming-events&Itemid=293#.V5K0uegrKhd.

The Agro and Culinary Tourism Product Development is also a great balance between economic, social and environmental development for the Caribbean. This project has recently started with an agro- and culinary-tourism workshop in Barbados in 2011 and another workshop during the 13th Annual Caribbean Conference on Sustainable Tourism Development in 2012 in Guyana.³¹ The project combines the participation of the local community with the promotion of local agriculture and rural revenue sources whilst maintaining the national heritage, tradition and culinary techniques. Gastronomical tourism further helps enrich the tourist experience and their involvement with the locals and the island.

Another such project is the Caribbean Hotel Energy Efficiency Action Programme.³² The objective of this project is “to drive the Caribbean hotels to implement energy efficient practices and to generate their own renewable energy” in order to improve the competitiveness of Caribbean hotels through their improved energy use. This 24-month project uses Barbados as a case study for the design and preparation of an energy efficiency program and institutional strengthening. The case study involved detailed energy audits in order to gather an understanding of the energy consumption patterns among Caribbean hotels. The goal of this project is both to achieve higher energy efficiency for Caribbean hotels as well as obtain carbon credits for reducing CO₂ emissions through the UNFCCC’s Clean Development Mechanism.

An important organization in, and to, the Caribbean is the Caribbean Community and Common Market (“CARICOM”), established by the Treaty of Chaguaramas in 1973.³³ The organization has fifteen member states, five associate members and eight observers.³⁴ Most, but not all, CARICOM member states are islands in the Caribbean, such as Suriname and Guyana. The objectives of the organization are, amongst others, to improve economic development and convergence, to achieve a greater measure of economic leverage and effectiveness in trade relations with third States, and to enhance the coordination of foreign and economic policies between member states. The organization also operates as a regional single market (the CARICOM Single Market and Economy³⁵), which allows for free movement of goods, services, people and capital

³¹ As demonstrated by the Food Tourism Benefits listed by the World Food Travel Association, World Food Travel Association, "Food Tourism Benefits," <http://www.worldfoodtravel.org/benefits-of-food-tourism/>.

³² Caribbean Alliance for Sustainable Tourism, "Caribbean Alliance for Sustainable Tourism," <http://www.caribbeanhotelandtourism.com/CASTchenact.php>.

³³ United Nations Treaty Collection, "Revised Treaty of Chaguaramas establishing the Caribbean Community including the CARICOM Single Market and Economy," <https://treaties.un.org/Pages/showDetails.aspx?objid=0800000280075f53>.

³⁴ CARICOM member states are Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago. The CARICOM associate members are Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos islands. The CARICOM observers are Aruba, Colombia, Curacao, Dominican Republic, Mexico, Puerto Rico, Sint Maarten and Venezuela.

³⁵ CARICOM Single Market and Economy, <http://csmeonline.org/>.

within the CARICOM. Furthermore, CARICOM strives to formulate proposals for sustainable tourism development.³⁶

In February 2009, CARICOM launched the Caribbean Aviation Safety and Security Oversight System ("CASSOS"), which is an institution of CARICOM. Its main objectives are compliance with the standards and recommended practices established by the ICAO, to facilitate the growth and development in aviation within the Caribbean region through training, the sharing of technical resources, the harmonization of regulatory processes and the minimization of safety and security risk.³⁷ CASSOS is also a Regional Safety Oversight Organization.

By combining CARICOM's sustainable tourism development with CASSOS' facilitation of the development of the aviation sector within the Caribbean region, CARICOM has the tools to continue the economic development of the region whilst conserving its cultural and natural resources and maintaining a balance between a healthy ecology and economic development.³⁸

In June 2011, CASSOS presented a proposal for the establishment of a 'Single Caribbean Airspace'.³⁹ Like the Single European Sky,⁴⁰ it intends to "reduce fragmentation and complexity, increase air traffic control capacity, reduce delays, facilitate introduction of new technology and increase harmonization and cooperation".⁴¹ This initiative could organize the Caribbean airspace in case of increased air traffic flows and reduce the environmental impact of aircraft by improving the flight-efficiency.

The Caribbean region should continue to develop and participate in these projects and organizations to mitigate or reduce the industry's GHG emissions, adapt and expand their tourism business whilst keeping in mind the economic, social and environmental aspects of the islands for a more sustainable tourism.

³⁶ CARICOM, "Revised Treaty of Chaguaramas," (2001), art. 55.

³⁷ CASSOS, "About Us," <http://cassos.org/home/index.php/about-us?showall=&start=2>; CASSOS, <http://cassos.org/home/>.

³⁸ CARICOM, "Revised Treaty of Chaguaramas," art. 55.

³⁹ CASSOS, "Feasibility of the Establishment of a 'Single Airspace' within the Caribbean," <http://www.onecaribbean.org/content/files/SingleCaricomAirspaceJune2011.pdf>.

⁴⁰ European Commission, "Single European Sky," http://ec.europa.eu/transport/modes/air/single_european_sky/index_en.htm.

⁴¹ CASSOS, "Feasibility of the Establishment of a 'Single Airspace' within the Caribbean".

IV. THE IMPORTANCE OF AVIATION TO THE CARIBBEAN TOURISM SECTOR

In 2015, 54% of all international inbound tourists worldwide arrived at their destination by air. For the Caribbean, this amounted to a total of 23.9 million international tourist arrivals in 2015.⁴² Considering the geographical location of the Caribbean islands, the common ways for international tourists to reach the islands is by air or by sea, which makes air transport an essential player in the tourism sector of the Caribbean. Air transport is the fastest and most flexible means of access to and from the islands.⁴³

The Dominican Republic, which is the most popular Caribbean tourist destination for Canada⁴⁴ in 2013 and the United States⁴⁵ in 2015, received approximately 529,000 Canadian and 447,000 American visitors in 2013. In that year, it is estimated that the Canadian visitors spent C\$560 million during their visit. An important historical aspect of this success is that the Dominican Republic has concluded bilateral air transport agreements with Canada and the United States in respectively 2008⁴⁶ and 1986⁴⁷.

Bilateral air transport agreements facilitate the passenger traffic between countries, and in order to facilitate and further develop this traffic, island state governments should invest in further facilitating the air transport and tourist arrivals between the Caribbean and its (biggest) tourist markets.

Further travel facilitation can be provided by the removal of the requirements for travel visas.⁴⁸ A 'visa openness' study by the UNWTO and the World Travel and Tourism Council showed that though the Caribbean is one of the most 'visa open' regions in the world, it still requires 55% of the world population to obtain a visa before arrival.⁴⁹

Air transport is not only important for the flow of tourists, but also with regard to imports necessary to cater to these tourists. However, an uncontrolled influx of mass tourism may negatively affect the fragile environmental and social equilibrium of an island if it is not met with a strategy for sustainable tourism. An increase in air traffic may also have an impact on the islands' environment and infrastructure as the creation and

⁴² UNWTO, "Tourism Highlights 2016."

⁴³ UNWTO, "Challenges and opportunities for tourism development in Small Island Developing States," *World Tourism Organization* (2012).

⁴⁴ Statistics Canada, "Travel by Canadians to foreign countries, top 15 countries visited," <http://www.statcan.gc.ca/tables-tableaux/sum-som/101/cst01/arts37a-eng.htm>.

⁴⁵ U.S. Department of Transportation, "U.S. International Air Passenger and Freight Statistics June 2015," (2016).

⁴⁶ Canadian Transportation Agency, "Air Transport Agreements, Dominican Republic," <https://www.otc-cta.gc.ca/eng/dominican-republic>.

⁴⁷ U.S. Department of State, "U.S. - Dominican Republic Air Transport Agreement of June 22, 1986," <http://www.state.gov/documents/organization/155527.pdf>.

⁴⁸ UNWTO, "Facilitation of tourist travel," <http://rcm.unwto.org/content/facilitation-tourist-travel>.

⁴⁹ UNWTO, "Visa Openness Report 2015," (2016).

development of airports to handle an increased number of tourists are generally placed near the coast, and may affect the equilibrium of coastal ecosystems, including beaches or mangrove forests.⁵⁰

A. THE IMPACT OF INTERNATIONAL AVIATION MEASURES ON THE CARIBBEAN TOURISM SECTOR

International climate change mitigation measures poses one of the most immediate economic risks to the Caribbean tourism sector by impacting aspects of the tourism sector depends on.⁵¹ Because of aviation's crucial role in the Caribbean tourism sector, international climate change mitigation measures imposed on foreign airlines can directly impact the Caribbean economy. Government taxation at the point of origin or point of destination or climate change mitigation measures can have an impact on the ticket prices and therefore on competition between Caribbean island states and other destinations.⁵² Two examples hereof are the United Kingdom Air Passenger Duty ("UK APD")⁵³ and the European Union's Carbon Emissions Trading Scheme ("EU ETS")⁵⁴.

The importance of the UK APD and the EU ETS lies in the dependency of Caribbean island states on European tourists. Due to the historical link between the Caribbean and Europe, the large amount of Caribbean immigrants living in the European mother country, their common language and shared cultural aspects, the average EU market share within the Caribbean is 21.2%, of which the UK is almost 25%.⁵⁵ Considering its sizeable market share, any reduction in European or UK tourists will have a significant negative effect on the Caribbean island states.

Further importance should be attached to the relationship between the EU and CARICOM. In October 2008, the CARICOM and the EU signed the CARIFORUM-EU Economic Partnership Agreement, which creates a platform to simplify the trade and investment between the two regions. The agreement covers goods, services and 'trade in its widest sense'.⁵⁶ This agreement, however, does not cover aviation measures, air transport agreements or international climate measures related to aviation, such as the EU ETS. Considering that any negative impact on the tourism sector of the Caribbean will be disadvantageous to the Caribbean region and the investments performed there,

⁵⁰ UNWTO, "Challenges and opportunities for tourism development in Small Island Developing States," 49.

⁵¹ Simpson, Scott, and Trotz, "Climate change's impact on the Caribbean's ability to sustain tourism, natural assets, and livelihood," 5.

⁵² UNWTO, "Challenges and opportunities for tourism development in Small Island Developing States," 56.

⁵³ *Air Passenger Duty Regulations 1994*.

⁵⁴ European Commission, "Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community," ed. Environment (2006).

⁵⁵ World Travel & Tourism Council, "Travel & Tourism's Economic Impact 2011," (2011).

⁵⁶ European Commission, "Factsheet: How the EU is putting the EPA into practice," (2012).

these far-reaching international measures could also be considered in the application of the Agreement.

B. THE UK APD

The UK APD is an excise tax which amounts to a standard rate per person per flight on a national or international flight departing from UK airports. Introduced in 1993, the tax came into effect on 1 November 1994.⁵⁷ The UK APD is generally viewed as a “green” tax.⁵⁸ However, John Healey, Chancellor of the Exchequer, noted in 2003 that the “[a]ir passenger duty (APD) was introduced in 1994 as a measure whose principal purpose was to raise revenue from the aviation industry but with the anticipation that there would be environmental benefits through its effect on air traffic volumes.”⁵⁹

Before 1 April 2015, the UK APD was structured into four “bands”, which set rates based on the distance between London and the capital of the point of destination. Each band was split into “reduced”, “standard” and “higher” bands, and linked with an associated rate.⁶⁰

Until 31 March 2015, the rates were as following:⁶¹

Band – From 1 April 2014	Reduced rate	Standard rate	Higher rate
Band A (0 – 2,000 miles)	£ 13 (US\$ 17)	£ 26 (US\$ 34)	£ 52 (US\$ 68)
Band B (2,001 – 4,000 miles)	£ 69 (US\$ 90)	£ 138 (US\$ 180)	£ 276 (US\$ 362)
Band C (4,001 – 6,000 miles)	£ 85 (US\$ 111)	£ 170 (US\$ 223)	£ 340 (US\$ 446)
Band D (Over 6,000 miles)	£ 97 (US\$ 127)	£ 194 (US\$ 254)	£ 388 (US\$ 509) ⁶²

⁵⁷ *Air Passenger Duty Regulations 1994*.

⁵⁸ Journal Live, "Air passenger duty undermined public confidence in green taxes, say MPs," <http://www.journallive.co.uk/north-east-news/todays-news/2011/07/07/air-passenger-duty-undermined-public-confidence-in-green-taxes-say-mps-61634-29008906/>.

⁵⁹ House of Commons, "Bound Volume Hansard - Written Answers," http://www.publications.parliament.uk/pa/cm200203/cmhansrd/vo030715/text/30715w18.htm#30715w18.html_sbhd5.

⁶⁰ From 1 April 2013, the UK APD will apply to all flights on aircraft of 5.7 tonnes and above. The reduced rate applies to the lowest class of travel available on a flight. The standard rate applies to any class of travel that provides seating in excess of 1.016 metres/40 inches, or any other class of travel but the lowest. The higher rate applies to flights aboard aircraft of 20 tonnes and above with fewer than 19 seats.

⁶¹ HM Revenue & Customs, "Rates of Air Passenger Duty (APD)," <http://www.hmrc.gov.uk/rates/apd.htm>.

⁶² Conversion from British Pound to US dollar calculated by www.xe.com on 22 July 2016 at a rate of 1 GBP is 1.31096 USD.

In line with the banding system, Caribbean island states fell into Band C because their capitals fall between 4,001 and 6,000 miles from London. However, competing tourist locations such as Hawaii, Florida and California fell into Band B, because the distance between London and Washington D.C. is approximately 3,670 miles whereas the factual location of the States are far beyond that. Based on this fact, Caribbean governments had protested that the UK APD is “unjust” and “discriminatory”.⁶³

A Caribbean study showed that “when the [UK APD] fares are raised progressively, there is a sharp negative reaction after reaching £500 in the UK market”.⁶⁴ Their statement is further supported by British Airways, which announced cuts in flights and capacity on their Caribbean routes because of the sharp rise of APD charges.⁶⁵ “It is no coincidence that our reduction in the number of services to the Caribbean is accompanied by a rise in services to Florida – a destination that is taxed at a rate 20 per cent less than the Caribbean,” explained chief executive Keith Williams.⁶⁶

Since 1 April 2015, the UK APD is now structured into two “bands”, split into “reduced”, “standard” and “higher” bands, and linked with an associated rate.⁶⁷

The rates as of April 1, 2016, are as following:⁶⁸

Band – From 1 April 2016	Reduced rate	Standard rate	Higher rate
Band A (0 – 2,000 miles)	£ 13 (US\$ 17)	£ 26 (US\$ 34)	£ 78 (US\$ 102)
Band B (over 2,000 miles)	£ 73 (US\$ 96)	£ 146 (US\$ 191)	£ 438 (US\$ 574) ⁶⁹

Due to this change, the Caribbean island states and their competing US tourist locations now fall within the same band.

⁶³ OneCaribbean Caribbean Tourism Organization, "Caribbean Response to the UK Government's Consultation on Reform of Air Passenger Duty," <http://www.onecaribbean.org/content/files/CaribbeanResponseAPDBriefingDocJune2011.pdf>.

⁶⁴ Caribbean Tourism Organization OneCaribbean, "Caribbean Tourism Overview, 2009," (2009).

⁶⁵ BreakingTravelNews.com, "British Airways chief executive Keith Williams blames APD for Caribbean cuts," *Breaking Travel News*(2011), <http://www.breakingtravelnews.com/news/article/british-airways-plans-to-cut-caribbean-routes/>. And Daily Mail, "Over-taxed: BA cuts flights to Caribbean over high APD rates," *Daily Mail*(2011), <http://www.dailymail.co.uk/travel/article-2039113/BA-cuts-flights-Caribbean-high-APD-tax-rates.html>.

⁶⁶ RoutesOnline.com, "BA cuts flights to Caribbean over APD tax levels,"(2011), <http://www.routesonline.com/news/34/travelmole/125928/ba-cuts-flights-to-caribbean-over-apd-tax-levels/>.

⁶⁷ From 1 April 2016, the UK APD will apply to the carriage, from a UK airport, of chargeable passengers on chargeable aircraft. The reduced rate applies to the lowest class of travel available on a flight unless the seat pitch exceeds 1.016 metres (40 inches). The standard rate applies to any class of travel that provides seating in excess of 1.016 metres/40 inches, or any other class of travel but the lowest. The higher rate applies to flights aboard aircraft of 20 tonnes and above with fewer than 19 seats.

⁶⁸ Customs, "Rates of Air Passenger Duty (APD)".

⁶⁹ Conversion from British Pound to US dollar calculated by www.xe.com on 22 July 2016 at a rate of 1 GBP is 1.31096 USD.

C. THE EU ETS

The global aviation industry has been forecast to grow at an average of 4.8% per year through the year 2036. Aviation emissions account for a modest 2 – 3% of total global CO₂ emissions, of which international flights are responsible for 62% of these emissions.⁷⁰ The European Commission (“EC”) felt that the growth of the aviation sector, whose international emissions have as of then gone unmitigated, would threaten to cancel out the efforts done to mitigate carbon emissions by other sectors. The EC therefore announced that it intended to introduce international aviation emissions into the EU ETS.⁷¹

Since the initial introduction of aviation into the EU ETS by means of EU Directive 2008/101/EC,⁷² the scheme has been through numerous stages of applicability and international uproar, which resulted in such plights as the court case brought forth by Air Transport Association of America, American Airlines, Continental Airlines and United Air Lines against the Secretary of State for Energy and Climate Change of the United Kingdom in 2009⁷³ and the Delhi Declaration⁷⁴. In November 2012, the EC announced a “Stop the Clock” on the international implementation of the scheme for the period of 2013 to 2016 as a gesture of goodwill towards the encouraging development towards a global market-based scheme to regulate greenhouse gases from the aviation industry. Following the 38th General Assembly of ICAO in the Fall of 2013, the EC amended the remaining EU portion of the EU ETS so that only the portion of the flight that takes place within EU airspace would be covered by the EU ETS, a move widely applauded by the aviation industry.⁷⁵ After ICAO’s 39th assembly, where this global market-based scheme is to be discussed, and potentially approved, the EU Parliament

⁷⁰ ICAO, "ICAO Environmental Report 2010," (ICAO2010), 18, 31, 38.

⁷¹ European Commission, "Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community."

⁷² European Parliament and the Council of the European Union, "Commission Directive 2008/101/EC of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community " *Official Journal of the European Union* L 8/3, at art. 3 sub b(r)(2009).

⁷³ *ATAA v U.K.*, European Court reports 2011(2011). In the case C-366/10, *ATAA v U.K.*, the claimants sought annulment of the measurements implementing Directive 2008/101 in the United Kingdom, and argued that the inclusion of international aviation, and in particular transatlantic flights, into the EU ETS by Directive 2008 was in breach of a number of principles of customary international law and of several international agreements. The issue was sent to the Court of Justice of the European Union, which decided that the EU ETS did not infringe customary international law, or the relevant articles of the EU-US Open Skies Agreement.

⁷⁴ The Delhi Declaration, drawn up in September 2011, recognized the need “to address the long-term growth of greenhouse gas emissions”, condemning the EU’s plan to include international flights into the ETS. It called upon States to work through ICAO in developing a global scheme “that will reduce aviation emissions while at the same time avoiding adverse impacts on air transport”. The Declaration was included as an appendix to working paper C-WP/13790 for the 194th ICAO Council session, and presented to the Council by the Secretary General.

⁷⁵ European Commission, "Commission proposes limiting EU ETS to European regional airspace," http://ec.europa.eu/clima/policies/transport/aviation/index_en.htm.

shall decide whether the proposed scheme is acceptable or not, and whether to ‘restart’ the clock on the international implementation of the EU ETS.⁷⁶

A study by L. Pentelow and D. Scott show that, until mitigation measures require deeper emission cuts and higher carbon costs as were the case in 2011, “there will be no meaningful impact on the growth of arrival numbers to the Caribbean”.⁷⁷ An insignificant decrease in passenger demand makes it unlikely for an airline to drop any routes unless demand has reduced in large enough amounts to reduce the number of flights on a route and make a route unprofitable. However, any reduction in arrival numbers, and therefore tourist expenditures, is disadvantageous to the Caribbean region. Caribbean island states must therefore remain vigilant of the evolution of global climate change mitigation measures and their subsequent impact on the Caribbean and its tourism sector,⁷⁸ such as whether the EU ETS ‘clock’ will be restarted, and what form it will then take.

D. THE CARIBBEAN’S VULNERABILITY IN INTERNATIONAL AVIATION MITIGATION MEASURES

Both Caribbean and non-Caribbean governments must not underestimate the impact that a mitigating measure, tax or fee, such as the UK APD and the EU ETS, imposed on the international aviation industry, can have on the vulnerable economies of Caribbean island states. The vulnerability of small island states to both the long term effects of global climate change and the short term impacts of climate change mitigation have been explicitly recognized and safeguarded by the UNFCCC.⁷⁹ The impact of the implementation of climate change measures on small island states must be considered during the implementation of UNFCCC commitments by all Parties. Most importantly, the UNFCCC, Kyoto Protocol⁸⁰ and the Paris Agreement⁸¹ all include the principle of ‘common but differentiated responsibilities and respective capabilities’ to balance out historical and current emission responsibilities with the developed or developing country’s capabilities.

⁷⁶ AVOCET, "ICAO agrees aviation emissions roadmap but EU ETS constrained."

⁷⁷ Laurel Pentelow and Daniel J. Scott, "Aviation’s inclusion in international climate policy regimes: Implications for the Caribbean tourism industry," *Journal of Air Transport Management* 17, no. 3 (2011).

⁷⁸ *Ibid.*, 204.

⁷⁹ The UNFCCC (United Nations Framework Convention on Climate Change) was negotiated at the United Nations Conference on Environment and Development in Rio de Janeiro during the “Earth Summit” in June 1992. The Convention entered into force on March 21, 1994 and has currently been ratified by 195 Parties (194 States and 1 regional economic integration organization).

⁸⁰ United Nations, "Kyoto Protocol to the United Nations Framework Convention on climate change," *UNTS*, no. U.N. Doc CP/1997/7 (1997). Within the framework set by the UNFCCC, the Kyoto Protocol to the Convention was created in December 1997. After the ratification of the Protocol by 55 States that together accounted for at least 55% of total carbon dioxide emissions for 1990 of the Parties included in Annex I to the UNFCCC Convention, the Kyoto Protocol entered into force on February 16, 2005.

⁸¹ United Nations, "The Paris Agreement under the United Nations Framework Convention on Climate Change," (2016). On 22 April 2016, the Paris Agreement 2015 was opened for signature at the UN headquarters, where 175 states signed the Agreement and 15 states deposited instruments of ratification. The Agreement has not entered into force yet.

However, none of these protective measures have found their way into such a GHG mitigation measure as the EU ETS. Even so, only 16 of the 31 Caribbean island states are Party to the UNFCCC and the Kyoto Protocol.⁸² Therefore, even if these protective measures had been in place, it may not have benefited all the islands it would affect. Because half of the Caribbean island states are not Party to the UNFCCC and Kyoto Protocol, the Caribbean tourism sector of these islands would be dependent on the consideration of developed States to consider their vulnerability to climate change mitigation measures.

Similarly, the implementation of a Caribbean mitigating measure, tax or fee, such as the UK APD, could be a double-edged sword. Adding such a tax to passenger tickets would bring in additional revenue for the region, but it may also put the Caribbean at a competitive disadvantage with its neighbor-tourist destinations which do not have such an added tax, and cause the region to receive less visitor arrivals and expenditures, resulting in less foreign exchange income.

E. ONE GLOBAL MBM SCHEME TO RULE THEM ALL

An important event for the Caribbean tourism sector, as well as the entire aviation sector, will be the creation of a global market-based measure by ICAO, as per ICAO Assembly Resolution A37-19.⁸³ The creation of a global MBM would benefit the Caribbean by not having to participate in a patchwork of national or regional MBMs, or having to create its own regional MBM and deal with its administrative burden.

In May 2016, the ICAO High-Level Meeting on a Global Market-Based Measure ("MBM") Scheme reviewed the draft Assembly Resolution text on a global MBM scheme for international aviation, made recommendation to the draft text and presented a paper with outstanding issues to the draft text that had not reached consensus yet during the meeting.⁸⁴ The recommendation from the High-Level Meeting will be presented to the 208th Session of the ICAO Council, in preparation for the 39th Session of the ICAO Assembly, to be held from 27 September to 7 October 2016.

Within the draft text as amended by the High-Level Meeting, article 7 sub c states that the global MBM "does not apply to States which are classified as the Least Developed Countries (LDCs), Small Island Developing States (SIDS) or Landlocked Developing Countries (LLDCs)".⁸⁵ Almost all Caribbean islands are considered SIDS, and Haiti is

⁸² The Caribbean island states party to the UNFCCC and Kyoto Protocol are Antigua-and-Barbuda, Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Saint Kitts-and-Nevis, Saint Lucia, Saint Martin, Saint Vincent-and-the-Grenadines and Trinidad-and-Tobago.

⁸³ ICAO, "Assembly Resolutions in Force as of 4 October 2013," (2013).

⁸⁴ ICAO, "ICAO High-Level Meeting on a Global Market-Based Measure (MBM) Scheme," <http://www.icao.int/Meetings/HLM-MBM/Pages/default.aspx>.

⁸⁵ ICAO High-Level Meeting on a Global Market-Based Measure Scheme ICAO, "Flimsy no. 2, Draft

defined as a LDC.⁸⁶ If this article were to remain unchanged in the final resolution text, the Caribbean may be exempted from the global MBM and would be spared from the potentially negative impact of a global MBM. The Caribbean island states should therefore be active participants in the ICAO Assembly and all Meetings regarding the global MBM in order to protect their status as SIDS, developing states and historically small emitters, and ensure the inclusion of the principle of 'common but differentiated responsibilities and respective capabilities' into ICAO's global MBM to balance out historical and current emission responsibilities between the developed or developing country's capabilities.

V. CONCLUSION

Because of the importance of tourism, and indirectly air transport, to the Caribbean island states, any climate change mitigation or greenhouse gas reduction measures should be formulated and implemented in such a way as to not disadvantage these developing countries, or at least reduce the negative impact these measures would have.⁸⁷ The vulnerability of small island states to the long term effects of climate change and the short term impacts of climate change mitigation, as recognized and safeguarded by the UNFCCC, must be considered during the implementation of such mitigating measures. However, this is not always the case. The direct impact of aviation policies is illustrated by the UK APD, whereas the impact of a climate change mitigating measure is shown through the EU ETS.

Specifically related to a global market-based measure for the international aviation industry, such as being currently developed by ICAO, the Caribbean island states should be active participants in the ICAO Assembly and all Meetings regarding the global MBM in order to inform the other states of the impact such measures would have on their islands, reinforce the safeguards provided by the UNFCCC, and protect their status as developing states and historically small emitters.

Further to any climate change mitigation measures based on the UNFCCC, and in order not to be further dependent on such climate change related decisions of other States, the most direct and controllable solution to the Caribbean island states should include that the remaining non-Party Caribbean island states become party to the UNFCCC and the Paris Agreement in order to be able to rely on the safeguards and protections provided by these treaties. This way, the Caribbean island states can create a stronger and more independent position for themselves within the global climate change

assembly resolution text on a global market-based measure (GMBM) scheme," http://www.icao.int/Meetings/HLM-MBM/Documents/HLM_GMBM_Flimsy_2.pdf.

⁸⁶ United Nations, "Who are the Small Island Developing States?," <http://www.un.org/en/events/islands2014/smallislands.shtml>; Nations, "Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings".

⁸⁷ UNWTO, "From Davos to Copenhagen and beyond: advancing tourism's response to climate change".

framework of the UNFCCC, and establish a sustainable tourism sector that can balance out climate change while still remaining profitable.

Furthermore, all Caribbean island states should work together to create a sustainable tourism sector based on the guidelines and management practices of the UNWTO and Davos Declaration. Creating a common climate change mitigation strategy, the Caribbean island states could achieve improved environmental practices without suffering from a competitive disadvantage to other Caribbean island states.

Additionally, in creating national or Caribbean-regional projects that could obtain carbon credits for reducing CO₂ emissions through the UNFCCC's Clean Development Mechanism such as the Caribbean Hotel Energy Efficiency Action Programme, the Caribbean islands can benefit anew from the UNFCCC system by selling their Certified Emission Reduction units to developed states in need of such units in order to meet their emission reduction commitments under the Kyoto Protocol.

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