

**CARIBBEAN COMMUNITY CLIMATE CHANGE CENTRE
CARIBBEAN CARBON NEUTRAL TOURISM PROGRAM**

**Assessment of Financing
Mechanisms for Low Carbon
Development in the Tourism Sector**

June 2012



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EXECUTIVE SUMMARY

1. INTRODUCTION

This paper provides the summary results for the Caribbean Carbon Neutral Tourism Program (CCNTP) Component 2, Development of Financial Mechanisms to establish Carbon Neutrality of the Tourism Sector in the Caribbean in Participating Caribbean Countries (ATN/MC-11591-RG). The CCNTP is funded by the **Inter-American Development Bank**. The report builds on a series of country visits and analysis organized into three main areas of inquiry, which map directly into Tasks VI, VII and VIII for Component 2:

1. **Trends in Climate Financing: Survey of Operating Funds**
2. **Applicability of Financing Options to the Caribbean Tourism Sector**
3. **Financing Low Carbon Opportunities in the Tourism Sector – Governance Issues**

Based on the analysis, potential pilot projects are recommended that could be used as a basis to scale-up climate finance targeted at low carbon investment in the Caribbean.

2. TRENDS IN CLIMATE FINANCING: SURVEY OF OPERATING FUNDS

We surveyed 111 funds with a capitalization of US\$ 36 billion to identify trends in climate finance that can inform the design of climate finance mechanisms to increase low carbon investment in the Caribbean. Funds reviewed were categorized under three major sources:

- **International Financing**, consisting of foreign direct investment and or bilateral and multilateral development assistance. International financing plays a key role in providing climate finance, accounting for 57% of the total funds and contributing around 61% of the total value (USD \$20.8 billion) in the funds we reviewed.
- **Domestic Financing**, consisting of internally generated sources of funding, including private sector and public sector financing. Domestic funds provide 18% of the total funds and contribute around 30% of the total value (USD \$10.4 billion).
- **Hybrid Financing**, which is a combination of domestic and international financing. Hybrid funds provide 24% of the total funds and contribute around 9% of the total value (USD \$3 billion).



We observe that a broad range of financial instruments have been used to establish public sector support for climate investments in the funds we reviewed:

- Most climate financing mechanisms, USD \$23.2 Billion (68%) out of USD \$34 Billion, are classified as a co-financing and/or loan investment, or more generally an investment that includes an ownership interest.
- Approximately USD \$7.5 Billion (22%), is provided in the form of grants.
- Carbon financing, policy incentives, and voluntary contributions play only a small role in the distribution of climate finance.

In the 111 funds surveyed, a large majority of climate finance, USD \$24 billion (70%), is used for mitigation and general investment measures; the remainder of carbon finance, USD \$10 Billion (30%), goes to adaptation, conservation and capacity efforts. While there is a range of purposes for the funds, in terms of value, mitigation and general investments attract USD \$12.7 Billion (38%), and USD \$10.9 Billion (32%) each. Adaptation receives USD \$8.5 Billion (25%),¹ conservation receives USD \$1.2 Billion (4%), and capacity-building receives USD \$0.24 Billion (1%). Of the mitigation projects, the majority prioritized energy efficiency and renewable energy. Of the general investment projects, a very large majority (USD \$11.2 Billion out of USD \$11.4 Billion) prioritize financing other sustainable solutions.

To address the tourism sector more specifically, the team identified tourism funds within the database. From our work, we observed that:

- 26% of the total funds that included tourism as an initiative, only contributed around 3% of the total value (USD \$1.2 billion).
- Although the number of tourism funds is relatively equal in terms of hybrid, international, and domestic sources of funding, the main contribution of value is composed of hybrid sources consisting of around 79% or USD \$924 Million.
- A large majority of funds that include tourism as an initiative, USD \$1.12 Billion of USD \$1.15 Billion (97%), are used for conservation and mitigation measures; the remainder, USD \$31 Million (3%), are directed towards general investments.
- The main mitigation activities within the tourism funds are energy efficiency, renewable energy, carbon offsetting, and sustainable destination planning and management.

¹ While this number seems large, it is off of a base that does not include private sector financing and so is different from studies that include private market based finance (such as this: <http://climatepolicyinitiative.org/wp-content/uploads/2011/12/Climate-Finance-Executive-Summary.pdf>).



A broad range of financial instruments have been pursued in order to establish public sector support for climate investment. Key lessons and experiences (case studies) learned include:

- **No financing instruments achieve all program goals.** Each financing instrument has limitations, and a singular focus on these likely prevents programs from optimizing on all goals.²
- **Blending is beneficial; especially when finance is scarce.** The goals and uses of each financing instrument differ slightly, but the resources from each can be combined or “blended” into the same project or program to complement one another, reduce transaction costs, and increase their reach and impact.
- **Effective blending requires sophisticated institutional and technical capacity.** The ability to blend resources from climate change financing instruments requires a good understanding of both the challenges in the target markets and the relative strengths of each instrument.
- **Policy Coordination Mechanisms is key to simplifying procedural complexity.** The different governance structures of each source of climate financing dictate that procedures and documentation requirements for these instruments will differ.
- **Dialogue between the banking community and practitioners is critical.** Establishing and maintaining practical, operationally focused dialogue between the banking community and tourism practitioners bridges the gap in understanding between practitioners and financing agents.
- **High-Quality and concentrated time from program management is essential for new institutional mechanisms to be nurtured along to success.** Financing operations are relatively costly and time-consuming to develop and implement and result in high labor intensity for program management, operation, and technical support.
- **Use Specialized Tools to Fill Financing Gaps.** A common approach to expand loan financing for project investments is to use existing or new specialized institutions or funds, developed specifically for such purposes.
- **Experience with local vendors and/or banks.** Where initiatives have been most successful, they have been built following careful, in country diagnostic work, with parallel attention to both financial intermediation and technical support requirements.

3. APPLICABILITY OF FINANCING OPTIONS TO THE CARIBBEAN TOURISM SECTOR

In this section we identify a simplified approach that links priority mitigation actions to financing options. The multiple step process is intended to provide a road map to identify the

² GHG reductions, energy savings, financial leverage, job creation, market transformation, and others.



types of funding channels that might be needed to deploy low carbon technology in the tourism sector. The specific steps in the framework include:

1. **Priority mitigation actions** for the tourism sector are identified from Component 1 of this project (energy efficiency etc.);
2. **A barriers assessment** identifies common barriers to low carbon technology deployment;
3. **An implementation Road Map** then identifies why low emitting technologies and practices have not been implemented.
4. **Barriers linked to financing options.** A summary overview is then provided that identifies priority financing actions linked to barriers and priority mitigation actions.

The analysis highlights that for any priority mitigation option, there are multiple barriers to deployment that must be addressed. Not all barriers can be addressed with the same financing channel (or instrument), and as such there is really a need to think about climate finance as a bundle of financing instruments. Figure ES-3 below provides a summary of the mitigation options, their associated barriers and a general overview of the types of financing that could be utilized. Of course this is a very general overview, but it does point to a need to first develop road maps for implementing priority actions and then to look to barriers that can be addressed with climate finance.

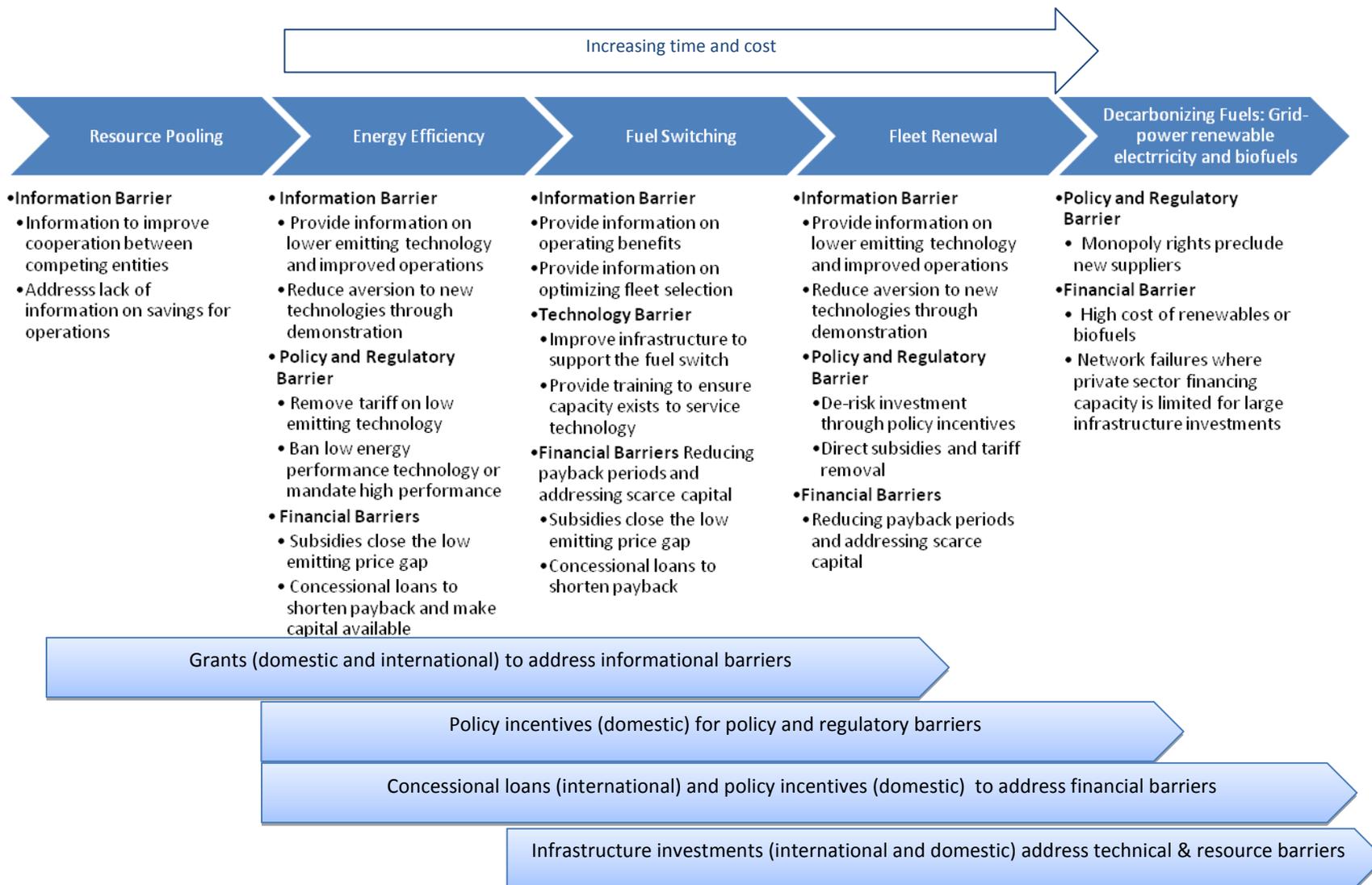
4. FINANCING LOW CARBON OPPORTUNITIES IN THE TOURISM SECTOR – GOVERNANCE ISSUES

This section documents the governance issues and related mechanisms associated with climate finance, generally, and looks in depth at four examples that the authors feel are relevant in the context of the Caribbean, in particular the tourism sector. These examples are drawn from the database and described in detail in the main document. Based on the literature reviews and interviews with a number of financial practitioners in the region, the section provides a preliminary assessment of the capacities of the potential pilot host countries in relation to the governance required to manage funds designed to provide financial support to tourism projects in their countries.





Figure ES-3: Summary of Mitigation Options, Barriers and Financing





From the analysis, a number of general conclusions can be drawn. First and foremost, there are variations on governance choices and fund design in relation to the source of funds and the goals of the initiative – there is no “one size fits all” approach to governance. That said, for the funds we examined in detail, the following observations can be made:

- In cases where funds are generated internally (e.g. the Trinidad and Tobago Green Fund and the Alberta Climate Change and Emissions Management Fund), Ministers are accountable for the operations of the fund. That said, in one case (Trinidad and Tobago) the choice was made to have the day to day operations handled within the Ministry, in the other case (Alberta), an arm’s length arrangement was made with a not for profit company to manage the Fund.
- For mechanisms designed to foster project activity in the private sector, governance choices and management procedures are more in line with those that are used in the private sector. The Energy Smart Fund of Barbados is a good example of this type of structure in that the investment decisions are the responsibility of a private sector fund manager.
- For mechanisms that are governed by a loan agreement with an outside agency such as a multilateral development bank, the day to day operations are assigned to an Executing Agency. In such cases (e.g. both Barbados and Belize), the responsibilities are split between the responsible ministry and a non-government agency with the government ministry’s responsibility limited to general oversight and ensuring diligent reporting.
- Financial auditing is virtually always done by independent certified accounting firms on a yearly basis. Financial records need to be kept in a manner that meets internationally accepted standards.
- Investment decisions for funds/mechanisms in which there is competition among project proponents are most often left to the Executing Agency with advice from experts. In some cases these experts are recruited and are part of the staff / management of the Executing Agency (e.g. Belize Sustainable Tourism Program) while in other cases independent experts are contracted based on their experience and skillset in relation to the project types and technologies being evaluated (e.g. Alberta).



- The choice of how much information to release to the public reflects a balance between the public's right to know and the protection of project proponents' interests. The more competitive the environment is in the private sector, the higher the pressure is to not disclose information on a project by project basis.

5. POTENTIAL PILOT PROJECTS

Based in part on the prioritization work contained in Component 1 of this project, the capacity gaps identified in this report, and suggestions made to our team during the country visits, the following is a brief list of potential pilots for consideration that was considered by participants at a workshop held in Tobago April 23-25, 2012.

Potential pilot projects for consideration that emerged from the analysis and the workshop include:

- Resource Pooling in Transportation – pilot project in the marine tours sector of either Tobago, Belize or Bahamas.
- Energy Efficiency in Hotels – Expand existing scope of Energy Smart Fund so hotels could include infrastructure replacement (doors, windows, etc.) with the view to reduce air conditioning costs.
- Adaptation actions designed to improve climate resilience at one of the marine parks in Belize.
- Removal of Barriers: CARICOM wide pilot on the development and use of standards for energy efficiency and energy management systems in the tourism sector.
- Capacity-building on the development of low carbon strategies and the removal of barriers in the tourism sector.
- Accelerate changeover of tourism transportation fleet to hybrid vehicles – A subsidy fund to offset additional costs of changeover to hybrid vehicles.

During the course of discussion at the workshop, a number of additional ideas for pilot projects were put forward, including:

- Expand the CHENACT program to more countries across the region (It is our understanding that the establishment of an Energy Smart Fund for Bahamas, similar in structure to the Energy Smart Fund in Barbados, will be undertaken in the second phase of CHENACT).



- Use of deep water cooling in hotels in the Bahamas.
- Capacity-building at the operator level (hoteliers, tour operators, bus/taxi operators etc.).
- Engine upgrades for water-taxis in Guyana.
- Establishment of a low-emissions bus shuttle service for the tourism operators along the Placencia Peninsula in Belize.
- Improvement of recycling efforts to reduce the GHGs associated with waste disposal.

Workshop attendees were requested to submit additional details on pilot project ideas to the Caribbean Community Climate Change Centre to allow for follow-up during the implementation of Component 3 of the CCNTP scheduled for later in 2012.

6. CONCLUSIONS ON FINANCING AND NEXT STEPS

Component 2 of the CCNTP has looked at climate financing from the top down, resulting in the creation of a database of existing financing mechanisms to address low carbon development. It has examined who is providing the financing, the modes by which financing is being delivered, and what the financing is being used to support. In addition, barriers that may hamper attracting investment have been discussed along with governance considerations applicable to climate finance in particular. From this analysis, a number of conclusions relative to the Caribbean tourism sector and climate financing are possible:

- The primary sources of climate financing available for the Caribbean tourism sector as a whole to implement low carbon development activities are from international investors or a hybrid combination of national/international sources.
- The majority of climate financing is currently focused on funding initiatives related to mitigation of the causes of climate change but momentum is building for more finance to flow towards adaptation-related activities.
- The main mitigation activities financed by the tourism funds are energy efficiency, renewable energy, carbon offsetting, and sustainable destination planning and management.
- Tourism operators tend not to see climate change/carbon neutrality as the primary motivator for making investments, even though it is recognized that there are visitation benefits associated with low carbon operations – rather investments are made on the basis of achieving reductions in energy costs.



- A number of barriers exists in the region related to the mobilization of climate financing for the tourism sector, primarily a lack of capital to finance low carbon investments, but also technical knowledge related to appropriate technologies, operation and maintenance.
- Within the region, the barriers to mobilizing climate financing for investment in carbon neutral tourism vary from country to country, indicating an approach to climate finance that is flexible and scalable.

A logical next step towards carbon neutral tourism in the region would be the development of low carbon and resilient development strategies (LCRDS) for tourism in each country so as to frame the initiatives required to move towards carbon neutrality. These LCRDSs can draw on the results of both Components 1 and 2 of the CCNTP and can be linked to broader national and regional LCRDSs that provide a platform for each country to attract funding, and allows for the package of projects to be compiled in a transparent and concise package that considers local context and also aligns with international and domestic funding priorities.

With LCRDS established, investment priorities then need to be packaged as Nationally Appropriate Mitigation Actions (NAMAs) that signal to the international community a country's intent to prioritize national action that both delivers GHG reductions, but also contributes to sustainable development. Countries can then approach sources of international climate finance with a readymade NAMAs "shopping list" of priority investment. Funders will increasingly be interested in linking climate finance to country-driven priority NAMAs.

In this regard, Component 3 of the CCNTP, if implemented as planned, will develop a strategic framework for accessing available climate change financing as well as a business plan for the tourism sector to follow in attracting funding for a path towards carbon neutrality. Low carbon and resilient development strategies for the tourism sector that identify priority NAMAs should be an integral part of this framework.



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1 INTRODUCTION AND PURPOSE OF COMPONENT 2

This Paper provides the results for Caribbean Carbon Neutral Tourism Program (CCNTP) Component 2, Development of Financial Mechanisms to establish Carbon Neutrality of the Tourism Sector in the Caribbean in Participating Caribbean Countries (ATN/MC-11591-RG). The report builds on a series of country visits and analysis organized into three main areas of inquiry, which map directly into Tasks VI, VII and VII for Component 2:

- 1. Trends in Climate Financing: Survey of Operating Funds.** In this task we survey the literature and provide a summary that highlights:
 - Climate financing schemes related to voluntary and compliance carbon markets;
 - Conservation and carbon financing mechanisms that have been implemented by the tourism industry in other parts of the world; and,
 - Other conservation/environmental self-financing schemes that have been established and administered by agencies.
- 2. Applicability of Financing Options to the Caribbean Tourism Sector.** This section provides a simplified overview of how to link priority investments to types or channels of climate finance. An approach is provided that links mitigation actions to barriers, investment priorities and climate financing options. This includes a summary of the implications of the different options based on priority mitigation options identified in Component 1 of this project. In this section we provide a short list of promising financing mechanisms that could be implemented in the region.
- 3. Financing Low Carbon Opportunities in the Tourism Sector – Governance Issues.** This section summarizes common and successful governance structures; delivers an assessment of the financing mechanisms to be hosted locally, and provides a determination of gaps that may need to be filled if the mechanisms are to be implemented locally. Four funds are assessed fusing a variety of criteria.
- 4. Pilot Projects.** A number of potential pilot projects are identified that have promise in the region.

Where appropriate, this report builds off Component I, completed by Dillon Consulting Limited. Specifically, the priority mitigation actions identified in Chapter 5 of the report form the basis of



the types of financing channels that are recommended in this report. The recommendations presented also have relevance to the yet to be implemented Component 3 of CCTNP, which focuses on climate resilience and the development of financing proposals for pilot projects in the four participating countries.



2. TRENDS IN CLIMATE FINANCING: SURVEY OF OPERATING FUNDS

This section of the report satisfies the following deliverable:

- **Task VII Deliverable I: Review of Programs already in existence.** A report that summarizes the strengths, weaknesses and lessons learned of programs for carbon financing schemes related to voluntary and compliance carbon markets; conservation and carbon financing mechanisms that have been implemented by the tourism industry in other parts of the world; and, other operating self-financing conservation and environmental schemes.

The section first identifies the approach followed, presents the results from the database of operating funds developed and then identifies main learning. A focus is placed on tourism funds in the later part of the section.

2.1 Approach to Identifying Trends in Climate Financing

Our approach to identifying trends in Climate Finance was straight forward:

1. **Literature review of 111 funds with a capitalization of US\$ 36 billion.** The project team conducted a thorough literature review of climate finance funds already in operation worldwide. As per the terms of reference, the review initially was organized under three “Blocks”:
 - Climate financing schemes related to voluntary and compliance carbon markets;
 - Conservation and carbon financing mechanisms that have been implemented by the tourism industry in other parts of the world.
 - Other conservation/environmental self-financing schemes that have been established and administered by international multilateral agencies.
2. **Development of a searchable online database.** With 111 operating funds valued at \$36 billion, there is considerable information from which to identify important trends in climate financing. The database is provided under separate cover, in a searchable format (MS Excel).
3. **Conduct in-country interview.** With the climate fund review in hand, the project team then conducted a series of in-country consultations with key stakeholders to gather information



and communicate preliminary findings. Consultations helped validate the trends we observed from the literature review and added a series of important insights on fund operations and governance structures.

As agreed in the Inception Mission Report, we did not conduct in-country tourism attitude surveys but instead used existing information to determine trends in visitor attitudes towards increased fees for moving tourism facilities towards low carbon operations.

Using the database we sought to identify trends in carbon financing, and where lessons could be drawn to inform carbon financing in the tourism sector. The database classified 111 funds on a number of parameters. To begin with, the categorization focused on three main points:

1. **Source of financing.** From where was the climate financing coming?
 - a. International
 - b. Domestic
 - c. Hybrid of the two

2. **Instruments.** What financial instruments/mechanisms were used to channel the financing?
 - a. Policy Incentives (Taxes, Fees, Levies)
 - b. Carbon market revenues
 - c. Concessional/Co-financing
 - d. Grants
 - e. Voluntary/Philanthropy

3. **Purpose of the Fund.** What type of initiative did the fund target?
 - a. Conservation
 - b. Mitigation
 - c. Adaptation
 - d. General Investment
 - e. Capacity-Building

In order to provide information more specific to the project, the funds were further categorized into two sub-elements:



4. **Funds focused on Tourism.** Was tourism an initiative of the fund?
 - a. Yes
 - b. No
5. **If yes.** How were the tourism funds classified in terms of:
 - a. Sources of financing (International, Domestic, Hybrid)
 - b. Instruments (Policy, Carbon Market, Co-Financing/Loans, Grants, Voluntary)
 - c. Purpose of the Fund (Conservation, Mitigation, Adaptation, General Investment, Capacity-Building)

Lastly, within the tourism funds that were dedicated to mitigation, the project team identified the funds that were directly oriented towards transitioning the tourism sector to low carbon opportunities.

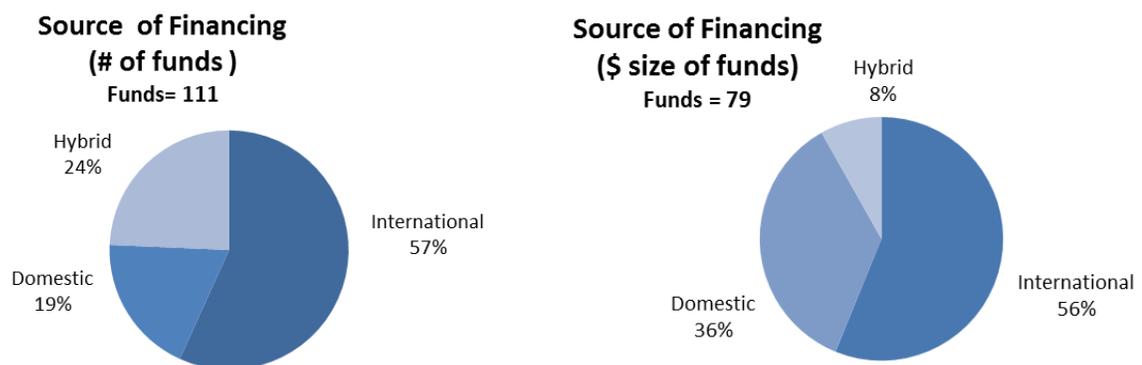
2.2 Sources of Financing: Origins of the Finance

Our team first categorized the funds under three major sources:

- **International Financing.** Consisting of foreign direct investment and or bilateral and multilateral development assistance;
- **Domestic Financing.** Consisting of internally generated sources of funding, including private sector and public sector financing; and or
- **Hybrid Financing.** A combination of domestic and international financing.

From the database, the main findings on the sources of funding are discussed below and presented in Figure 1.

Figure 1: Studies broken down by “Sources of Financing – In quantity and value”





International financing plays a key role in providing climate finance, accounting for 57% of the total funds and contributing around 61% of the total value (USD \$20.8 billion). Most climate finance is provided through bilateral (those sponsored by one nation) and multilateral financial institutions (such as the World Bank, IFC, EIB, AfDB, IDB, etc.). The relatively large role of international finance is a direct result of the developed countries having pledged significant new and additional financial resources to support climate-related activities in developing countries. From a purely practical point of view, the use of international financial institutions to distribute the funds can be linked to a number of challenges: many developing countries have less developed financial markets; lack sufficient liquidity for financing medium and long-term projects; have highly risk adverse financial institutions that have less experience with project finance structures; and have greater country market risk due to less stable macroeconomic conditions.

Domestic funds provide 18% of the total funds and contribute around 30% of the total value (USD \$10.4 billion). Most domestic financing is distributed by government agencies or privately run companies. The countries that are able to mobilise domestic resources often have maturing financial and capital markets with available liquidity, reasonable costs of borrowing, available medium and long-term financing, and reasonably stable macroeconomic environments.

Hybrid funds provide 24% of the total funds and contribute around 9% of the total value (USD \$3 billion). Hybrid financing is comprised of domestic and international financing. Most hybrid financing can be classified as carbon offset flows.

2.3 Channels of Financing: How the Finance is delivered

A broad range of financial instruments have been used to establish public sector support for climate investments. Each vary in their structure and focus; however, all broadly seek to provide support for public sector investment in low carbon development. For the purpose of this project, our team has categorized these instruments to include:

- **Policy Incentives.** Includes resources directed at regulatory reform and fiscal mechanisms, such as tax incentives, levies, and or fees, and feed-in tariffs;
- **Carbon Market Financing.** Seeks to create financial products that can convert carbon-linked cash flows into equity and debt-funding. These also include proposals that guarantee carbon sales contracts to address the concern that carbon revenues will not contribute to the initial capital funding of low-carbon projects. Lastly, carbon financing



refers to individuals, governments, companies, or countries that purchase carbon offsets to mitigate their own greenhouse gas emissions.

- **Co-financing & Loans.** Provide debt capital at concessional and or market interest rates. Examples include credit lines, project financing loans, co-financing agreements, structured financing, etc.
- **Grants.** Transfers in cash and or loans in which no legal debt is incurred by the recipient until projects demonstrate financial viability.
- **Voluntary** philanthropic contributions or donations to climate change-related interventions.

Below we provide an overview of our main findings.

Most climate financing mechanisms, USD \$23.2 Billion (68%) out of USD \$34 Billion, can be classified as a co-financing and or loan investment, or more generally an investment that includes an ownership interest. Loan investments are generally comprised of two basic forms; market rate loans and concessional loans. Market loans must be paid back to investors over the investment horizon of the project. Concessional loans, while the principal loan amount needs to be paid back, the interest rate payments are significantly discounted. Public bodies often take on risk-return positions that private investors would not bear in order to provide a discount so as to effectively address the lack of liquidity in order to meet medium to long-term financing requirements of clean energy or other climate projects.

Figure 2: Studies broken down by “Channel of Financing – In quantity and value”

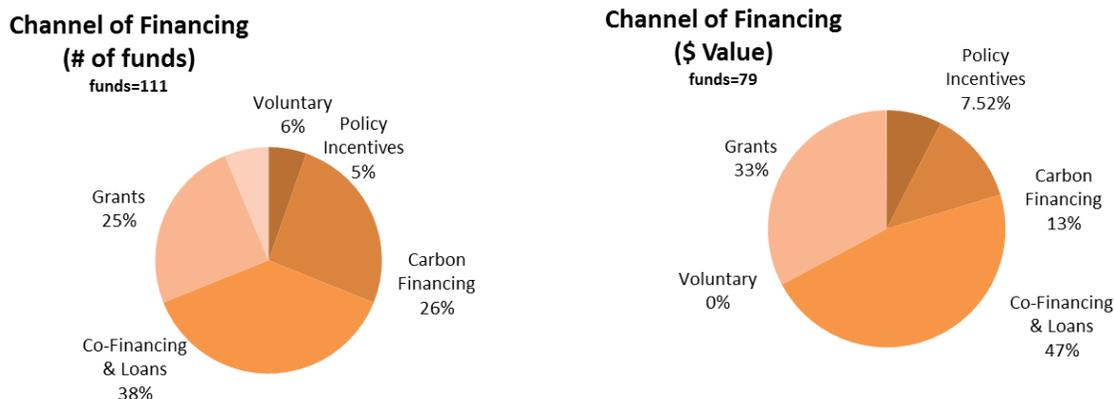




Figure 3: IDB Sustainable Energy and Climate Change Initiative

Objective	Facilitate an expanded application of renewable energy and energy efficiency technologies in Latin America and the Caribbean, to finance and support greenhouse gas emission reduction projects and biofuel development, and to promote and finance adaptation strategies and actions to reduce vulnerability risks presented by climate change in the countries of LAC
Purpose	General Investment: Project Financing
Financing Amount	USD \$40 Million
Source	International – Funded by IDB and International Donors (Spain, Germany, Italy, Finland, United Kingdom, and Japan)
Instrument(s)	Grants (Non Reimbursable): Preparation of projects, and activities that foster investment in infrastructure Loans (To be repaid when the project formalizes): Preparation of projects that do not visualize IADB financing, and financial structuring and ranking the project proposals.
Project Example	TECIS (Technology and Advanced Systems – USD \$72,000): SECCI financed a market study on the global wind power sector, industry trends, and the company’s competitiveness in the sector. It also financed an evaluation of the environmental and social impacts associated with the company’s current operations and facilities. Furthermore the IDB provided a US\$ 120 million loan to TECSIS.

Approximately USD \$7.5 Billion (22%), is provided in the form of grants. Various forms of grant instruments can be used to address the funding gaps projects may experience. Within the database, two basic forms of grant instruments were most prevalent: contingent grants, and grants for technical assistance. Contingent grants (all or part) can be thought of as loans and must be repaid if the project succeeds or reaches a revenue generating stage. On the other hand if the project fails to proceed to implementation then the funding becomes a grant and does not have to be repaid. By covering some of the costs during the high risk development stages, it decreases the investors’ risk. On the other hand, grants for technical assistance remove barriers other than financial barriers. They assist programs to support clean energy finance by providing marketing support, staff training, technical standards, etc. By building the



capacities of the actors, technical assistance programs help build the creditworthiness of projects.

Carbon financing, policy incentives, and voluntary contributions play only a small role in the distribution of climate finance. The remainder of climate finance, USD \$7.6 Billion (11%), is comprised of policy, voluntary, and carbon financing instruments. Approximately USD \$3.4 billion is provided in the form of carbon financing, USD \$36 Million in voluntary contributions, and USD \$20 Million in policy incentive instruments. Unfortunately, short-term, compliance-driven buying interests in the current market rarely support large, cleaner investments in energy. The lack of regulatory framework under the Kyoto Protocol, and the high transaction costs has created a limited demand for carbon assets. Similarly, the establishment of fees has been slow to adapt due to concern about the negative aspects of charging fees.

Mobilizing public finance is essential, but not sufficient to implement clean energy or other low-carbon projects. We observe that an evolving mix of support and financial instruments is helping low carbon technologies progress. The main role of financial instruments is to address financing gaps primarily related to mitigating investment risks, or increasing returns at a sufficient scale to mobilize and leverage commercial investment in low-carbon technology. Leveraging private sector finance with public sector funding is a key element of success.

2.4 Purpose of the Fund: The Objective of the Financing

This category refers to the recipients, countries and/or organizations, and end uses of climate finance flows. The types of funds within the database were mainly comprised of five distinct – but often overlapping – components:

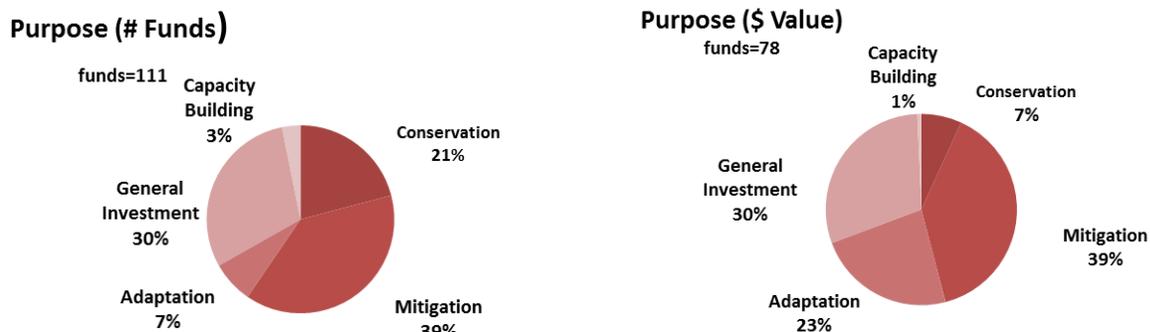
1. **Conservation.** Primarily related to long-term conservation management.
2. **Mitigation actions.** Include such investments as offset purchases, energy efficiency, renewable energy, green procurement and changing industrial processes (technology upgrades and fuel switching).
3. **Adaptation,** Investments which support adaptation activities that reduce the adverse effects of climate change facing communities, countries, and sectors by maintaining or increasing adaptive capacity and resilience.
4. **General investment.** Investment in neither adaptation nor mitigation; can include research and development, sustainable institutional policies, and project financing sustainable solutions.
5. **Capacity-building.** Investments that focus on strengthening the skills, competencies and abilities of people and communities so they can overcome the causes of climate change.



Below we provide an overview of our main findings.

A large majority of climate finance, USD \$24 billion (70%), is used for mitigation and general investment measures; the remainder of carbon finance, USD \$10 Billion (30%), goes to adaptation, conservation and capacity efforts. While there is a range of purposes for the funds, in terms of value, mitigation and general investments attract USD \$12.7 Billion (38%), and USD \$10.9 Billion (32%) each. Adaptation receives USD \$8.5 Billion (25%),³ conservation receives USD \$1.2 Billion (4%), and capacity-building receives USD \$0.24 Billion (1%). The large share of mitigation and general investment finance is most likely the result of significant capital investments aimed at technology deployment and energy infrastructure development. Many mitigation and general investing efforts are part of the business-as-usual economic activity and therefore have stronger rationales beyond climate change. For example, renewable energy can be justified based on energy security, savings achieved, political concerns, etc. Therefore, those activities tend to have more private sector participation than adaptation, conservation, and capacity-building activities.

Figure 4: Studies broken down by Purpose of Financing



Of the mitigation projects, the majority prioritized energy efficiency and renewable energy. While energy efficiency and renewable energy made up only 25% of the number of programs, they accounted for over 69% (USD \$8.7 Billion) of the value. In contrast, offsets supply and purchases made up over 60% of the number of programs, and accounted for only 29% (USD \$4 Billion) of the value. The remainder consisted of increasing the efficiency of process equipment, 2%, USD \$0.25 Billion. The contrast of value between energy efficiency and offsets is likely due

³ While this number seems large, it is off of a base that does not include private sector financing and so is different from studies that include private market based finance (such as this: <http://climatepolicyinitiative.org/wp-content/uploads/2011/12/Climate-Finance-Executive-Summary.pdf>).



to the risk and complex nature of the offset market. Inconsistencies in regulation and data, a lack of agreed upon definitions for what constitutes a credible offset, and limited coordination between countries makes it extremely difficult for investors and purchasers to participate in the carbon market.⁴ On the other hand, there is a substantial body of experience with the use of energy efficiency and renewable energy technologies in a wide variety of developed and developing countries. As a result, the overall investment in renewable energy and energy efficient has increased dramatically in recent years; up more than five times globally and fourteen times in developing countries between 2004 and 2007.⁵

Table 1: Approximate volume and value of mitigation programs

Mitigation Projects	Number of Programs	Value of Programs (USD Billion)
EE & RE	12 (29%)	\$8.7 (69%)
Land-Use Offset Supply	10 (26%)	\$1.9 (15%)
Offset Purchases	14 (25%)	\$1.8 (14%)
Process Equipment	3 (8%)	\$.25 (2%)
Green Procurement	1 (2%)	\$0 (0%)
Total	39 (100%)	\$12.7 (100%)

⁴ While the flows to the carbon market are relatively small at present in comparison with other mitigation activities, finance is expected to rise rapidly in the coming years with the development of various REDD+ mechanisms inside and outside the UNFCCC process.

⁵ UNEP, New Energy Finance, 2008



Figure 5: Mitigation: Offset Purchases – Costa Rica Plans for Going Carbon Neutral

Objective	The Costa Rican government is developing plans to begin offsetting all of the country’s carbon dioxide emissions. Costa Rica aims to reach this goal using budgeting, laws, and incentives, including measures to promote biofuels, hybrid vehicles, and clean energy. Another key component of the national strategy will be a “C-Neutral” label to certify that tourism and certain industrial practices mitigate all of the carbon dioxide they emit. To augment the development of C-Neutral, the country is cultivating a carbon certificate market that aims to not only boost carbon capture and storage in the nation’s forests, but also help maintain their scenic beauty.
Purpose	Mitigation: Offset Purchases
Financing: Amount	Not Specified; presumably the fees that are collected plus a government budget
Source	Domestic: Money will be used to fund conservation, reforestation, and research in Costa Rica
Instrument	Policy: Under the new certification system, tourists and businesses will be charged a voluntary “tax” to offset their carbon emissions, with one ton of carbon valued at \$10.

Of the general investment projects, a very large majority (USD \$11.2 Billion out of USD \$11.4 Billion) prioritize financing other sustainable solutions. The large share of general investment finance is the result of a significant number of capital investments going towards supporting and assisting sustainable businesses. A broad range of financing is generally available for businesses seeking sustainable solutions support.

Table 2: Approximate volume and value of General Investment programs

General Investment Projects	Number of Programs	Value of Programs (\$ USD Billion)
Research & Development	0.5 (1%)	\$0.003 (.5%)
Sustainable Institutional Policies	4.5 (13%)	\$0.2 (2%)
Project Financing Sustainable Solutions	30 (86%)	\$11.1 (98%)
Total	35 (100%)	\$11.4 (100%)



2.5 Funds with a Focus on Tourism

To address the tourism sector more specifically, the team divided the funds within the database into funds that included tourism as an initiative and those that did not include tourism as an initiative. Those funds that were classified as tourism funds were then further categorized in terms of: source of financing (International, Domestic, Hybrid), financial instrument (Policy, Carbon Market, Co-Financing/Loans, Grants, Voluntary), and purpose of the fund (conservation, adaptation, mitigation, general investment, or capacity-building).

Below we provide an overview of our main findings regarding the number and value of funds focused on tourism, the sources of financing for the tourism funds, the financial instruments which are used within the tourism funds, and the purpose of the tourism funds.

Figure 6: General Investment: Project Financing – MDB Clean Technology Fund (CTF)

Objective	The key features of the CTF are to: 1) Utilize MDB capabilities to leverage private and public resources for low carbon investments; and 2) Promote environmental and development co-benefits to demonstrate how low carbon technologies can contribute to national development goals and strategies.
Purpose	General Investment: Project Financing Sustainable Solutions
Financing: Amount	USD \$ 4.5 Billion
Source	International: Various Governments and Donors (Australia, France, Germany, Japan, Spain, Sweden, United Kingdom, United States) USD \$ 4.5 Billion
Instruments	Tax: Under the new certification system, tourists and businesses will be charged a voluntary “tax” to offset their carbon emissions, with one ton of carbon valued at \$10. The money will be used to fund conservation, reforestation, and research in protected areas. The money will also contribute to the carbon neutrality goal. Carbon Market: To augment the development of C-Neutral, the country is cultivating a carbon certificate market that aims to not only boost carbon capture and storage in the nation’s forests, but also help maintain their scenic beauty. This strategy will be enhanced with access to international carbon markets (both voluntary and official) whilst it develops a voluntary national carbon market, which will in itself contribute to the carbon neutrality goal.
Project Examples	CTF is expected to support 15-20 country/regional investment plans that meet the criteria of significant GHG emissions savings, demonstration potential at scale, development impact and implementation readiness.



2.5.1 Number and Value of Funds with a Focus on Tourism

26% of the total funds included tourism as an initiative, however only contributed around 3% of the total value (USD \$1.2 billion). Overall, there was limited comprehensive data available on the amount of funding provided in support of tourism funds. However, of the 14 of 28 funds which did report the amount of financing, the total funding amounted to \$1.15 billion.

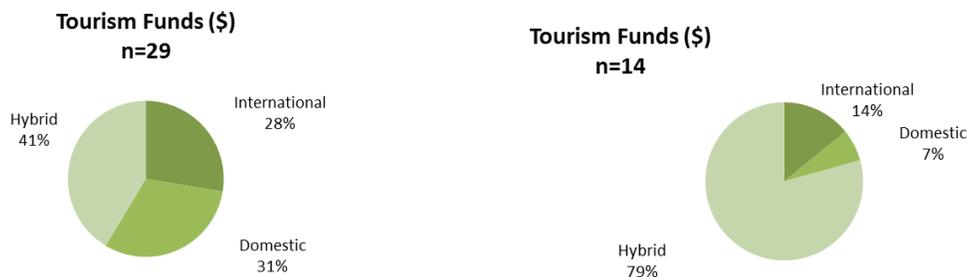
Figure 7: Studies broken down by “Tourism Funds - In quantity and value”



2.6 Sources of Financing: Where the Finance Comes from

Although the number of tourism funds is relatively equal among hybrid, international, and domestic sources, the main contribution of value is composed of hybrid sources; consisting of around 79% or USD \$924 Million. Majority of the tourism funds finance their initiatives by setting up an offset fund which can offer customers a way to compensate their holiday pollution, can enable the program or organization to reinvest in variety of local tourism initiatives, and or can help a program or organization to neutralize one’s own carbon footprint. Further, there is a widespread belief that tourists are increasingly being selective about their choice of tourism product and, more particularly, that operators’ environmental credentials are a high significant choice criterion.

Figure 8: Studies broken down by “Sources - In quantity and value”





2.6.1 Purpose of the Fund: The Objective of the Financing

A large majority of funds that include tourism as an initiative, USD \$1.12 Billion of USD \$1.15 Billion (97%), are used for conservation and mitigation measures; the remainder, USD \$31 Million (3%), are directed towards general investments. The large share of conservation (USD \$658 Million) and mitigation (USD 462 Million) projects is not surprising given the varied impacts climate change has already had on destinations around the world, and given the growing interest in “green” and pro-developed holiday options.⁶ Mitigation and conservation measures can increase the adaptive capacity of the tourism industry, while reducing its contribution to climate change through emissions of greenhouse gases. Further, these measures are often cost-effective, and they can positively influence the role of tourism. Therefore, it seems necessary and desirable for a great range of stakeholders within the tourism sector to engage in actions predominantly addressing mitigation and conservation.

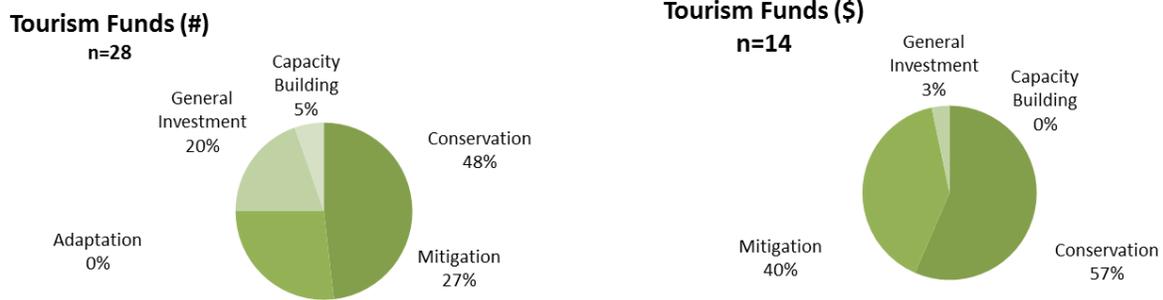
The main mitigation activities within the tourism funds involved improving energy efficiency, increasing the use of renewable energy, carbon offsetting strategies, and sustainable destination planning and management. Recognizing that tourists have an important role in creating business interests in sustainable tourism products, the sector has become increasingly proactive in addressing climate change via mitigation. The projects ranged from low-cost initiatives such as energy-efficient lighting, to measures requiring greater effort and investment, such as purchasing more fuel-efficient vehicles or restructuring energy systems. Further, a few mitigation activities involved becoming entirely carbon neutral by offsetting all emissions associated with a particular business, and in some cases countries as a whole; a strategy that a number of countries are exploring.

The main conservation activities within the tourism funds involved financing creation, expansion, and long-term conservation management. In order to contribute towards the protection, conservation, and management of some of the most popular tourism destinations’ funds often focus their eligibility component on activities that focus on enacting buffer zones and/or ecological corridors for protected areas, the management of critical ecosystems in the world’s biodiversity hotspots and high biodiversity wilderness areas, as well as the management of important marine and coastal regions.

⁶ See www.responsibletravel.com, www.ticos.co.uk



Figure 9: Studies broken down by “Purpose- In quantity and value”



2.7 Flows in Climate Financing

In addition to the information on financing trends, this paper illustrates a clear picture of *how much* climate finance is flowing, *where* it is flowing from, as well as to *who* and what *types of projects* it is flowing to.

Figure 10 illustrates the current finance flows within the database as a whole, and then more specifically within the funds dedicated to tourism by first breaking the information down into three main components:

- **Sources.** This category captures where the money is currently coming from. Current sources for climate finance include international, domestic, and hybrid sources.
- **Instruments.** This category identifies the mode by which projects and programs are supported. Instruments used to distribute funds include policy-based incentives, Co-financing and loans, the carbon market, grants and or voluntary contributions.
- **Purpose.** This category refers to the end use of the climate finance flow. Purposes include conservation, adaptation, mitigation, general investment, and capacity-building.

The diagram then links each component to one another and estimates the magnitude between each link. The widths of the arrows in the diagram represent the relative size of the finance flow.



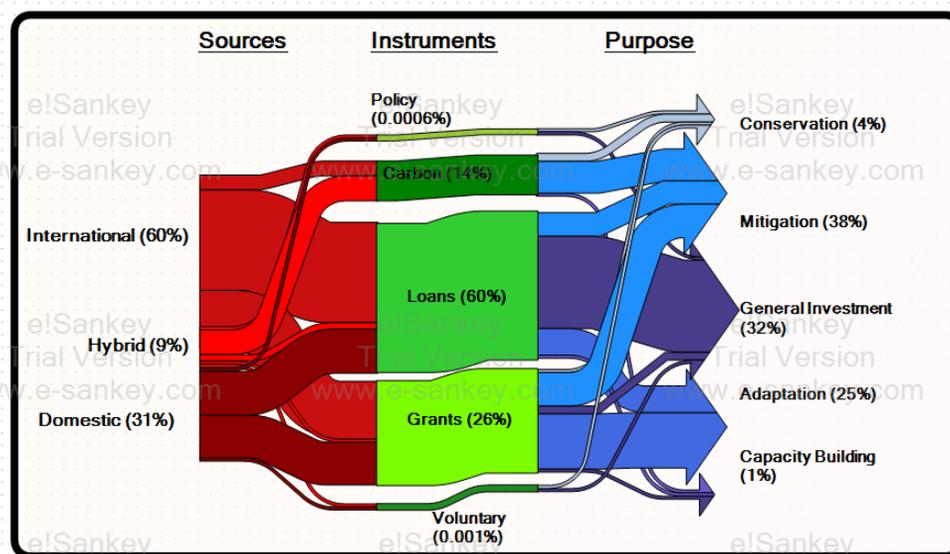
A detailed assessment of the financial flows within the sources shows that:

- Co-financing and loans instruments are predominantly financed through international sources, USD \$12 Billion, which consist of foreign direct investment and or bilateral and multilateral development assistance.
- Grants, voluntary, and policy instruments are financed relatively equally through international and domestic sources;
- Lastly, carbon market instruments are predominantly financed through hybrid sources (USD \$2.98 Billion), with the remainder coming from international sources (USD \$1.76 Billion)

A detailed assessment of the financial flows given the purpose of the funds shows that:

- General investments and capacity-building are predominantly funded through co-financing and loans (USD \$9.9 Billion, USD \$161 Million respectively).
- Conservation is predominately financed through the carbon market (USD \$952 Million).
- Adaptation is predominately financed through grants (USD \$6.3 Billion).
- Mitigation finance is provided by a wider range of sources, with most (USD \$4.56 Billion out of USD \$12.7 Billion) coming from grants, and USD \$3.78 Billion coming from the carbon market. The remainder being financed through co-financing and loans, USD \$1.75 Billion.

Figure 10: Climate Finance Flow Diagram for all Funds





A detailed assessment of the financial flows within the tourism funds sources shows that:

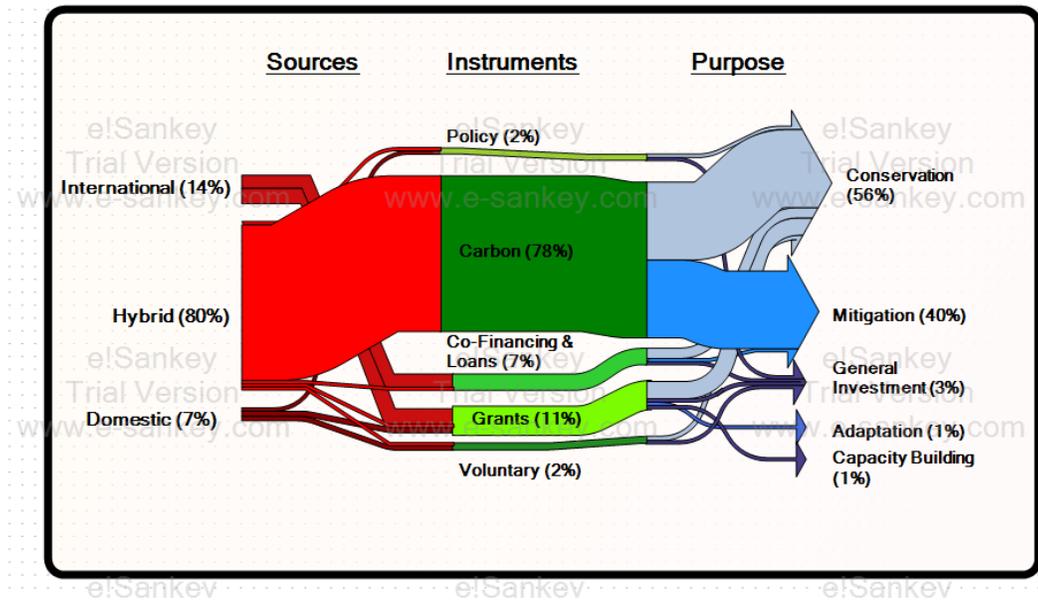
- Carbon instruments are financed entirely through hybrid sources, USD \$924 Billion, which consist mainly of offset purchases (a combination of domestic and international financing).
- Voluntary, and policy instruments are financed relatively equally through hybrid and domestic sources.
- Lastly, co-financing and grant instruments are predominantly financed international sources (USD \$75 Million and USD \$90 Million)

The main observations concerning the tourism funds purpose shows that:

- Conservation and mitigation are predominantly funded through the carbon market (USD \$4.52 million and USD \$4.4 Million).
- The remainder of the conservation funds are financed relatively equally through grants, loans, and voluntary instruments (USD \$100 Million, USD \$60 Million, and USD \$26 Million).
- Adaptation and Capacity-Building are entirely financed through grants (USD \$6.6 Million, and \$6.8 Million).
- Lastly, General Investment is financed relatively equally by a range of sources, with most (USD \$20 Million) coming from grants, and USD \$11 Million coming from co-financing and loans and the remainder being financed relatively equally through policy and voluntary instruments (USD \$163,000, and USD \$327,000).



Figure 11: Climate Finance Flow Diagram specifically within the Tourism Funds



2.8 Overview of Financial Instruments

The following table summarizes the key features found within the database regarding the five financing instruments. The table provides a short description, financial barriers addressed, financial market characteristics, applicable market segments, as well as examples of each instrument.



Instrument	Description	Financial Barriers Addressed	Applicable Market Segment	Examples
Concessional financing & Loans	Debt Facilities provide direct financing to clean energy projects on a project finance basis often at below market interest rates or with a sovereign guarantee	(i) Inability to underwrite loans on a project finance basis (ii) Lack of long-term lending capacity (iii) High Interest Rates or restrictive debt-to-equity ratio	Loans: (i) Large and medium scale RE and EE (ii) Loans for energy access markets Concessional loans (i) Apply more to small-medium projects	Global Environment Fund, IDB's Infrastructure Fund, IDB's Sustainable Energy and Climate Change Initiative, Barbados Smart Energy Fund
Grants	"Loaned" without interest or repayment. Grants can also help stimulate technology development by providing assistance such as: marketing support; development of new financial products; business planning; etc.	(i)Lack of sufficient capital during project development stage (ii)High risk and costly development process (iii) Lack of skills and knowledge among market actors	(i)Large-scale projects with high risk and lengthy project preparation cycle (ii) All segments in the supply or demand side of the market	MDB Pilot Program for Climate Resilience, Special Climate Fund, Forest of Bowland
Carbon Finance	Monetization of future cash flows from the advance sale of CERs that can be used to finance project investment costs or enhance project revenues. Can also be in the form of carbon delivery guarantee to minimize the risk of under-delivery of carbon credits or as a purchase in the offset market to neutralize one's emissions.	(i) Lack of early stage project development capital (ii) Lack of cash flow to provide additional security to project lenders (iii) Uncertainty in the delivery of carbon credits (iv) Lack of regulatory framework and short-term compliance driven buyers (v) Lack of options to reduce CO2 footprint	(i) Large scale and grid connected RE (ii) Medium scale RE and EE (iii) Energy access markets	Prototype Carbon Fund, Nature Air, Leading Green Experiences, Itacare Carbon Free Tourism Certification Program
Policy	Used to provide signals promoting investment in energy efficiency to end use customers. Can include tax incentives, levies, and or fees, and feed-in tariffs.	(i) Removal of perverse incentives (ii) Removal of regulatory barriers (iii) Lack of a price signal	(i)EE and RE improvements in technology and operations (ii) Performance regulations or standards (iii) Long-term projects	Caribbean Biodiversity Fund, Efficiency Incentive Scheme, Itacare Carbon Free Tourism Certificate Program
Voluntary	Involve a formal quantified agreement between a government body and an organization in which states that the organization will carry out specified actions to increase the efficiency of its energy use.	(i)Overall scale of public finance remains insufficient (ii) Lack of evenly distributed financing (iii) Unmet demand is high	Useful in cases where national or regional energy efficiency standards do not exist	Bowland Tourism & Environmental Fund, Low Carbon Enterprise Fund, SeaWorld & Busch Gardens Conservation Fund

Source: Adapted from *Public Finance Mechanisms to Mobilize Investment in Climate Change Mitigation, UNEP SEFI, 2008.*



2.9 Relative Strengths and Weaknesses of Financial Instruments

This section summarizes the strengths and weaknesses of five different financial instruments. The table indicates that the best choice of instrument will differ across environmental areas as well as across country or region-specific circumstances.

Instrument	Strengths	Weaknesses
Concessional Financing & Loans	<ul style="list-style-type: none"> • Sustainable: Loans are repaid and can help overcome capital cost barriers without directly subsidizing projects • Flexible: Loan terms can be adapted to project life and expected performance • Revolving: Principal and interest are returned to fund additional loans • Facilitates loans and improves loan terms for clean energy borrowers 	<ul style="list-style-type: none"> • High Administrative Burden: Requires specialized underwriting and administration resources • Large Capital Requirements: Funds may need to allocate or raise significant financial resources
Grants	<ul style="list-style-type: none"> • Flexibility: Support is tailored to a projects' financial need • Supports soft costs: Grants can be used for technical and feasibility studies • Supports higher risk projects and emerging technologies 	<ul style="list-style-type: none"> • High administrative requirements: Need to solicit and review grant applications, provide technical assistance, and oversee projects • Higher financial risk: Individual grants are greater than other direct incentives
Carbon Finance	<ul style="list-style-type: none"> • Eliminates up-front financing barriers for offset investments • Continuous incentives to innovate • Handled by a free market enterprise • Minimizes the risk of under-delivery of carbon credits 	<ul style="list-style-type: none"> • Requires authorizing legislation and/or regulatory order • Market for carbon is weak at present time and subject to policy uncertainty • Less predictable revenue streams
Policy	<ul style="list-style-type: none"> • Improves Information Availability • High adoption and compliance incentives: "Pay for performance" • High incentives to invest in research and development of new technologies • Tends to equalize pollution abatement costs and can raise revenues • Supports higher cost and emerging technologies • Adaptable: Can be structured to provide differential support 	<ul style="list-style-type: none"> • No up-front capital support: Payments made after project is operating in most cases • Administrative Burden: Ongoing project monitoring required • Concerns of competitiveness and income distribution



Instrument	Strengths	Weaknesses
Voluntary	<ul style="list-style-type: none"> Contribute to information gathering and dissemination on abatement costs and benefits High political adoption incentives Low transaction costs 	<ul style="list-style-type: none"> Uncertainty about outcomes: Effectiveness varies between participants Does not require proof of quality in the same way as the regulated markets

2.10 Overall Observations on Financing Instruments: Case Studies and Lessons Learned

A broad range of financial instruments have been pursued in order to establish public sector support for climate investment. Concerted efforts to explore and share the lessons learned in the use of the different funds and financial instruments will allow both policy-makers and practitioners to apply lessons from these ongoing practices to scale up finance that encourages the transition to low-carbon development. For this reason, the following section summarizes a list of key lessons and experiences (case studies) learned from different institutions across the world in a range of sectors that have accessed and implemented financial funds successfully.

No financing instruments achieve all program goals. Each financing instrument has limitations. These limitations prevent programs from optimizing on all goals.⁷ Policymakers need to recognize these trade-offs. Policy-makers seeking to achieve multiple goals may want to consider seeking a blend of financial instruments.

Blending is beneficial; especially when finance is scarce. The goals and uses of each financing instrument differ slightly, but the resources from each can be combined or “blended” into the same project or program to complement one another, reduce transaction costs, and increase their reach and impact. Furthermore, if carefully designed, projects and programs blending resources from these various funding tools can actually create synergies, wherein the total impact exceeds the face value of the resources contributed. For example, the Indian Solar Loan Program funded by UNEP and two of India’s major banking groups benefitted from lower costs and competition for customer service by blending free market activities and the government interventions. Further, evidence suggests that CTF funds – fund that are largely in the form of concessional loans and help reduce the costs of financing projects – could be blended with conventional bank resources to help reduce a project’s costs and facilitate a clean investment of a larger scale and scope than would otherwise be the case.⁸

⁷ GHG reductions, energy savings, financial leverage, job creation, market transformation, and others.

⁸ World Bank. 2010. “Beyond the Sum of Its Parts: Combining Financial Instruments to Support Low-Carbon Development”



Effective blending requires sophisticated institutional and technical capacity. The ability to blend resources from climate change financing instruments requires a good understanding of both the challenges in the target markets and the relative strengths of each instrument. Not every low-carbon project will require, or be eligible, for support from the sources of related finance. For example, some mitigation projects, such as the adoption of standards, can be undertaken with the use of only technical assistance sponsored by GEF, grants, other sources, or banking finance whereas other activities may need both technical assistance grants and concessional finance. The goal should not be to use all existing sources of climate change financing in every project, but to rather appropriately blend only the resources required to achieve the project's outcome.

Policy Coordination Mechanisms – key to simplifying procedural complexity. The different governance structures of each source of climate financing dictate that pipeline procedures and documentation requirements for these instruments will differ for each instrument. Policy coordinating mechanisms will make them more user-friendly, enhancing not only the effectiveness of each instrument but also the efficiency with which resources from them can be combined. In the case of China's Phase 11 energy conservation and GHG emission reduction project – a project focused on updating Chinese Township and Village Enterprises (TVEs) – a pro-active effort of the project management office (PMO) greatly benefited from strong policy implementation linkages. In particular, the project made good use of PMO and Policy Implementation Committees links to assist the development of policies to prohibit some outdated and energy inefficient technologies in provincial, city, and district authorities.⁹ Through these links the project was able to successfully enhance local enforcement which provided strong and effective project leadership and coordination.

Dialogue between the banking community and practitioners is critical. Establishing and maintaining practical, operationally-focused dialogue between the banking community and practitioners bridges the gap in understanding making it easier for both sides to move towards the implementation of investment programs as well as to start conversations regarding follow-up work. In the case of developing financial intermediation mechanisms for energy efficiency projects in Brazil, the Brazilian National Bank for Economic and Social Development (BNDES) suggested to proceed with implementation of a pilot energy efficiency financing program as a means to engage the banking sector at a practical, operational level with concrete investment projects, however small. The BNDES then developed an initiative called PROESCO which seeks

⁹ <http://www.climatefinanceoptions.org/cfo/node/158>



to eliminate the requirement for collateral.¹⁰ PROESCO was designed in a way that permits rapid implementation in a way that avoids the complication of establishing a standalone guarantee facility, as well as the uncertainties about adequately dimensioning the initial capital and lifetime of the facility. The initiative allowed pilots to be implemented within a fairly short time.

High-Quality and concentrated time from program management is essential for new institutional mechanisms to be nurtured along to success. Financing operations are relatively costly and time-consuming to develop and implement and result in high labor intensity for program management, operation, and technical support. Therefore, the financing instruments need to reflect available financial and administrative resources, the administrative complexity of the instrument, and the skills of fund personnel internal to the program. According to a study focusing on the reasons of success and failure of recent EE programs in developing countries and economies in transition, a specific cause of shortfalls or even failures in many projects was a programs tendency to overlook or under estimate the required continued labor intensity during a programs implementation.

Use Specialized Tools to Fill Financing Gaps. A common approach to expand loan financing for project investments is to use existing or new specialized institutions or funds, developed specifically for such purposes. For instance, a number of countries have created special Development Finance Institutions (DFIs) for financing EE and alternative energy, and a number of other countries have developed special energy efficiency loan funds, as special legal entities governed by boards or foundations representing both the public and private sector. Indian Renewable Energy Development Agency (IREDA_ is one of the largest DFIs specializing in RE and EE in the world and the Romanian Energy Efficient Fund (FREE) and the Bulgarian Energy Efficiency Fund (BgFFF) are two examples of countries who have developed special energy efficiency loan funds.

Experience with local vendors and/or banks. Attempted solutions must fit within prevailing local economic institutional contexts, which vary dramatically. Where initiatives have been most successful, they have been built following careful, in country diagnostic work, with parallel attention to both financial intermediation and technical support requirements and with flexibility to make many adjustments. For major undertakings, this should include the following

¹⁰ PROESCO is a credit line in which, unusually, the BNDES shares up to 80% of the risk, with the intermediary bank assuming the remainder. The program was approved by the BNDES in May 2006 and agreements are now being negotiated with some commercial banks in order to implement it.



reviews of the institutional environment: i) the financial sector; ii) local capacities for the technical assessment work, including project development; iii) the low carbon development market; and iv) the role of the government in the market (including policy regulation, and program development and implementation). In essence, local expertise is essential as they are more likely to understand the on-the-ground implications of institutional frameworks.

2.11 Surveys Related to Climate Financing and Tourism

Low carbon development activities may foster environmental attitudes that lead tourists to change their travel patterns. To help understand how the permeation of green societal values may be harnessed to improve market positioning, this section explores the literature as well as international surveys and questionnaires pertaining to (1) Consumers attitudes towards greening operations within the tourism sector; (2) Consumers' willingness to pay for greener operations; (3) The business impact of Environmental Awareness on Travel.

2.11.1 Consumers Attitudes towards green practices in the travel industry

Tourists can demand a more sustainable tourism system through their choice of destinations, favouring environmentally-friendly means of transport, choosing environmentally-certified hotels, eating in restaurants providing local and/or organic food, etc. This can put considerable pressure on companies to work towards sustainable tourism. In order to better understand how mainstream environmental awareness is coloring consumer behavior and driving change for travel companies the section below investigates consumers' attitudes toward environmentally responsible or green practices in the travel industry; identifies any green practices consumers have undertaken recently while traveling; and explores factors influencing traveler adoption of green practices.

A number of studies have shown that consumers are becoming more interested in sustainable forms of tourism:

- An on-line survey of managers from the Resort Commercial Recreation Association member resorts in 2008 found an overall strong motivational support by respondents, with 93% of responding resort managers in the USA and Caribbean agreeing it is "imperative for the resort industry to become more green." There were strong business incentives expressed by resort managers, with 69% agreeing "large numbers of clients are asking about their green practices." (Tierney 2008)
- 2009 PhoCus Wright national survey showed 44% of USA travelers considered minimizing environmental impacts as important in planning their travel.
- A 2002 survey commissioned by the Association of British Travel Agents found that, for 87% of respondents, it was very important that their holiday not damage the



environment and, for 76%, that it benefits the people of the destination they were travelling to.¹¹

- Research conducted by Dodds & Leung suggests that 25% expect travel agents to provide information on climate change and carbon-offsetting options.¹²
- In the UK, over 80% say tour operators should be responsible for preserving the local environment and culture and ensuring that local people benefit from tourism, and the same percentage is more likely to book a holiday with a company with a 'responsible' travel policy – a 28% increase since 2001.¹³
- A report by Tearfund declared that 55% of consumers believe that travel agents have a responsibility to provide the information, while 48% think tour operators should provide it.¹⁴
- According to National Geographic Traveler, there are 55 million Geotourists in the United States who are environmentally and socially responsible. Geotourists are defined as having "ceaseless expectations for unique and culturally authentic travel experiences that protect and preserve the ecological and cultural environment."¹⁵
- 87% of respondents in a 2004 responsibletravel.com survey indicated they were interested in locally produced food, local culture and using local guides when on holiday.¹⁶
- 17% of the USA residents feel travel is bad for the environment (USTA 2009).

Travelers worldwide say that environmentally-friendly tourism is a consideration when travelling:

- In 2007, the online travel community, Trip Advisor, surveyed 1000 travelers worldwide. Of these 38% said that environmentally-friendly tourism is a consideration when travelling.¹⁷
- A Lonely Planet poll of 24,500 consumers from 144 countries stated that 93% of people said they would or might purposefully partake in environmentally-friendly travel in the future.¹⁸

¹¹ MORI (2002). "Package Holidays 2002." London: Association of British Travel Agents (ABTA)

¹² Dodds, R., & Leung, M. (2007). "Climate change awareness in the tourism industry." Conference Proceedings TTRA Canada, October 18-20, 2007.

¹³ Taylor Nelson Sofres (2004). Responsible Travel 'Had Enough' Survey. Retrieved July 5, 2005 from <http://www.responsibletravel.com/Copy/Copy101763.htm>.

¹⁴ Tearfund (2001). "Worlds Apart – A call to responsible global tourism." Middlesex, UK

¹⁵ Travel Industry Association of America (2003). "Geotourism: New Trend in Travel Study." Prepared for National Geographic Traveller, October 2003.

¹⁶ Switzerland Travel Writers and Journalism Club, cited on the Fair Trade in Tourism South Africa Website. Retrieved July 5, 2005, from <http://www.fairtourismsa.org.za/fairtrade/index.html>

¹⁷ TripAdvisor (2007). "TripAdvisor Travelers Keen on Going Green." Retrieved January 16, 2008, from http://www.tripadvisor.co.uk/PressCenter-i120-c1-Press_Releases.html.

¹⁸ Travelmole (2007). "Travellers Back Radical Moves to Protect Environment." Retrieved August 8, 2007, from <http://www.travelmole.com/stories/1121133.php>.



- In an American STI survey 76.7% said they would switch online travel sites to one that made contributions on their behalf to offset the portion of their emissions.¹⁹
- The Travel Industry Association of America (TIA) study suggested that more than half of all US adults would be more likely to select an airline, rental car or hotel that uses more environmentally-friendly products and processes.²⁰
- One-third of Canadian travelers say that they would switch from a preferred holiday destination to another that supported sustainable tourism, while four in 10 would try to find and use a travel agency that adheres to environmentally-sensitive guidelines.²¹
- 69% of resort managers in USA and Caribbean agreed that a “large number of clients are asking about their green practices.” (Tierney, 2008)

Consumers are sensitive to hype:

- According to the 2009 PhoCus Wright national survey, a majority of the U.S travelers (56%) are skeptical of what companies tell them about their green practices.

2.11.2 Consumers’ Willingness-to-Pay for Green Practices in the Travel Industry

A number of market-based mechanisms – known collectively as tourism user fees (TUFs) - have been used in recent years to gather revenues from tourism-based activities which can then be directed toward low carbon development. However, the direct link between a price increase and the effects on tourism visitation still remains in question. In recent years, a number of surveys have assessed the demand for more sustainable forms of travel and, in some instances, a willingness to pay and/or financially offset the impact of respondents’ travel. This section focuses on the surveys that link cost increases to visitation in order to shed more light on this area. Below are the main findings:

Visitors are willing to tolerate additional fees for services that might help to offset the environmental impacts of their behaviors:

- Trip Advisor, surveyed 1000 travelers worldwide: 34% are willing to pay more to stay in environmentally-friendly hotels and 37% are willing to pay a premium of at least 5-10%.²²

¹⁹ Anavo & STI (2004). Retrieved July 5, 2005, from <http://www.sustainabletravelinternational.org/enewsletters/february05travelreport.html>

²⁰ Anavo & STI (2004). Retrieved July 5, 2005, from <http://www.sustainabletravelinternational.org/enewsletters/february05travelreport.html>

²¹ TNS Canadian Facts (2007, December 4). “Canadian travellers express willingness to change their travel behaviours owing to environmental concerns: survey”. Press release. Retrieved January 16, 2008, from <http://www.tnsglobal.com/news/news-4CEBC86E3705458FBD60A0D5D960E94A.aspx>

²² TripAdvisor (2007). “TripAdvisor Travelers Keen on Going Green.” Retrieved January 16, 2008, from http://www.tripadvisor.co.uk/PressCenter-i120-c1-Press_Releases.html.



- An October 2007 study by TNS Travel & Tourism of over 6,000 people in Great Britain, France, Germany, Italy, Spain and North America concluded that the willingness to pay to offset the environmental costs of their holiday ranged from a low of 2% for Germans, to a high of 12% for Spaniards.²³
- In an American STI survey, 75.4% of respondents who are self-declared environmentally-oriented consumers indicated that they were willing to pay \$1-20 extra per ticket to mitigate the greenhouse gas effects of their travel. In terms of products, 13% would be willing to pay more to use green products – although fully 56% said they might. The amount or rate of the fare premium seems to be the source of their hesitation: 76% would pay less than 10% more per usage, with the majority indicating they would pay less than 5% more.
- Canadians - over one-quarter (28%) - say they would pay a premium for an ethical and sustainable holiday.
- Of geotourist travelers, 38% would be willing to pay a premium to patronize travel companies that use sustainable environmental practices.
- 2009 PhoCus Wright national survey demonstrated that 32% of consumers would pay for a premium of green services.

Consumers do not understand the intricacies of the cost of traveling green:

- Cost premium is the most commonly identified barrier (67%) for consumers to potentially becoming greener with regard to travel according to the PhoCus Wright National Survey.
No major travel company has implemented price increases based on green initiatives.

2.11.3 The Business Impact of Environmental Awareness on Travel

Although consumers may indicate that they expect environmental and social issues to be taken into consideration on their holidays, it is less clear how consumers take it upon themselves to ensure these criteria are being met and there are still several questions that remain despite consumer research. For instance, several of the arguments for and against fees rest on the assumption that visitation is price responsive (price elastic) however; the information on the statistics regarding elasticity of consumer demand is highly limited. Although there is anecdotal and research evidence to suggest that demand for visitation at natural areas often will be inelastic- particularly at fee levels that are low relative to overall trip price and when there are few good substitutes- the results remain highly variable depending on the characteristics of the site and the visitors who travel to it. Where some regions may experience a dramatic decrease

²³ TNS Travel and Tourism (2007). "Quarter of holidaymakers say they'll switch to greener plans." Press release. Retrieved January 16, 2008, from <http://www.tnsglobal.com/news/news-4078B2FF93A14AD084EE03C776EE6009.aspx>



in visitation with a modest fee added, others may not. Lastly, the decision to charge a fee and at what level, depends not only on price elasticity, but, most fundamentally, on what an agency's fee objectives are.²⁴ In other words, the decision to implement a fee is only the starting point and several important issues should also be considered.

In conclusion, implementing a tourism fee is a challenging prospect for travel companies, and there is still much to be learned. What remains certain, however, is that there is a growing demand among consumers for green services worldwide. However, based on the Team's soundings in the region, it is doubtful that the notion of imposing user fees to raise funds for dedicated projects in a low carbon economy could be pursued in the current economy, and if such a fee were to be considered, it would need to be implemented across the region to avoid competitive distortions among tourism destinations.

²⁴ Various objectives may exist including: Cost Recovery, Generation of Profit, Generation of local business opportunities, Generation of foreign exchange and/or tax revenues from tourist purchases, visitor management, etc.

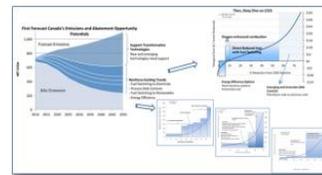


3 APPLICABILITY OF FINANCING OPTIONS TO THE CARIBBEAN TOURISM SECTOR

In this section we present a simplified approach that links priority mitigation actions to financing options. The multiple step process is intended to provide a road map to identify the types of funding channels that might be needed to deploy technology in the tourism context. The specific steps in the framework include:

1. **Priority mitigation actions** for the Caribbean tourism sector are identified from Component 1.
2. **A Barriers Assessment** identifies common barriers to low carbon technology deployment and behavioral change.
3. **An Implementation Road Map** then identifies why perhaps the low emitting technologies and practices have not been implemented. The objective is to link barriers to financing options.
4. **Barriers linked to financing options.** A summary overview is then provided that identifies priority financing actions linked to the barriers and priority mitigation actions.

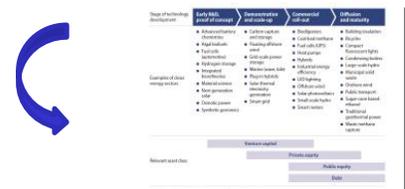
Figure 12: Overview of Approach



1. Priority Mitigation Actions (Component 1)



2. Barrier and Implementation Road Map



3. Barriers linked to financing options

Component 1 of the study identified **priority mitigation actions** in the land, water, and air segments of the tourism sector as well as cross-cutting opportunities outside the sector. These include:

- Resource pooling;
- Energy efficiency in transportation;
- Fuel switching;
- Fleet renewal; and
- Biofuels and grid-power electricity.

3.1 Barriers to Low Carbon Technology Deployment and Behavior Change



The literature review focused on the general barriers that exist to deploying low carbon tourism technologies. The barriers are important because they point to channels of financing that are applicable to increase technology deployment and behavior change in the tourism sector. There are five overarching barrier categories discussed below. The barriers presented in this section are not meant to be an exhaustive list but rather a profile of the most important and relevant barriers that exist in the literature.

Information and behavioral. This includes barriers that exist in terms of the information available to the public, to business and/or to government, and barriers that may stem from behavioral patterns, usually on the part of consumers but also tour operators and hoteliers. Examples include:

- *Aversion to new technologies.* Fear that new technologies will breakdown and increase costs.
- *Lack of information.* Consumers and firms are frequently unaware of cost effective practices and technologies available to save energy.
- *Lack of cooperation.* Cooperative action may lead to innovations and cost-savings. Barriers to cooperating stem from concern over market share.

Policy and Regulatory. This type of barrier encompasses all the policy options that may or may not be exercised by government, as well as the current configuration of policies that relate to the tourism sector in one way or another. These policies are generally under the purview of the government policies. Examples include:

- *Perverse incentives:* There may be policies in place that slow deployment, including subsidies to alternatives or tariffs on importing technology.
- *Regulatory barriers.* Prohibitions on certain technologies, such as building codes limiting solar hot water.
- *Lack of a price signal.* Energy priced below market rates, or below long-term cost of supply plus externalities.
- *Incomplete markets and property rights.* There may be barriers to new entrants coming onto a market, notably in the electricity sector (monopolistic utilities). This could manifest as discriminatory practices (grid access etc.)



Technology and resources. Barriers of this type relate to the specific limits or characteristics of a given technology, or to the state of the resources that they rely upon, be it in terms of their availability or their state of development. Examples include:

- *Lack of capacity.* Limited ability to deploy and/or operate the technology.
- *Lack of dedicated energy management position.* Limited capacity to plan, implement, deploy or operate technology.
- *Lack of performance benchmarking.* Limited understanding of the benefits that are achievable.
- *Network failures.* Infrastructure costs maybe too costly for the private sector to overcome, with high risks, indicating a need for public support to de-risk the infrastructure investment.

Financial (both public and private). Financial barriers relate to the capital costs associated with technology deployment, as well as its operational costs. These barriers can either involve levels and/or availability of public finance (i.e. government) or private (venture capital, equity, debt, etc.). Examples of relevant barriers include:

- *Country indebtedness.* What is the ability of the country to secure international loans?
- *Lack of investment capital for projects.* Is there evidence of a lack of capital for projects?
- *Expectation for short payback periods.* Is the required payback period fast, as in less than two years, with discount rates in the 20% range?
- *Competing investment priorities.* Where does the mitigation action rate on a priority of investment needs?
- *High transaction costs?* How much work is involved in implementing the measure?

Institutional. This type captures the barriers that relate to the state of readiness of governments to support technology deployment.

- *Lack of leadership.* No clear expectations that there are policy priorities that will affect business at some future point.
- *Limited ability to implement.* Short staffed ministries and agencies may not have the resources to design and implement policy. A lack of capacity could manifest as a low degree of government wide support.



- *Weak enforcement.* Limited ability to enforce rules and set expectations that need to be followed.

With the barriers presented, we can now move on to the implementation road maps, which point to climate financing channels for priority mitigation actions.

3.2 Implementation Road Map: Financing Low Emission, Climate Resilient Development Actions

Component 1 of the study identified priority mitigation actions in the land, water air segments of the tourism sector as well as cross-cutting opportunities outside the sector. In this section we pool together priority actions under common headings so that we can assess barriers and identify climate financing opportunities. The common priority actions include resource pooling, energy efficiency (both technology and operational changes) fuel switching and fleet renewal. We also discuss opportunities outside the sector as identified by Component 1 including large scale renewable deployment and biofuel production. Each is discussed below.

3.2.1 Resource Pooling: Grants to Increase Cooperation and Operating Savings

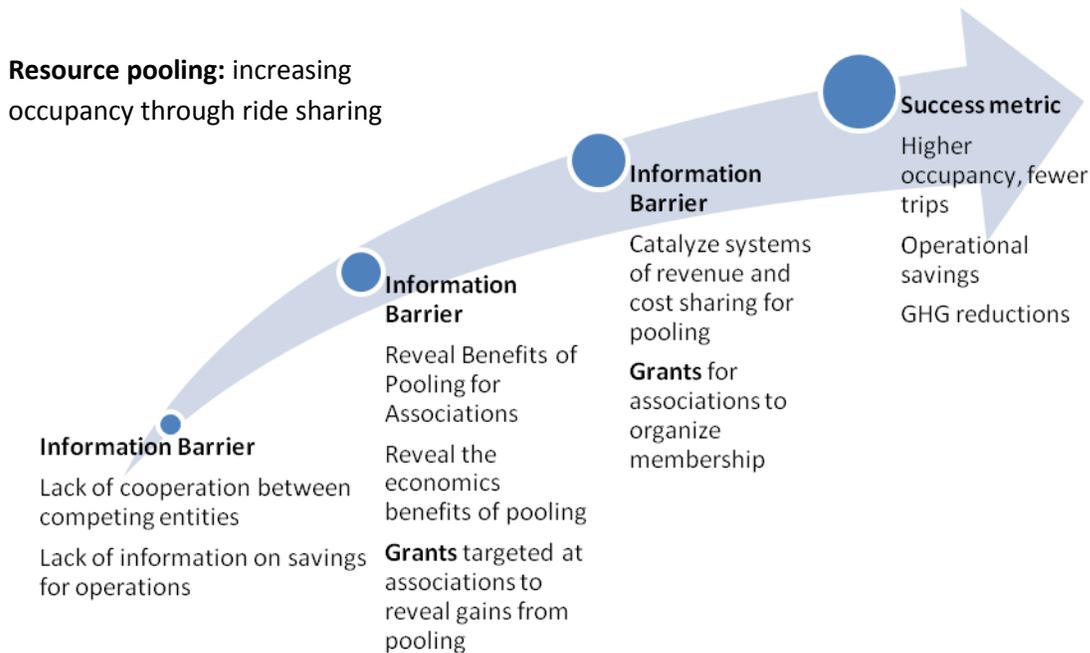
Sections 5.3 and 5.4 of Component 1 identified resource pooling opportunities in land and water transportation. Resources pooling is where tour operators cooperate to “pool” customers to fill vehicles closer to capacity. There are a series of benefits associated with pooling including cost savings stemming from lower operation and maintenance costs.

But despite the potential benefits, pooling is not common practice indicating the existence of barriers. The primary barrier is likely informational and behavioral, where there is a *lack of cooperation* amongst operators and perhaps a *lack of knowledge* of the savings potential. To overcome this, strengthening local associations and providing information on the benefits of resource pooling would be useful. The tendency to not cooperate with competitors is likely a deeply held view, indicating the requirement for a sustained effort to change behavior.

Grants can be targeted to develop and disseminate information as well strengthen local capacity. There may also be a need to strengthen local governments and functions aimed to advocating the need and indeed financial benefit for tour operators to work more cooperatively. One possible solution could be moving to a cooperative model where fee structures are used to reduce competitive pressures and ensure the fair sharing of revenue and cost under pooled operations. In this case a promising approach is to use grant funding to



catalyze behavior change so that tour operators cooperate to dispatch vehicles closer to full capacity, resulting in O&M savings, including fuel. While this is a short-term opportunity, it will likely require a sustained effort.



3.2.2 Energy Efficiency: Doing More with Less

Priority mitigation actions based on energy efficiency improvements in technology and operations include a movement to more fuel efficient vehicles; installing fuel efficient technologies and operational practices and fuel monitoring. Component 1 identified the following common energy efficiency opportunities in transport:

- Land: Fuel efficient vehicles (vehicles with smaller engines) and hybrids,
- Water: Operational practices and fuel monitoring; retrofitting engines, and,
- Air: Operational practices; ground power use when planes grounded.

Energy efficiency benefits are well-established, and generally relate to operational savings associated with fuel savings. The barriers to increasing the uptake for energy efficiency practices and technologies are many and varied, requiring a multifaceted policy response.



Informational barriers stem from an *aversion to new technologies* as well as a lack of *information on new technology opportunities*. Climate finance can help with targeted grant programs to demonstrate technology viability and applicability. This can then alter technology choice at the time of new purchase, where information contributes to decision about low emitting technology. Trade-offs include low effectiveness, where information alone is unlikely to drive significant outcomes, but low costs are imposed.

Policy and regulatory barriers, where government allocations or donor climate-financing could be used to:

- *Remove tariff barriers*. Perverse incentives where import tariffs may increase the cost of a fuel savings technology. Looking at the tariff structure and identifying low emitting technologies for preferential tariff treatment is an option to address the financial barrier. This is, of course, a tax expenditure and would therefore lower government revenue. Import tariffs are often applied to low emitting and fuel-saving technology.
- *Performance regulations or standards* require small government outlays and can significantly leverage private sector funding, but high cost to the regulated community is the trade-off. Performance regulations can be used to ban low performing technologies or mandate technologies that are more fuel efficient.

Financial barriers are related to low capital to invest in new technologies and retiring operating capital prematurely. This is a much larger barrier than the informational barrier, with a need for larger financing outlays to alter technology choices. In this case, there are a range of climate finance options available:

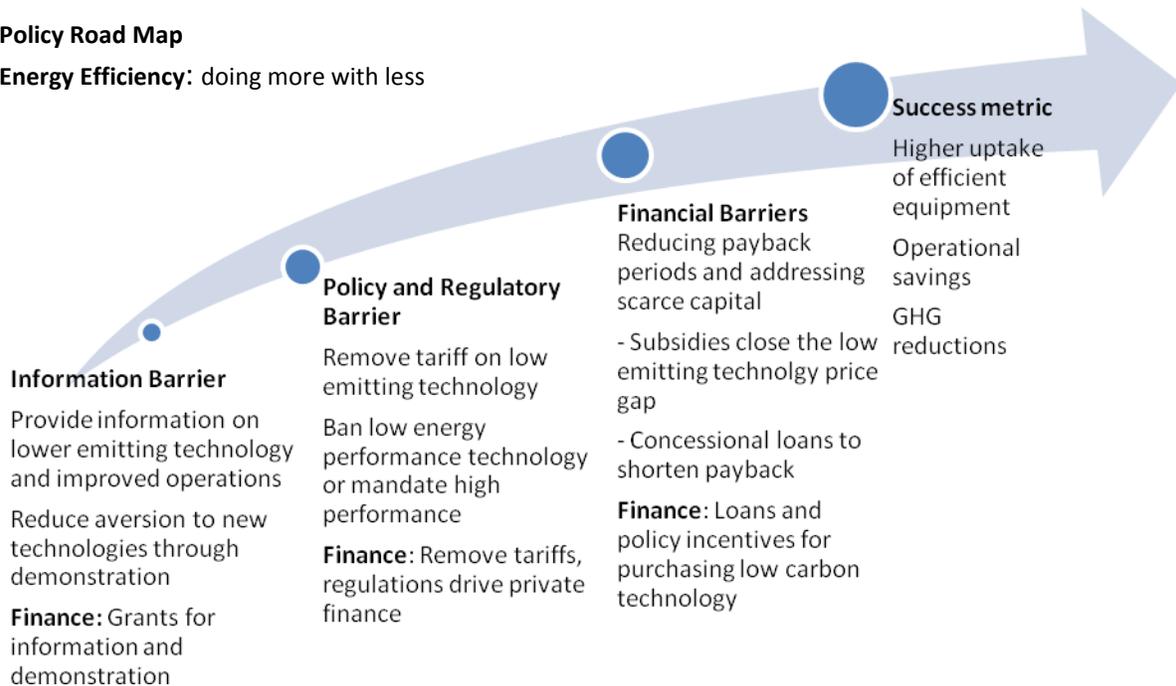
- *Subsidies* close the price gap between high emitting technologies and lower emitting technologies, but issues of free-riders existing where subsidies are provided for purchases would have happened absent the subsidy program. Of course, subsidies are also tax expenditures, and as such impact the fiscal position of countries, where successful subsidy programs can often lead to higher tax expenditures than originally envisioned.
- *Loans and grants* address the short-term payback requirements of individuals and businesses as well as address scarce capital issues.

The policy road map linked to barriers and climate financing options is provided below.



Policy Road Map

Energy Efficiency: doing more with less



3.2.3 Fuel Switching: Lower the Emission Intensity of Fuel

Fuel switching involves moving to a lower emitting fuel, such as from diesel to natural gas or electric. Component 1 identified medium to longer-term fuel switching opportunities, including:

- Land: electric vehicles and liquefied petroleum gas (LPG),
- Water: use of sails, solar technology, fuel cells and switching to natural gas,

Higher costs are associated with these options as they generally involve both equipment purchases by the operator but also infrastructure investments as in the case of LNG. Barriers to the deployment of these opportunities are high, and are primarily financial. Benefits are possible, but are likely not distributed evenly: local operators would have high capital costs to make the switch while GHG benefits are likely global in nature but can be significant. The presence of fuel savings would depend on the price spread between gasoline and diesel and LPG (on a BTU basis) for example.

Barriers are primarily *financial* but also *informational* and *technological*.



Informational barriers are primarily related to demonstration, which in turn reflects an *aversion to new technologies*. Simply, fuel switching generally involves a wholesale change in process equipment, which leads to concerns over reliability, operation and maintenance. Demonstration projects would help address this aversion, as would general information on benefits, opportunities and, of course, risks. This speaks to a lack of capacity to service and operate new machinery, which leads to important technological barriers.

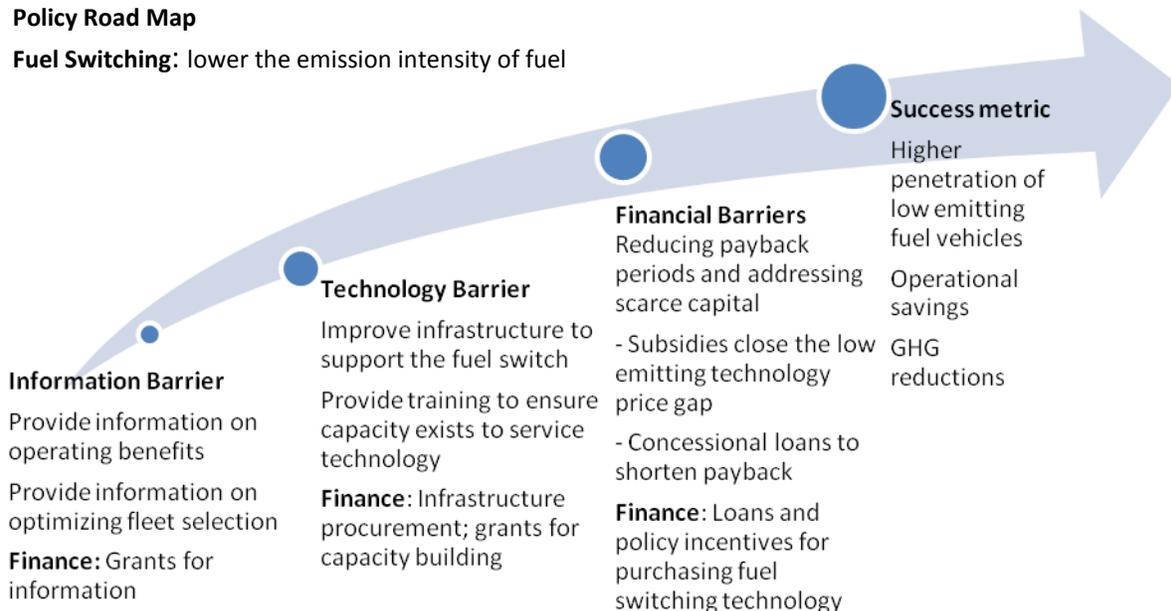
Technology barriers relate to both operating but also the network to support the new machinery. Network failures are likely present with LPG, where there is a limited access and hence limited penetration. Governments can help by making investments in the supporting infrastructure through the use of targeted grants or concessional loans. As discussed above, the availability of qualified service technicians, parts and other support for the technology can also be a significant barrier. In this case, training programs could assist with deployment.

Financial barriers can be significant for fuel switching. Purchasing a new type of vehicle or retrofitting existing equipment can be expensive. Costs rise especially if stock turnover is low, as in the case of tour buses and tour boats that are both long-lived capital. Moving investment choices to lower emitting fuel, therefore, requires price gaps and payback periods to be reduced. Subsidies can help, as could concessional loans to lower the cost of capital.

The policy road map linked to barriers and climate-financing options is provided below.

Policy Road Map

Fuel Switching: lower the emission intensity of fuel





3.2.4 Fleet Renewal: Replacing More than One at a Time

Fleet renewal is a technically viable option where more than one vehicle in the fleet is added to either smaller or larger vessels. Emission and energy savings stem from either improved sizing of vessels to match forecasts of capacity or changing operational needs. This can lead to economies of scale in larger vehicles or fuel savings as in the case of smaller. Efficiencies in operation also stem from newer more efficient designs as well as engine improvements. This can be a short-term or long-term opportunity depending on fleet vintage and planned upgrades. Fleet modernization to enhance the overall tourism experience benefits both the operators but also the allied businesses and government revenue. This shared benefit points to both a public and private gain of fleet renewal, and a role for government involvement. This option has applicability in the air, land and water transport sectors.

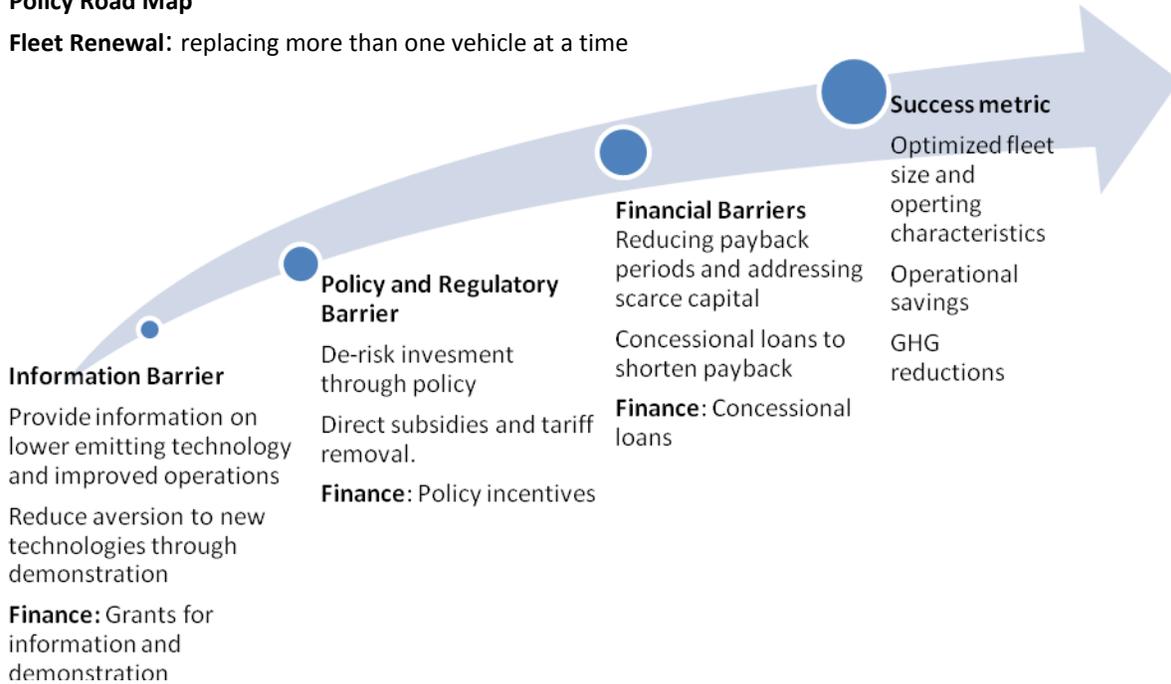
Informational barriers stem from a lack of knowledge about efficiencies associated with alternative fleet options. Here information could be provided on the range of choices, operating benefits and to optimize fleet selection to reduce long-term fuel use and hence costs.

Financial barriers are perhaps highest here relative to the previously discussed mitigation options, with high costs associated with large and lumpy capital outlays for more than one new vehicle. As such, the capital costs and hence financial risks of the purchase are already high, absent choices related to lowering GHGs. Issues of short payback periods, high borrowing costs and competing investment priorities all come into play. De-risking the investment could be accomplished with concessional loans (financing barriers), and removing tariff barriers or providing subsidies (policy incentives). A portfolio approach to financing fleet renewal is likely required.



Policy Road Map

Fleet Renewal: replacing more than one vehicle at a time



3.2.5 Decarbonizing Fuels: Grid-power Renewable Electricity and Biofuels

A movement to decarbonize grid-power electricity or increase the biofuel content of liquid fossil fuels would lower emissions from the tourism sector. Both of these options rely on large capital investments outside the tourism sector. In the case of electricity sector there are numerous options in wind, solar and biomass. Biofuels investments are primarily related to infrastructure for handling and distribution. A couple of important benefits are likely with an increased penetration in renewable electricity and biofuels. First, from a policy perspective, large capital costs applied to the tourism sector could be avoided, and thus avoid competitiveness concerns over price increases related to reducing emissions. Of course, cost-recovery would then be done through increasing fuel costs, which would be less of a financial shock to the sector, at least in the short-term. Reducing the dependence on imported fossil fuels outside the tourism sector could protect it from price fluctuations, adding cost certainty. The trade-off is that both mitigation options are costly, especially biofuels given the need for new handling infrastructure.

Policy and regulatory barriers may exist, especially if the utility or petroleum products distributors have monopoly rights. A first step in contemplating more renewables or biofuels

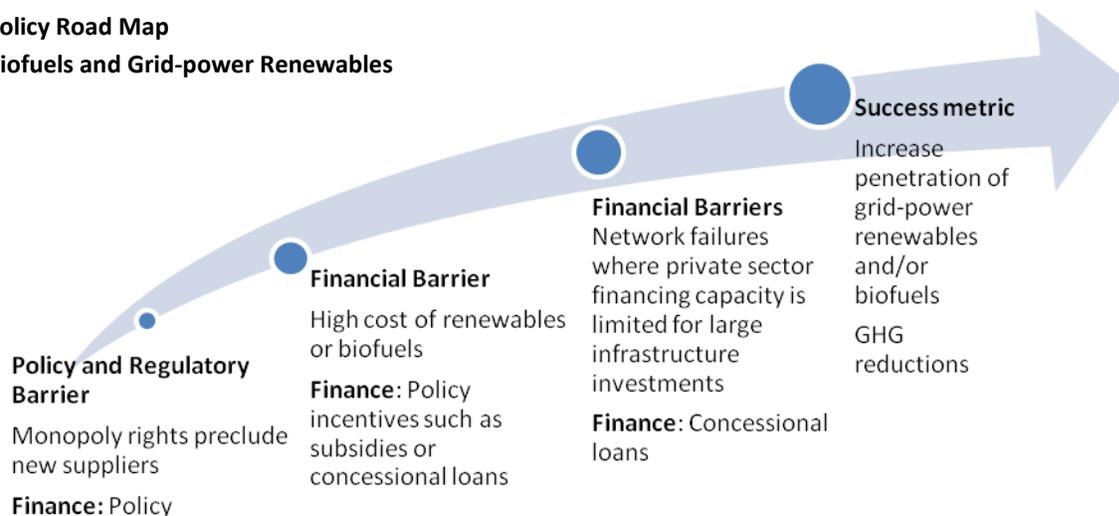


deployment is to look for regulatory barriers that promote a concentration of suppliers. A related point is that often electricity sector regulations do not enable smaller players to feed into the grid, thereby limiting new actors from supplying lower emitting electricity.

Barriers are mostly *financial*, as the technical feasibility of both grid-power renewables and biofuels are well-established. But high capital costs can be expected, and at levels that are likely well above alternative fossil-based generation or refined petroleum products. For some countries, high national indebtedness may preclude concessional loans as an option, therefore limiting the potential for biofuels or grid-power renewables’ penetration. That said, internationally sourced concession loans for infrastructure investments are routine as are domestic allocations for supporting infrastructure development. Subsidies are generally the preferred method to increase technology penetration, however, in the case of biofuels the infrastructure costs may be too high and instead grants for infrastructure may be a better route (network failure). User pay cost-recovery is also routine making the viability of climate finance for biofuels and grid-power renewables more feasible. In designing a road map for technology deployment, it is most likely that a mix of financing channels will be required given the scale of the investment.

Policy Road Map

Biofuels and Grid-power Renewables



3.3 Barriers Linked to Financing Options

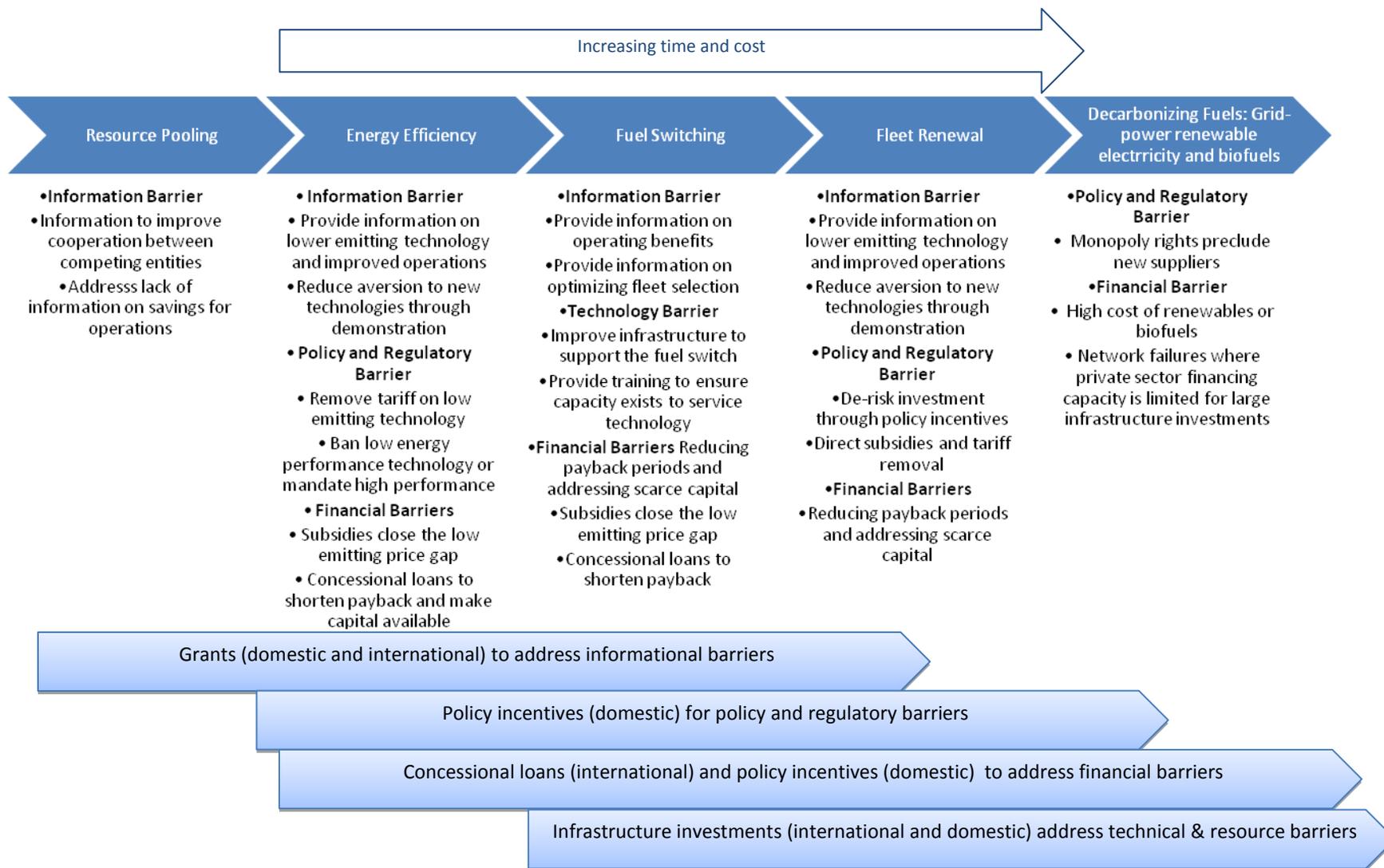
The above analysis really highlights that for any priority mitigation option, there are multiple barriers to deployment that must be addressed. Not all barriers can be addressed with the



same financing channel, and as such there is really a need to think about climate finance as a bundle of financing channels. Figure 13 below provides a summary of the mitigation options, their associated barriers and a general overview of the types of financing that could be utilized. Of course this is a very general overview, but it does none the less, it points to a need to first develop road maps for implementing priority actions and then to look to barriers that can be addressed with finance.



Figure 13: Summary of Mitigation Options, Barriers and Financing





4 FINANCING LOW CARBON OPPORTUNITIES IN THE TOURISM SECTOR – GOVERNANCE ISSUES

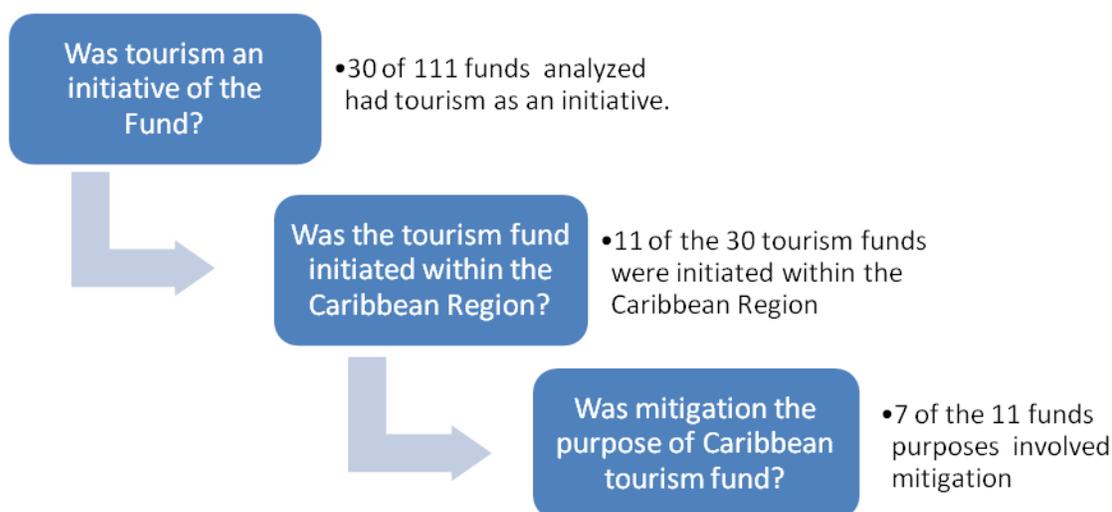
This section documents the governance issues and related mechanisms associated with climate finance, generally, and looks in depth at four examples that the authors feel are relevant in the context of the Caribbean, in particular the tourism sector. These examples are drawn from the database and described in previous sections. Based on the literature reviews and interviews with a number of financial practitioners in the region, the section provides a preliminary assessment of the capacities of the potential pilot host countries in relation to the governance required to manage funds designed to provide financial support to tourism projects in their countries. The section concludes with the identification of gaps to be addressed by increasing capacity in the region.

4.1 Identifying Funds for Detailed Analysis

Drawing on the database from Section 2 above, and using a standard set of selection criteria, the Consulting team narrowed down the list of potential funds to four in order to conduct a more detailed assessment of each fund (governance review below). This task involved three sub tasks, each of which is discussed below.

1. Developing a standardized set of selection criteria

In order to develop a clear and concise overview of the trade-offs and feasibility of the application of the financing mechanism to the Caribbean tourism sector, with particular focus on the four pilot countries of the Bahamas, Trinidad and Tobago, Belize and Guyana, a list of selection criteria was applied to the database to promising examples. The selection process consisted of the following criteria:



2. Develop a short-list of promising financing mechanisms

Step one’s selection criteria narrowed the list of funds down to seven. These funds were then classified based on their primary source of funding, the financial instruments that were used to establish public sector support for the climate investment, as well as the primary mitigation initiative the fund was focused on. The information is presented in Table 3 below.

Table 3: Short-List of Funds and their Features

Fund	Source (International, Domestic, or Hybrid)	Channel of Financing (Policy, Carbon Market, Co-Financing/Loans, or Grants)	Specific Purpose (Offset purchases, Land Use offsets, EE&RE, Process Equipment)
Energy Smart Barbados	International	Loans	EE & RE
Costa Rica Plans for Going Carbon Neutral	Hybrid	Policy	Offset Purchases
EcoVenture Carbon Neutral Program	Hybrid	Carbon	Offset Purchases
NatureAir	Hybrid	Carbon	Offset Purchases
Travel Green	Domestic	Policy	EE & RE
The Green Fund of Trinidad & Tobago	Domestic	Policy	Land Use Offsets
Belize Sustainable Tourism Project	Hybrid	Grant, Policy	EE & RE

To further shorten the list of funds our team focused on funds within the list which addressed:



- Different sources of financing;
- Different channels of financing;
- Different purposes within mitigation; and
- Funds that were directly oriented towards transitioning the tourism sector to low carbon opportunities.

Three of the seven funds were selected from the database for the detailed governance review;

- The Energy Smart Barbados;
- The Green Fund of Trinidad & Tobago; and,
- The Belize Sustainable Tourism Project funds.

To broaden the governance review our team decided to incorporate a fund outside of the short-list to incorporate a fund which addressed carbon market finance and revenue recycling oriented towards mitigation. For that reason, the Alberta Climate Change and Emissions Management Fund was also included in the analysis.

3. Overview of the Four Selected Funds

Based on the results above, a more in depth overview of each of the funds' amount, source, specific purpose, objective, financing instruments and project examples are provided below.

Table 4. Energy Smart Fund- Barbados

Energy Smart Fund	
Objective	The objective of this project is to promote the increased use of renewable energy (RE) and the implementation of energy efficiency (EE) measures through the design and implementation of the Sustainable Energy Investment Program also known as the "Smart Fund", a government initiative comprising a package of financial instruments and technical assistance to support investments in RE and EE. Ultimately, the project will help reduce Barbados' fossil fuel dependency and promote sustainable energy supply as well as carbon emission reductions.
Financing Details	USD 10,000,000, of which \$6,000,000 is administered as a revolving fund for concessional loans for energy efficiency and renewable energy initiatives in the hotel sector. Funded by loan to Government of Barbados by the Inter-American Development



Energy Smart Fund	
	<p>Bank for:</p> <p>Grant Provision (USD 0.5 Million): For pre-investment studies (feasibility studies, EE Audits, Environmental Assessments, etc.</p> <p>Loans to support RE & EE (USD 6 Million): RE equipment, such as solar PV panels, hybrid solar PV/solar water systems, and other small size applications, would be eligible to be financed.</p> <p>Loans for individual customers to access RE and EE systems (USD .5 million): Retailers with experience in the hire-purchase sector, that are actually selling, or planning to sell, RE and EE equipment will be eligible for financing under this subcomponent.</p> <p>Subsidy for EE lighting systems (USD .5 Million)</p> <p>AC Rebate Mechanism (US 1.5 Million):</p> <p>Loans for Institutional Support (US 1 Million):</p>
Project Examples	Not available yet – first call for projects currently underway

Table 5 - The Green Fund of Trinidad & Tobago

The Green Fund of Trinidad & Tobago	
Objective	The purpose of the Fund is to provide grants to community groups and organizations engaged in activities to remediate, reforest, and conserve the environment.
Financing Details	<p>Balance as of Jan 2012 ~ \$USD 400 million</p> <p>Source of Funds: 0.1% tax on gross sales or receipts of all companies conducting business in Trinidad and Tobago, payable at the end of each quarter.</p>
Project Examples	<ul style="list-style-type: none"> • Fondes Amandes Community Reforestation Project (TT\$1,914,806) : Sustainable Community Reforestation Initiative, • Greenlight Network (Phase 1- TT\$901,205, Phase 2 – TT\$8,774,201): • Nariva Swamp Restoration, Carbon Sequestration and Livelihoods Project (TT\$68,545,511)



Table 6. The Belize Sustainable Tourism Project funds

The Belize Sustainable Tourism Project funds	
Objective	<p>The objective is to strengthen the sector's contribution to the national economy by consolidating the overnight tourism market with investments and activities along three inter-related fronts:</p> <ul style="list-style-type: none"> • Enhancing the tourism experience and resource sustainability at consolidated destinations subject to pressure; and • Diversifying tourism products in emerging destinations for the overnight market segment; and • Strengthening tourism institutions for policy, destination planning and management.
Financing Details	<p>Amount: \$US 13.3 million provided as a loan from the IDB to the Government of Belize. Pre-defined programs agreed between Government of Belize and IDB.</p>
Project Examples	<p>Implementation of elements of destination management plans for:</p> <ul style="list-style-type: none"> • Placencia • Ambergris Caye • Belize City • Cayo

Table 7 – The Alberta Climate Change and Emissions Management Fund

Alberta Climate Change and Emissions Management Fund	
Objective	<p>To support the development and application of transformative technologies aimed at significantly reducing greenhouse gas emissions in the province, as well as improving Alberta's ability to adapt to climate change.</p>
Financing Details	<p>As of September 2011, Fund stood at \$257 million.</p> <p>The Climate Change and Emissions Management Fund is one compliance option under Alberta's emission reduction regulations. Companies that are required to meet the provincial reduction target for greenhouse gas emissions can choose to pay \$15 a tonne into the Fund for emissions over the target. Each year the CCEMF increases by the amounts of these compliance contributions.</p>
Project Examples	<ul style="list-style-type: none"> • HTC Purenergy – Devon Energy CO2 SAGD Capture Project • ENMAX Micro Renewable Energy Program • ENERKEM Reduction of GHG Emissions through greening biofuel production and CO2 utilization



4.2 Types of Financing Mechanisms and Associated Governance Solutions

As noted earlier in this paper, there are four key steps in undertaking climate change-related measures, namely identification of the priority mitigation and adaptation technological options, assessment of the key barriers to their implementation, determination of an appropriate policy mix in line with national and regional development priorities and then the choice of the right mix of financing instruments required for implementation. To be able to implement the priority technological options noted earlier in this paper, a variety of financing instruments are available, including, among others, grants and concessional loans, carbon offset flows, market rate loans, equity placement, and policy incentives such as subsidies and tax credits. In reality, for large projects, a mix of financial mechanisms will be accessed.

For smaller projects and discreet pilot programs the mix may involve only one or two funding sources. The scale and complexity of the governance solutions required for implementing projects in the tourism sector in the Caribbean will vary with the scale of the project being undertaken and will vary depending on the perspective that one takes. From an investor perspective, such as international development banks and equity investors, a key concern will be to ensure delivery of the projects in a manner that is cost effective and efficient and in the case of private equity, delivers an acceptable rate of return at a level of risk acceptable to this class of investors. From a participant perspective, the governance associated with the climate financing should provide simplicity and certainty for project developers and be designed in such a manner to encourage innovation on behalf of the participants.

Broadly speaking, experience has shown that financing for climate-related projects is more effective if it:

- Promotes clear objectives that are shared among key stakeholders,
- Supports activities that have a transformative or demonstration effect,
- Ensures an effective balance between public and private capital,
- Requires a results-based approach on behalf of recipients,
- Considers cost-effectiveness – that is, actions with a larger “climate return on investment” per dollar allocated – as one of its guiding principles,
- Supports actions that are nationally owned and aligned with local and national priorities,
- Is predictable, coordinated and less fragmented,
- Is administered transparently,



- Is supported by robust systems to measure progress, draw early lessons, and allow modification, and,
- Provides a return on investment, whether debt or equity, commensurate with the associated risks.

4.3 Governance of Climate Finance Mechanisms

Governance encompasses a large number of different legal, organizational, management, auditing, reporting and communication functions. For purposes of this analysis we have chosen to examine governance from three perspectives:

- Structure and management;
- Effectiveness in achieving results; and,
- Financial probity and sustainability.

For each category, we provide a series of observations and questions that can apply to any financial mechanism and we then follow it with a table that outlines how each of the four mechanisms that we have chosen to look at in more detail are governed. Conclusions are drawn at the end of this section as they relate to potential new funding initiatives in the region related to carbon neutral tourism.

4.3.1 Structure and Management

This section deals with the legal aspects of how the mechanisms are established and the management provisions that are in place to ensure their efficient and effective operations. Typically for granting programs or for mechanisms that involve expenditures of taxpayer's money, the legal structure and the day to day operations have a higher level of government oversight than funds where there is a more commercial purpose and in which private sector money is levered to accomplish profitable rates of return on investments (e.g. mechanisms that finance energy efficiency and renewable energy projects). In the latter case one would expect to see more independence assigned to an arm's length institution and a more traditional investment banking approach being used to guide funding decisions. Specifically, the following issues arise related to the structure and management of financial mechanisms:

- **Legal structure of mechanism** - Is the mechanism governed by a piece of domestic legislation or is it governed by the terms and conditions of an international loan agreement? Typically concessional grants and programmatic spending programs tend



to use funds sourced from multilateral banks such as the IDB and the World Bank and the structure of the mechanism is outlined in the contract between the host country and the loaning institution. In the case of funds or mechanisms that rely on taxes or levies and are funded from the national purse, domestic legislation and regulations often spell out the governance provisions for the mechanism.

- **Relation to national/regional governments** – Does the mechanism report to a Minister? Is the Executing Agency part of the overall structure of the Ministry or is it arm’s length reporting to an independent Board? What design and operational controls/influence does the national government have on the mechanism?
- **Management Structure** – Typically an Executing Agency of some sort is involved to oversee the day to day operations of the mechanism. Does the head of the Executing Agency report to an independent Board of Directors or within a government department with direct lines to a Minister? In the case of a Board of Directors, what role does the national government have in the choice and appointment of the Board? Does the choice of Board Members take into account the need to match the skills and experience of the Directors with the functions and goals of the financial mechanism?
- **Investment advisors** – Does the mechanism rely on independent advice from advisors outside the management structure chosen on the basis of subject knowledge and track record in a directly relevant field? Or does the mechanism rely on staff within the Executing Agency to provide investment advice?
- **Auditors** – performance and financial – Financial audits are typically undertaken by third party accredited accounting firms to international accounting standards. Program audits and reviews are often undertaken by technical specialists in the field who are most often independent of the mechanism.
- **Stakeholder involvement and communications** – Is there a formalized structure for consultations with stakeholders? Are there publicly available reports on results of audits and performance reviews? Are there outreach program associated with the mechanism to publicize its existence and generate more proposals?



Table 8: Structure and Management

	<i>Concessional loan (Energy Smart Barbados)</i>	<i>Granting Body (Green Fund of T&T)</i>	<i>Carbon Finance (Alberta Climate Change and Emissions Management Fund)</i>	<i>Programmed Funding (Belize Sustainable Tourism Program)</i>
Legal Structure	Governed by loan agreement between Government of Barbados and the Inter-American Development Bank	Established under the Finance Act 2000 and Green Fund Regulations 2007 amended in 2011	Not-for-profit corporation established under the Climate Change and Emissions Management Fund Administration Regulation	Governed by loan agreement between IDB and the Government of Belize. Executing Agencies are the Government of Belize through its Ministry of Tourism and Civil Aviation and the Belize Tourism Board.
Relation to National Government	Executing Agency is the Energy and Telecommunications Division of the Office of the Prime Minister.	Part of the Ministry of Housing and Environment	Arm's length, independent. Minister of Environment has right to ask the provincial Auditor General to audit and inspect. Annual reports and business plans required as well.	One of the Executing agencies is a Ministry of the Government of Belize.
Management Structure	Loan program administered by Enterprise Growth Fund Limited and overseen by Energy and Telecommunications Division	Minister with responsibility for the environment chooses and certifies projects for funding, taking into account advice from independent Green Fund Advisory Committee.	Board of Directors with two Committees: Audit and Investment Committee and the Governance and Accountability Committee.	Belize Tourism Board responsible for procurement, financial administration and day-to-day technical supervision of Program through the Program Coordination Unit within the BTB. Ministry of Tourism and Civil Aviation provides general oversight and ensures ongoing integration with the Government's economic development policies and plans.
Investment advisors	Smart Fund Technical Committee (SFTC) within the Energy and Telecommunications Division advises on technical feasibility. EGFL oversees credit and risk decisions.	Green Fund Advisory Committee comprising individuals with experience in finance, law, environmental management and forestry.	A group of independent service providers are contracted to manage project adjudication.	Loan agreement specifies skills and experience of staff members of the Program Coordination Unit. Sub-committee of the National Tourism Advisory Council provides



	<i>Concessional (Energy Barbados)</i>	<i>loan Smart</i>	<i>Granting Body (Green Fund of T&T)</i>	<i>Carbon Finance (Alberta Climate Change Emissions Management Fund)</i>	<i>Programmed Funding (Belize Sustainable Tourism Program)</i>
					overall strategic guidance and stakeholder participation in the Program.
Auditors performance and financial	– Semi annual reports on performance audited		Auditor General of Trinidad and Tobago conducts annual financial audit. Cabinet and Parliament monitor effectiveness in relation to Green Fund Mandate	Annual independent financial audit done by Auditor General of province of Alberta. Independent third party verification of GHG emissions reduction claims.	Financial audits certified by an accredited firm of independent accountants.
Stakeholder involvement and communications outreach	Extensive web presence and outreach for calls for proposals		Role of Green Fund Executing Unit is to promote the goals of the Fund. Some web presence. Limited stakeholder involvement.	Web presences and outreach conferences	Extensive web presence. Stakeholder input through Sub-committee of National Tourism Advisory Council.

4.3.2 Effectiveness in Achieving Results

This section addresses the governance provisions that one would expect to be in place or considered in the design of the mechanism to ensure that the goals of the program are achieved. In the case of climate-related funds, indicators such as greenhouse gas emissions reductions, penetration rates of low emitting technologies, energy savings, amount of forests conserved, degree of climate resilience achieved are considered in determining effectiveness of the financing choices. From a governance perspective, mechanisms to determine effectiveness include the following:

- **Defined terms of reference.** Does the fund/mechanism have established terms of reference outlining its goals, types of projects/programs it would support? How often is this reviewed and updated to “recalibrate” the program? Are the terms of reference linked to specific funding levels/thresholds?
- **Defined set of project types.** Does the mechanism have clear objectives with respect to the types of projects in which it will invest? Are these related primarily to reducing GHGs or broader sustainable development issues? How is the eligibility of projects



characterized – e.g. is there a “positive list” – one that outlines what will be funded, or is the definition based on a “negative list”? - i.e. what won’t be considered for funding?

- **Program Reviews and performance audits.** What are the metrics? (E.g. number of tonnes of GHG emissions reduced? Contribution to corporate social responsibility? Contribution to sustainable development? To improving climate resilience? Cost effectiveness? Program delivery and administration costs in relation to amounts spent on actual projects?
- **Transparency of results reporting.** What is the appropriate balance for a given mechanism in relation to public transparency and the need to protect investor interests? Are the results of the reviews and audits made fully and publicly available? Are the reports internal to the operations of the mechanism only? Partially reflected in annual reports?
- **Sunset provisions.** Do sunset provisions exist that dictate when and how the mechanism will wrap up?

Table 9: Effectiveness in Achieving Results

	<i>Concessional loans (e.g. Energy Smart Barbados)</i>	<i>Granting Body (e.g. Green Fund of T&T)</i>	<i>Carbon Finance (e.g. Alberta Climate Change and Emissions Management Fund)</i>	<i>Programmed Funding (e.g. Belize Sustainable Tourism Program)</i>
Defined Terms of Reference	Yes, specified in loan agreement between IDB and Government of Barbados	General Terms of Reference related to eligibility for financing; limits recipients to the not-for-profit sectors. No for-profit business may apply.	Yes, set out in the legislation creating the Corporation	Yes, detailed in the Loan Agreement and the Project Operating Manual
Defined set of Project Types	Yes, renewable energy and energy efficiency projects that meet series of pre-defined selection criteria	Three focal areas eligible for funding: Reforestation, remediation and conservation	Transformative technologies that reduce greenhouse gas emissions	Yes, defined in the loan agreement
Program Reviews and Performance Audits	Semi-annual progress reports presented to IDB for non-objection; routine monitoring and evaluation of progress against agreed results	Annual reviews and reports to Parliament	Independent body reviews on an annual basis. In addition the Auditor General reviews the financials and the program on a frequency they	Semi-annual progress reports and annual financial audits



	<i>Concessional loans (e.g. Energy Smart Barbados)</i>	<i>Granting Body (e.g. Green Fund of T&T)</i>	<i>Carbon Finance (e.g. Alberta Climate Change and Emissions Management Fund)</i>	<i>Programmed Funding (e.g. Belize Sustainable Tourism Program)</i>
	frameworks specified in loan agreement		independently set	
Transparency of results reporting	Results included in annual reports of Enterprise Growth Fund and routine reports from IDB on the project	Plans are in place to make reviews public in the near term	Auditor General report is public. Internal report goes to the Board of Directors and portions are released...total # projects funded, value of funding, GHG reductions estimated	Audits publicly available.
Sunset Provisions	Five year disbursement schedule after which all initial funds to be disbursed, repayment of loans will be used to prepare other loans for at least 5 more years.	None	Sunsets with the governing regulation in 2014. Will require amendment to regulation to be continued.	Defined in loan agreement and Project Operating Manual

4.4 Financial Probity and Sustainability

Every financial mechanism must have in place governance provisions designed to ensure that the money is being spent on what it is intended for and not being spent improperly or dishonestly. As well, a balance must be found between “spreading the money around” equitably among project proposals and ensuring that sufficient funds are allocated to projects so as to make it likely that they will be viable and deliver the climate/sustainable development goals that are being pursued. Given that all funds will have an overall budgetary limit established at the outset, are there provisions to increase or decrease this in relation to performance and changing priorities? In this section, we examine a number of issues that relate to the financial governance of mechanisms:

- **Capitalization of entity.** Are there provisions for replenishment of capital? How are funds recovered in the case of loans? Can revolving funds be used to increase the number of projects being supported? What are the expected rates of return on investments?
- **Leveraging requirements.** To what extent does the mechanism require that its funds leverage financial or in-kind contributions from other Parties? Are these leverage



requirements part of the selection process? Does the mechanism report on the overall leverage achieved?

- **Defined financial contribution limits.** Project by Project? Limits on entities? In cases where provision of financing is contingent on the proponent receiving financing for parts of the project from other sources, what provisions are in place to handle these contingencies?
- **Risk management.** How are risks assessed and managed? What is the role of independent advisors in project selection? Are there strategies in place to balance risk across the portfolio? (e.g. Hedging strategies, portfolio composition and diversification). What limits exist to risk management (e.g. position limits on derivatives, etc.)
- **Financial Management Systems.** Robustness of systems, up to international accounting standards? Independence?
- **Procurement standards.** Are there defined procurement standards for contractors, project proponents, and other service providers?

Table 10: Financial Probity and Sustainability

	<i>Concessional loan (e.g. Energy Smart Barbados)</i>	<i>Grants (e.g. Green Fund of T&T)</i>	<i>Carbon Finance (e.g. Alberta Climate Change and Emissions Management Fund)</i>	<i>Programmed Funding (e.g. Belize Sustainable Tourism Program)</i>
Capitalization	Initial capitalization of \$10 Million USD with expectation of recycling of revenue as loans are repaid. \$6 million to be used in a revolving fund for energy efficiency and renewable energy projects.	Currently approximately \$400 Million US with annual top ups from 0.1 % Green Fund Levy on gross sales or receipts of all businesses in T&T	Capitalized by compliance requirements of the Alberta Specified Emitters Regulatory Program. As of 2012, \$CAN 632 million invested.	Total value of loan is \$US13.3 million. Up to 5% of total financing can be part of a revolving fund to defray costs pertaining to the execution of the Program.
Leveraging Requirements	Nothing mandatory, but contributions from other parties and in kind contributions are documented in proposals.	Not mandatory, but implied in the application process	Not mandatory, but preference given for leveraging opportunities.	None
Defined Financial	Maximum loan size is \$BDS 1.5 Million (\$US	No pre-defined limits established	Maximum of 50% of capital needs to	Defined at outset of project for each of



	<i>Concessional loan (e.g. Energy Barbados)</i>	<i>Smart Growth of Enterprise Fund Ltd.</i>	<i>Grants (e.g. Green Fund of T&T)</i>	<i>Carbon Finance (e.g. Alberta Climate Change and Emissions Management Fund)</i>	<i>Programmed Funding (e.g. Belize Sustainable Tourism Program)</i>
Contribution Limits	750,000)			complete a project	program components
Risk Management	Established management procedures of Enterprise Fund Ltd.	risk of Growth	No specific risk management techniques in place other than initial selection process	CCEMC requires that all risks be divulged and discussed in documents provided and that a risk mitigation plan be implemented. Independent outside advisors assess the adequacy of the plan and program	Responsibility of Program Coordinating Unit
Financial Management Systems	Enterprise Fund has established financial management systems in place.	Growth	Agreement between Green Fund and recipients outline financial management procedures in line with the Books and Records requirements of the Trinidad and Tobago Ministry of Finance	CCEMC contracts out financial management to PwC resulting in all accounting and finance systems and processes meeting the highest standard for the private sector	Executing Agencies must have in place financial management systems to permit the verification of transactions and facilitate timely and accurate reporting
Procurement Standards	IDB Procurement policies and standards being followed		Governed by the rules and procedures of the Central Tenders Board as interpreted by the Green Fund Executing Unit	Board makes all investment decisions based on advice from independent legal and finance (PwC). Standards vary depending on the RFP type; IE SME call, renewable call, sequestration call etc...	IDB Procurement policies and standards being followed

4.5 Conclusions Related to Governance

From the above analysis, a number of general conclusions can be drawn. First and foremost, there are variations on governance choices and fund design in relation to the source of funds and the goals of the initiative – there is no “one size fits all” approach to governance. That said, for the funds we examined in detail, the following observations can be made:

- In cases where funds are generated internally to a country (e.g. the Trinidad and Tobago Green Fund and the Alberta Climate Change and Emissions Management Fund), Ministers are accountable for the operations of the fund. That said, in one case (Trinidad



and Tobago) the choice was made to have the day to day operations handled within the Ministry, in the other case (Alberta), an arms' length arrangement was made with a not for profit company to manage the Fund.

- For mechanisms designed to foster project activity in the private sector, governance choices and management procedures are more in line with those that are used in the private sector. The Energy Smart Fund of Barbados is a good example of this type of structure in that the investment decisions are the responsibility of a private sector fund manager.
- For mechanisms that are governed by a loan agreement with an outside agency such as a multilateral development bank, the day to day operations are assigned to an Executing Agency. In such cases (e.g. both Barbados and Belize), the responsibilities are split between the responsible ministry and a non-government agency with the government ministry responsibility limited to general oversight and ensuring diligent reporting.
- Financial auditing is virtually always done by independent certified accounting firms on a yearly basis. Financial records need to be kept in a manner that meets internationally accepted standards.
- Investment decisions for funds/mechanisms in which there is competition among project proponents are most often left to the Executing Agency with advice from experts. In some cases these experts are recruited and are part of the staff / management of the Executing Agency (e.g. Belize Sustainable Tourism Program) while in other cases independent experts are contracted based on their experience and skill set in relation to the project types and technologies being evaluated (e.g. Alberta)
- The choice of how much information to release to the public reflects a balance between the public's right to know and the protection of project proponents' interests. The more competitive the environment is in the private sector, the higher the pressure is to not disclose information on a project by project basis.

4.6 In-country Consultations and Identification of Capacity Gaps

Against this backdrop, the Dillon Team undertook a series of face to face meetings with a number of practitioners and fund stakeholders in three of the four countries being considered



for potential pilot projects under the CCTNP. It was decided following consultation with the Executing Agency that for the purposes of dealing with the financial elements of the project, the team would substitute a visit to Guyana with one to Barbados to gain further insight into the workings of the Energy Smart Fund and to consult with pan Caribbean tourism associations and organizations. A full list of people interviewed and their titles is found in Annex 2 to this report.

The meetings were each approximately an hour in length and consisted of the Dillon Team framing the issues in relation to financing using a short presentation (attached as Annex II to this report) and gaining an understanding of existing capacities and potential knowledge and capacity gaps in relation to climate finance. All interviews were undertaken on the basis of not being for attribution and the following points attempt to summarize the points that arose:

- On the subject of imposing user fees or levies on tourists coming into the region with the funds earmarked for initiatives designed to reduce the tourism sector's carbon footprint, there was near unanimous resistance to the idea on the grounds that additional user fees would jeopardize tourism traffic.
- There was a relatively low awareness of the size and breadth of the climate finance available worldwide and an enthusiasm among most to ensure that the tourism sector in the region was prepared and ready to access international climate funds to assist initiatives related to climate change and tourism.
- There was widespread acknowledgement that the first actions to be undertaken in the sector should be those that also help reduce operating costs. The CHENACT program aimed at introducing renewable energy and energy efficiency measures to the tourism sector was cited by a number of interviewees as a good first step in this regard.
- For projects that increase the sector's resilience to climate change, a number of interviewees noted that the cost of such projects would be prohibitive if undertaken without international financial assistance.
- A number of interviewees felt that there was a capacity gap in the region in relation to understanding the emerging international climate finance field and in preparing competitive proposals to access the funds.



- Regarding day to day operations of funds and programs receiving finance from outside the region, the interviewees indicated that in general, they were comfortable with the financial and administrative elements of governance, but that additional capacity would likely be needed in the areas of project identification, measurement and verification of environmental results and analysis of investment opportunities related to climate change.
- A number of suggestions were made for potential pilot projects and these are documented in the section that follows on potential pilot projects in the tourism sector for the region.



5. POTENTIAL PILOT PROJECTS

Based in part on the prioritization work contained in Component 1 of this project, the capacity gaps identified in this report, and suggestions made to our team during the country visits, the following is a brief list of potential pilots for consideration that was considered by participants at a workshop held in Tobago April 23-25, 2012.

Potential pilot projects for consideration that emerged from the analysis and the workshop include:

- Resource Pooling in Transportation – pilot project in the marine tours sector of either Tobago, Belize or Bahamas.
- Energy Efficiency in Hotels – Expand existing scope of Energy Smart Fund for hotels to include infrastructure replacement to hotels (doors, windows, etc.) with the view to reduce air conditioning costs.
- Adaptation actions designed to improve climate resilience at one of the marine parks in Belize.
- Removal of Barriers: CARICOM wide pilot on the development and use of standards for energy efficiency and energy management systems in the tourism sector.
- Capacity building on the development of low carbon strategies and the removal of barriers in the tourism sector.
- Accelerate changeover of tourism transportation fleet to hybrid vehicles – A subsidy fund to offset additional costs of changeover to hybrid vehicles.

During the course of discussion at the workshop, a number of additional ideas for pilot projects were put forward, including:

- Expand the CHENACT program to more countries across the region (It is our understanding that the establishment of an Energy Smart Fund for Bahamas, similar in structure to the Energy Smart Fund in Barbados, will be undertaken in the second phase of CHENACT)
- Use of deep water cooling in hotels in the Bahamas
- Capacity-building at the operator level (hoteliers, tour operators, bus/ taxi operators etc.)
- Engine upgrades for water-taxis in Guyana



- Establishment of a low-emissions bus shuttle service for the tourism operators along the Placencia Peninsula in Belize
- Improvement of recycling efforts to reduce the GHGs associated with waste disposal.

Workshop attendees were requested to submit additional details on pilot project ideas to the Caribbean Community Climate Change Centre to allow for follow-up during the implementation of Component 3 of the CCNTP scheduled for later in 2012.



6. CONCLUSIONS ON FINANCING AND NEXT STEPS

Component 2 of the CCNTP has looked at climate financing from the top down, resulting in the creation of a database of existing financing mechanisms to address low carbon development. It examined who is providing the financing, the modes by which financing is being delivered, and what the financing is being used to support. In addition, barriers that may hamper attracting investment have been discussed along with governance considerations applicable to climate finance in particular. From this analysis, a number of conclusions relative to the Caribbean tourism sector and climate financing are evident:

- **The primary sources of climate financing available for the Caribbean tourism sector as a whole to implement low carbon development activities are from international investors or a hybrid combination of national/international sources.** This is particularly the case for larger projects or programs that require a mix of funding instruments ranging from grants to concessional loans to equity and private sector debt. Typically, climate financing from international sources tends to be relatively significant in size, normally at the economy-wide national or, in the case of a group of countries, at the regional level. A challenge for the tourism sector is to ensure that its “ask” is framed within the broader economic and sustainable development priorities of the country or the region.
- **The majority of climate financing is currently focused on funding initiatives related to mitigation of the causes of climate change, but momentum is building for more finance to flow towards adaptation-related activities.** The timing is favorable now to attract climate financing to support low carbon mitigation activities aimed at reducing energy use and reliance on fossil fuels. A variety of financing initiatives are already in place in the region towards that end (e.g. the financing from the Inter-American Development Bank to support the establishment of the Barbados Smart Fund, or the domestically-sourced Green Fund of Trinidad and Tobago). In planning to make the tourism sector more climate-resilient, even more opportunities are likely to arise in the near future for projects aimed at preserving the natural capital of the region, and the tourism sector has a role to play in the formulation of programs aimed at attracting investment in adaptation activities.
- **The main mitigation activities within the tourism funds are energy efficiency, renewable energy, carbon offsetting, and sustainable destination planning and**



- management.** To date, the majority of these activities have relied on a combination of concessional loans, grants and the carbon market for financing. Most of these projects tend to be relatively small, with individual operators as project proponents. This underlines the importance of having financing facilities that aggregate one or more sources of climate financing to provide a pool of financial resources that can be accessed by individual operators.
- **Tourism operators tend not to see climate change/carbon neutrality as the primary motivator for making investments – rather investments are made on the basis of achieving reduction in energy costs.** Typically, investments in the tourism sector to take advantage of energy cost savings face a steep hurdle related to the need to achieve significant rates of return on investment over a short period of time. Concessional loans at attractive rates (i.e. below market rate) are important vehicles for assisting operators in their investment decisions.
 - **A number of barriers exist in the region related to the mobilization of climate financing for the tourism sector.** These barriers range from informational barriers (e.g. operators not making the link between climate change and their operations) to lack of technical capacity, to broader regulatory or economic barriers at the national or regional level (e.g. poor national credit rating, lack of pricing policies on carbon, etc.) An important part of designing a strategy to access climate financing will be to identify these barriers and put in place measures to address them. A number of countries are addressing these barriers in the course of developing Low Carbon Climate Resilient Development Strategies and associated Nationally Appropriate Mitigation Actions (NAMAs) and National Adaptation Plans (NAPs). These plans are central to a systematic approach to addressing barriers and targeting climate finance.
 - **Within the region, the barriers to mobilizing climate financing for investment in carbon neutral tourism vary from country to country.** A number of national policies and programs have been designed to address elements related in part to low carbon neutral tourism, at the economy-wide scale. In the course of developing these policies and programs, some of the barriers related to low carbon development have been addressed. Examples include renewable energy policies of Jamaica, Trinidad and Tobago, and Barbados, the national energy policy of the Bahamas, the Climate

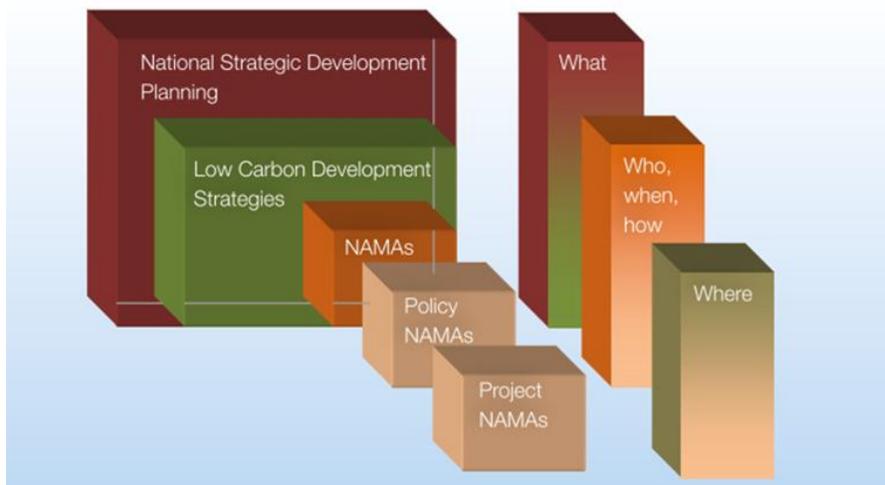


Change policy of Trinidad and Tobago and the REDD-related Low Carbon Development Strategy of Guyana.

A logical next step towards carbon neutral tourism in the region would be the development of low carbon and resilient development strategies (LCRDS) for tourism in each country to frame the initiatives required to move towards carbon neutrality. These LCDs can draw on the results of both Components 1 and 2 of the CCNTP and can be linked to broader national and regional LCDs that provide a platform for each country to attract funding, and allows for the package of projects to be compiled in a transparent and concise package that considers local context and also aligns with international and domestic funding priorities.

With LCRDS established, investment priorities then need to be packaged as Nationally Appropriate Mitigation Actions (NAMAS) that signal to the international community a country's intent to prioritize national action that both delivers GHG reductions but also contributes to sustainable development. Countries can then approach sources of international climate finance with a readymade NAMAs "shopping list" of priority investment. Funders will increasingly be interested in linking climate finance to country driven priority NAMAS.

Figure 14: Relating LCDS/ LCRDS and NAMAs to Development Planning (UNEP RISO Centre, 2011)



In this regard, Component 3 of the CCNTP, if implemented as planned, will develop a strategic framework for accessing available climate change financing as well as business plan for the tourism sector to follow in attracting funding for a path towards carbon neutrality. Low carbon



and resilient development strategies for the tourism sector that identify priority NAMAs should be an integral part of this framework.



7. ANNEXES

Annex 1: Presentations and associated briefing material made available to Caribbean stakeholders

Carbon Finance for Low Carbon, Resilient Development in the Caribbean Tourism Sector

Component 2 of the Caribbean Carbon Neutral
Tourism Program – Financing Mechanisms

Dave Sawyer - EnviroEconomics
Doug Russell - MDF Associates

Caribbean Carbon Neutral Tourism Program (CCNTP) Objectives

1. *By enhancing the Caribbean region climate resilience,*
2. *Devising ways of attracting financing to scale-up of low carbon investments in the tourism sector;*
3. *Reducing the sector's vulnerability to climate change.*

CCNTP Overview

- **Component 1: Assessing Opportunities for Low Carbon Development in Sector** (in progress – due April 2012)
 - Web-based carbon foot-printing tool
 - Capacity building
 - Technical and cost analysis of carbon mitigation measures
- **Component 2: Financing** (in progress – due April 2012)
 - Trends in Carbon Financing
 - Opportunities for Carbon Finance in the tourism sector
 - Financing low emission, resilient development actions
 - Implementing promising financial instruments
 - Recommendations for potential pilots
- **Component 3: (for completion by end of 2012)**
 - Review of vulnerability and adaptation needs
 - Assess financing options and develop strategic framework to access available climate funding
 - Develop business plan aimed at attracting possible public and private sector investment

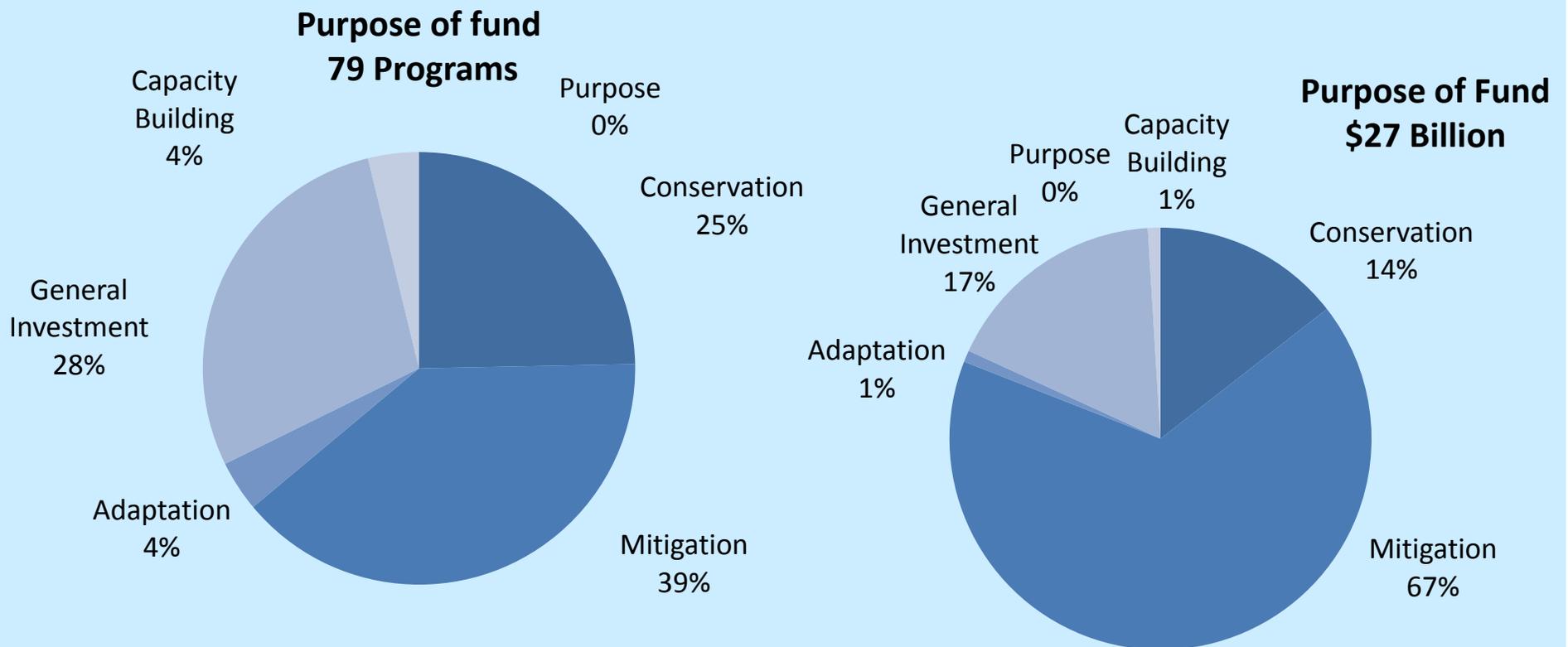
Trends in Carbon Financing

Reviewed over 100 carbon/climate funds for:

1. What does the financial instrument target?
 - Conservation, mitigation, adaptation, general investment, capacity building
 - a) For mitigation, what are the priority actions?
 - offset purchases, land-use offset supply, energy efficiency & renewables, process equipment, green procurement
 - b) What type of investment is being financed?
 - R&D, sustainable institutional policies, project-financing
2. What are the financing instruments?
 - Taxes levies fees, Carbon Market, Voluntary, International Contribution, Subsidies

Trends in Carbon Financing

What is the Purpose?

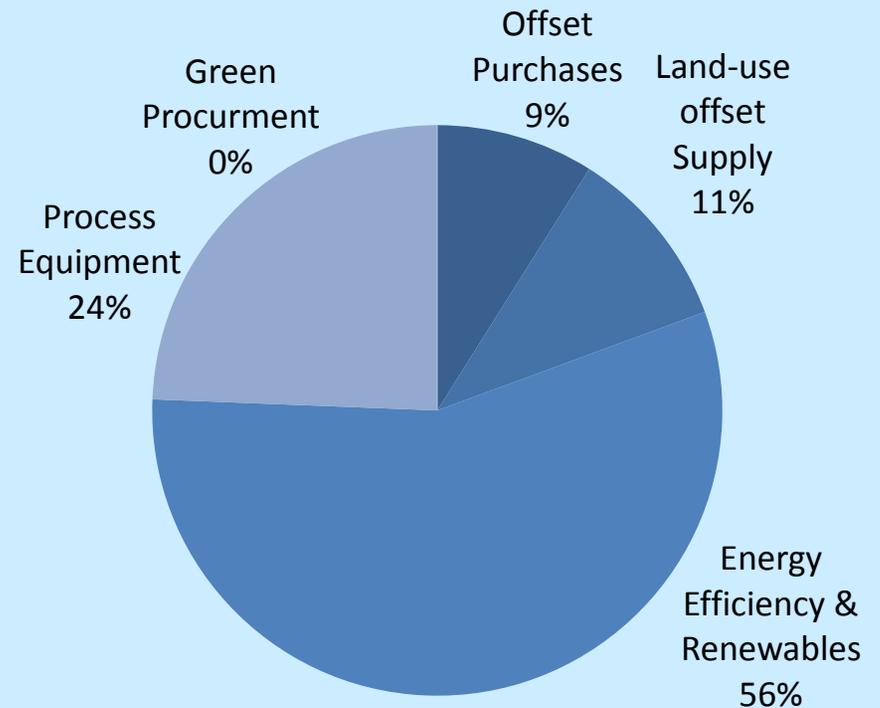
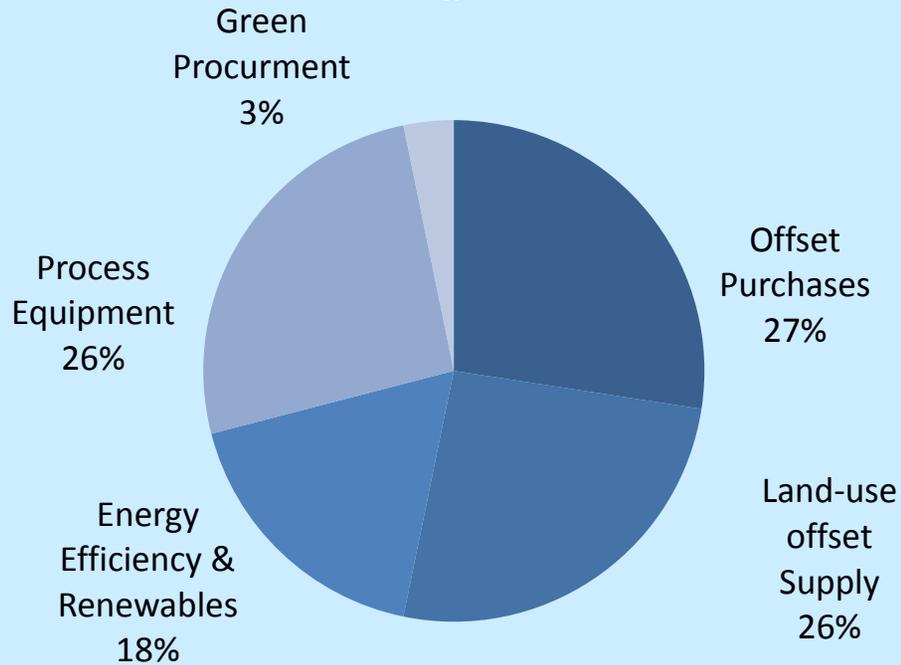


Mitigation dominates purpose

- **39%** of projects are in **Mitigation** with **67%** of the **value**,
- **28%** of projects are in **General Investment** with **17%** of value

Trends in Carbon Financing

For mitigation, what are the priority actions?

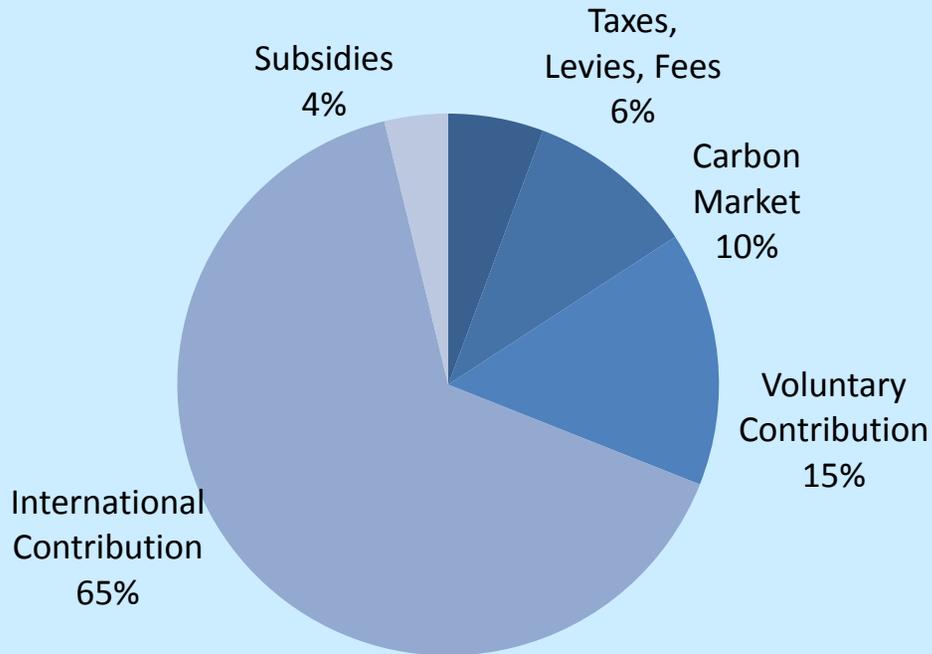


Programs addressing mitigation (31)

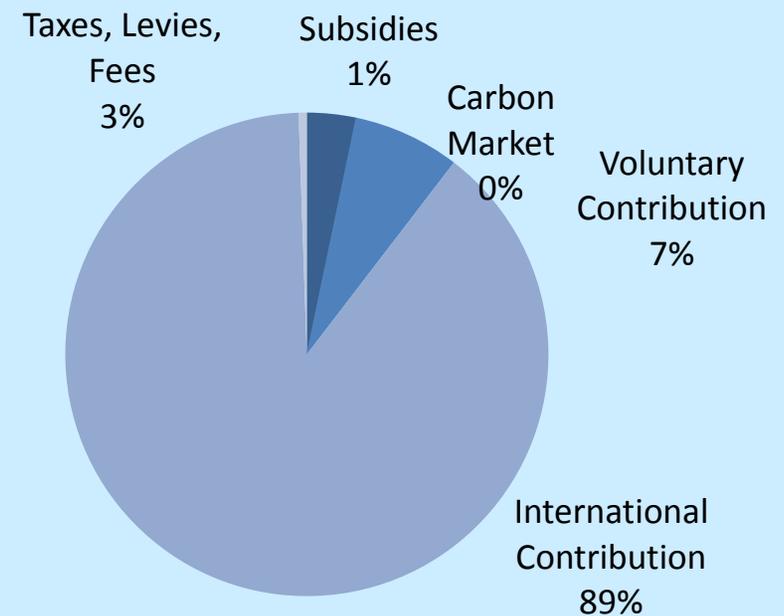
Value of Programs (\$18 billion)

- **27%** mitigation projects in **offset purchases** with **9%** of **value**,
- **26%** mitigation projects in **land-use offset supply** hold **11%** value,
- **18%** mitigation projects in **energy efficiency & renewable** with **56%** value.

Trends in Carbon Financing -What are the mechanisms?



Financial Mechanisms (79)



Value of Programs (\$27 billion)

- **65%** of the financing comes from **International contribution** accounting for **89% of value**.
- International Contribution accounts for \$24 billion of a total \$27.1 billion

Willingness to Pay in the Tourism Sector

Is there an ability to generate revenue through taxes or fees?

- **Demand for visitation at natural areas often will for the most part be unaffected , particularly at fees that are low relative to overall trip price and when there are few good substitutes**
 - **Ex.** Tourism trips, such as those to Belize, are thought to be less elastic than for traditional tourism trips, such as to Caribbean "sun and sand" destinations; this is because there are fewer substitutes
- **Domestic demand in developed countries is not price sensitive nor is international demand in developing countries**
 - **Ex.** Price elasticity's for international tourism at 3 national parks in Cost Rica: -2.87 for Volcán Poás, -1.05 for Volcán Irazú, and -0.96 for Manuel Antonio (Chase et al. (1998))
- **Unique and well managed sites will be able to sustain higher fees with little to no effect on visitation than will less unique and poorly managed sites**
 - **Ex.** Bonaire Marine Park the USD 10 fee is believed to have **increased visitation**; as divers have been attracted by the well-managed reefs
 - **Ex.** Dive operators in the Caicos Islands were “very wary” of any increases in dive price. The wariness stemmed from the governments ability to actually transform the revenue into concrete actions to protect the reef (Rudd et al. (2000:10))

Visitation Surveys

How are efforts to decarbonize the tourism sector received by visitors? How much will consumers pay for a green vacation ?

- Visitors prefer environmentally responsible tourism (Huyskens and Griffin; 2000:4)
- **84%** of Expedia clients are interested in sustainable hotels and are willing to pay **5%** more for it
- **59%** of those interviewed by Travelocity responded that some type of “green” distinction might influence their choice of hotels in 2009
- **36% of** CSR-interested tourists are willing **to pay more** for a certification of the Corporate Social Responsibility practices
- **GfK study** suggests that **an 8% upcost** is the limit which a business can expect to realize for implementing CSR programs

Financing Low Emission | Resilient Development Priority Actions

National objectives for Low Emission, Resilient Development

- Identify development priorities, climate change objectives
- Understand governance, institutional arrangements

Envisioning Low Emission and Resilient Futures

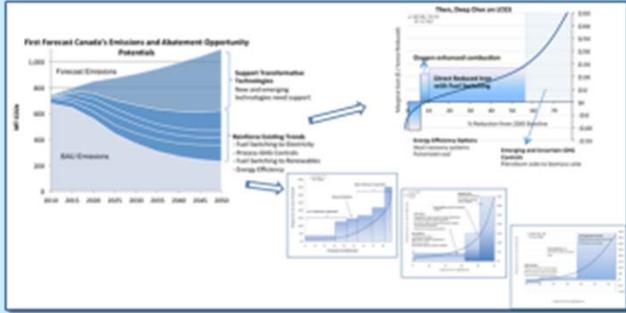
- Development futures
- Mitigation and adaptation priority actions: opportunities and barriers

Transitioning for a Low Emission and Resilient Future

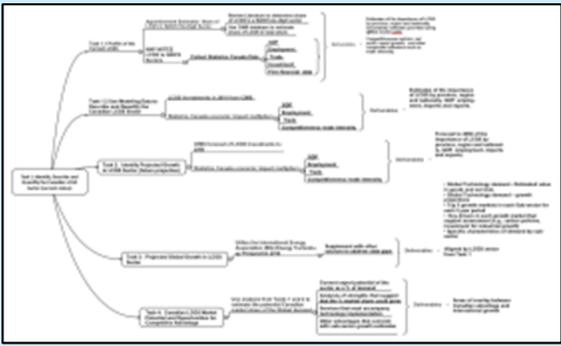
- Enabling the Transition
- Financing the Transition
- Governing the Transition

Types of Initiatives to be Financed in Caribbean Tourism Sector

1. Energy efficiency, renewable energy initiatives in hotels
2. Transportation initiatives related to tourism
3. Capacity building related to low carbon pathways and removal of barriers
4. Adaptation initiatives to improve the tourism sector's resilience to climate change



Priority mitigation (and adaptation) Actions

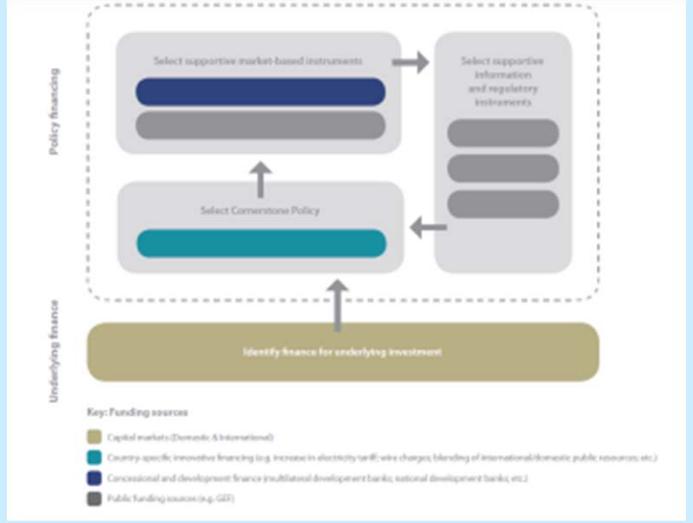
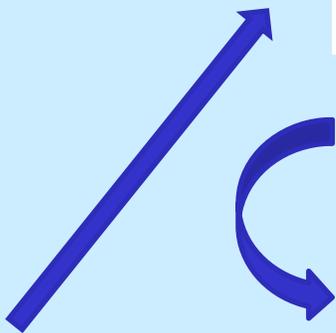


Implementation Road Map

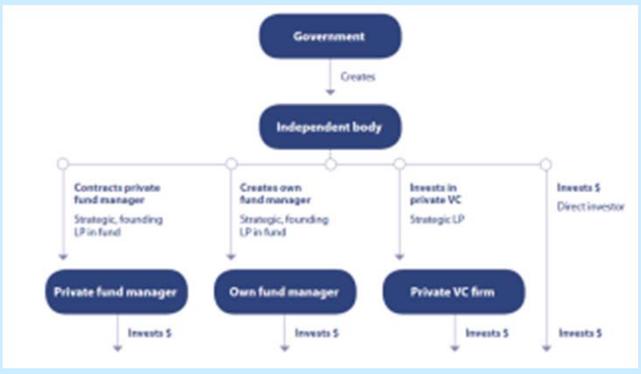


Stage of technology development	Early R&D, proof of concept	Demonstration and scale-up	Commercial roll-out	Diffusion and maturity
Examples of clean energy sectors	<ul style="list-style-type: none"> Advanced battery chemistries Rural windfalls Fuel cells (auto/industrial) Hydrogen storage Integrating renewables Material science Next-generation solar Classic power Synthetic genomics 	<ul style="list-style-type: none"> Carbon capture and storage Floating offshore wind Grid-scale power storage Marine/maritime Plug-in hybrids Solar thermal electricity generation Smart grid 	<ul style="list-style-type: none"> Biofuels Coal-bed methane Fuel cells (BFS) Heat pumps Hybrids Industrial energy efficiency LED lighting Onshore wind Solar photovoltaics Small scale hydro Smart meters 	<ul style="list-style-type: none"> Building insulation Bicycles Compact fluorescent lights Condensing boilers Large-scale hydro Mineral solid waste Onshore wind Public transport Super-cave based ethanol Traditional geothermal power Waste methane capture
Relevant asset class	<ul style="list-style-type: none"> Venture capital Private equity 	<ul style="list-style-type: none"> Public equity Debt 		

Barriers Assessment



Options for Financing Mix



Fund and Instrument Design

Barriers to Deployment

Financial

- Country indebtedness.
- Lack of investment capital for projects.
- Expectation for short payback periods.
- Competing investment priorities.
- High transaction costs.

Regulatory

- Perverse incentives.
- Regulatory barriers.
- Lack of a price signal.
- Incomplete markets and property rights.

Information and Behavior

- Aversion to new technologies.
- Lack of information.

Institutional

- Lack of leadership.
- Limited ability to implement.
- Weak enforcement.

Technical

- Lack of capacity.
- Lack of dedicated energy management position.
- Lack of benchmarking

Assessing the Right Financing Mix

Criteria to Assess Applicability to Tourism Sector

Private Perspective

- Effect on Risk
- Policy Credibility
 - Stability
 - Longevity
 - Expectations set
- Effect on transaction costs
 - Simplicity
 - Streamlined procedures
 - Clarity
 - Reduced regulatory burden

Policy Perspective

- Economic efficiency
 - macroeconomic impacts, impacts on visitation
- Program effectiveness
 - is the funding appropriate for the projects needed to improve climate resilience?
- Distributional impact
- Administrative burden
- Stakeholder and political acceptability

Governance Considerations

Governance models vary with the function/purpose of the Fund

General areas:

- Management Framework
- Project Funding specific
- Financial fiduciary

Tax-based financial mechanisms

Management Framework

Goal: Ensuring funds are managed properly in a transparent and responsible manner

Examples:

- Defined terms of reference
- Skill assessments for government agencies and executing bodies
- Independent investment advisors for discretionary decisions
- Defined and publicly available expectations for:
 - Money flows
 - Program results
 - Regular reviews
 - Independent audits
 - Public reporting
 - Sunset provisions

Project Funding Governance

Goal: Knowing that you will always have more projects than funds, need to ensure you pick the right projects. Must give enough funding to a specific project to ensure the good ones go ahead.

Examples:

- Independent and project type expertise in governments and executing agencies
- Defined set of “pre-approved” project types

Financing – Related Governance Provisions

Goal: Ensure the financial sustainability of the fund and the effectiveness of the financing package.

Examples:

- Defined limits by project types
- Defined limits for each project
- Specific internal and external financial controls
- Robust financial management systems and accounting against international standards
- Procurement standards for selecting eligible contractors
- Defined and auditable processes

Tax-Based Governance Provisions

- Applies to funds that rely in part on the tax system within the country for management – typically “earmarked” funds for specific environmental/climate change purposes.
- Typically tax collection, documentation and auditing provisions currently in use in the country can be used depending on how robust they are.

Next Steps

- Consultations
 - Tourism officials, Ministries of Finance, development banks, fund operators, Hotel operators/associations in each of:
 - Belize, Bahamas, Trinidad and Tobago and Barbados
- Finalize analysis of funds
- Assess applicability of funds for Caribbean pilots
- Document governance elements
- Complete consultations
- Present results at Wrap-up workshop in late April
- Finalize report for April 30, 2012



Annex 2: List of stakeholders consulted

Phase 1 – Belize

Terry Wright
Tourism Environment
Project Coordinator

Marion Palacio
Ministry of Finance, Belize

Phase 2- Bahamas

Person Interviewed

Mr. Earlston McPhee
Director, Sustainable Tourism

Mr. Marcus Cunningham
Bahamas Development Bank

Mr. Philip Weech
Bahamas Environment, Science and Technology Commission

Mr. Carl Oliver
Chief Economist
Bahamas Ministry of Finance
Tourism Operators
TBD

Phase 2 - Barbados

Person Interviewed

Ms. Loreto Duffy-Mayers (CHENACT project manager)

Gail Henry
Caribbean Tourism Organization
Cheryl Dixon

Caribbean Development Bank
Ferdinand Straughn
Enterprise Growth Fund

Ms. Keisha Reid
Project Manager, Energy SMART Fund
Division of Energy and Telecommunications, Prime Minister's Office

Mr. Winston Bennett
Chief Executive Officer and
Mr. Fulgence St. Prix
Technical Officer, Standards and
Ms. Verrita Maryat
Caribbean Regional Organization for Standards and Qualities

Phase 2 – Trinidad and Tobago

Person Interviewed

Mr. Kishan Kumarsingh
Head, Multilateral Environmental Agreements Unit
Ministry of Housing and the Environment

Ms. Jewel Batchasingh
Climate Change Specialist
Ministry of Housing and the Environment

Mrs. Shelley Sultanti-Maharaj Ministry of Planning and the Economy
