BUILDING NATIONAL MITIGATION SCENARIO MODELLING CAPABILITIES

INITIATIVE FOR CLIMATE ACTION TRANSPARENCY (ICAT) PROJECT

INCEPTION MEETING
14TH DECEMBER 2020

MEETING REPORT

PREPARED UNDER

Initiative for Climate Action Transparency (ICAT) supported by the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety, the Children´s Investment Fund Foundation, the Italian Ministry for Ecological Transition, and ClimateWorks.

Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

CIFF
CHILDREN'S
INVESTMENT FUND
FOUNDATION

climateworks
FOUNDATION

MINISTERO DELLA
TRANSIZIONE ECOLOGICA

The ICAT project is managed by the United Nations Office for Project Services (UNOPS)

UNOPS

Table of Contents

Acronyms and Abbreviations……4

Summary…….. 5

Opening Remarks…… 6

Part I. ICAT Project Overview…….. 6

Brief Overview…….. 6

Background……6-7

Project Objectives……...7-8

Project Expected Outcomes……...9

Expected Activities and Outputs……... 9

Next Steps……. 9

Discussions…… 9

Part II. An Overview of GHG Mitigation Assessment and Modelling for Antigua & Barbuda…… 10

What is a mitigation assessment?.....10

Why conduct a mitigation assessment?..... 10

GHG Inventories & GHG Mitigation…… 11

Overview of Mitigation Assessment Steps……12-13

Mentimeter Discussion ……13-14

Mitigation Assessment Modelling Tools……...15-16

Next Steps & Closing…… 16

Annex 1-Agenda……. 17

Annex 2- List of Participants ……18-20

Acronyms and Abbreviations

BUR	Biennial Update Report
CAEP	Climate Action Enhancement Package
CBIT	Capacity Building Initiative Transparency
CCMRVH	Caribbean Cooperative Monitoring,Reporting and Verification Hub
DMU	Monitoring, Evaluation and Data Management Unit
DOE	Department of Environment
EPMA	Environmental Protection and Management Act
GEF	Global Environment Facility
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GHGMI	Greenhouse Gas Management Institute
ICAT	Initiative for Climate Action Transparency
MRV	Monitoring, Reporting and Verification
NC	National Communications
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
SIDS	Small Island Developing States
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services

Summary

On the 14th of December 2020, the Department of Environment (DOE) convened their inception meeting for the **Initiative for Climate Action Transparency (ICAT) project** that has the aim of **Building National Mitigation Scenario Modelling Capabilities.** This project is funded by the United Nations Office for Project Services (UNOPS). The main objective of this project is to assess the impact of climate policies and actions and ensure that participating countries fulfill their transparency commitments. The project is country driven, seeking to provide capacity development to countries that already have existing Monitoring, Reporting and Verification Systems (MRV) and other mitigation or adaptation initiatives. The project is dependent on highlighting national priorities and seeks assistance from national experts while encouraging peer-to-peer learning.

The inception meeting and subsequent meetings are of outmost importance as the success of the project is dependent on the commitment and collaboration from key stakeholders involved to fulfill their own development objectives as well as Antigua & Barbuda's goal to acquire a growing economy in a sustainable and a low carbon emitting country.

The meeting was hosted virtually using Microsoft Teams platform. The attendees were asked to use the chat provided to indicate their names, agency, sector, and job title (See Annex 2). The meeting was executed as follows:

- Opening Remarks
- Part I. ICAT Project Overview
- Part II. An Overview of GHG Mitigation Assessment and Modelling for Antigua & Barbuda
- Next Steps & Closing

All meeting materials can be found at this link. These sessions are summarized below with a detailed agenda in Annex 1.

Opening Remarks

Mr. Jason Williams, ICAT's Project Manager and Data Manager at the DOE provided the opening remarks. He acknowledged the local, regional, and international attendees, and provided comments on the work that Antigua and Barbuda has done so far to grow our economy in a low carbon and sustainable manner. He highlighted that the present project will equip us with the necessary tools to conduct economy-wide GHG emission projections and mitigation analysis modelling, amongst other things. The attendees were encouraged to participate throughout the inception meeting as their input ensures the success of the project.

Director of the ICAT Secretariat, Dr. Henning Wuester, also opened with remarks introducing the role of ICAT, the transparency commitments under the Paris Agreement at the national and international level and the opportunity ICAT provides in the development of already established mitigation and adaptation objectives and peer learning experiences. . Dr Wuester also encouraged active participation since the goal of the ICAT support is to rely heavily on country-driven expertise.

Part I. ICAT Project Overview

Ms. Alisha Koulen, a member of the ICAT National Coordinating team conducted Part1 of the inception meeting. Her presentation was as follows:

Brief Overview:

Ms. Koulen provided a quick overview of the project's timeline being 11 months, with UNOPS being the donor agency and a grant funding amount of USD$167,769.00. She explained the project's objectives and the two approaches used to establish those objectives through:

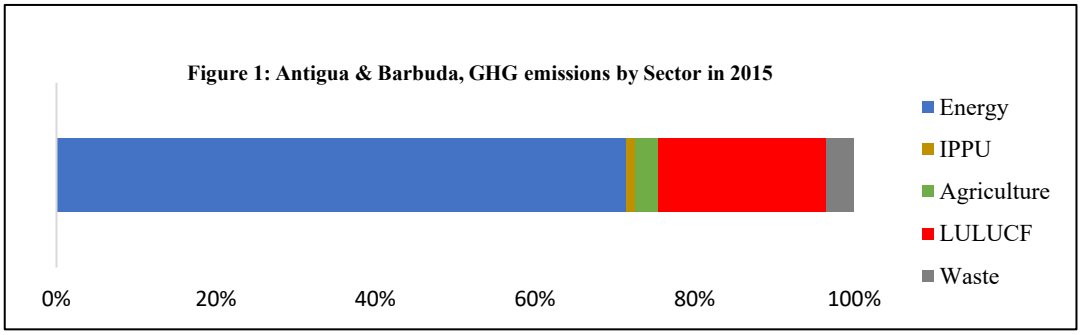
1. Increasing the overall transparency capacities of countries, including the capacity to assess the contribution of climate policies and actions on countries' development objectives and
2. Providing appropriate methodological information and tools to support evidence-based policymaking.

Ms. Koulen continued to state that the project is country driven and that ICAT seeks to work on already established mitigation goals and objectives whilst improving capacity development.

Background:

Ms. Koulen then went on to present on the status of Antigua & Barbuda and the synergy ICAT provides with Antigua's ongoing objectives. She continued to inform that the DOE is mandated to operationalize an Environment Registry. This registry is being developed under the newly implemented Global Environment Facility (GEF) funded Capacity Building Initiative Transparency (CBIT) project to house the MRV data and support its functions.

The participants were then informed that Antigua & Barbuda has submitted four GHG inventories which includes the first National Communication (NC1), the second National Communication (NC2), the third National Communication (NC3) and their First Biennial Update Report/ National Inventory Report (BUR/NIR). The fourth NC is ongoing and would cover the years 2016 to 2019. She explained through diagram, represented in Figure 1, that based on NC3 and BUR/NI report the energy sector produced the highest CO2 emissions in 2015 followed by land use and land use change and forestry sector, therefore, highlighting those sectors that have the highest potential for mitigation.



Ms. Koulen also added that the NC3 report included a quantified economy wide GHG emissions reduction target of 25% by 2020. Since then, the country's mitigation priorities have been refocused towards a policies and measures approach.

She then briefly discussed the NDCs that were submitted in 2015 which she described as Climate Plans to illustrate how a country seeks to reduce emissions. She stated that the updating of the NDCs provides the country with significant opportunities to align with sustainable growth and ensure climate development. The importance of the implementation of ICAT as it provides the country with the capability to quantitatively model climate action and policies.

Project Objectives:

Ms. Koulen then presented on the project objectives. She listed them as provided below:

1. To develop national modelling framework(s) and an underlying input dataset for Antigua & Barbuda
2. To prioritise and parameterise GHG mitigation policies and actions for analysis with relevant stakeholders
3. To strengthen the capacity of the Antigua & Barbuda government to maintain, use, and improve their national mitigation modelling capabilities for future analyses.

Project Expected Outcomes:

Ms. Koulen presented on the project expectations. She listed them as provided below:

1. Antigua & Barbuda will have sustainable capacity to conduct economy wide GHG emission projections and mitigation analysis modelling
2. Antigua & Barbuda will have the capacity to apply good practice and tools that integrate transparency of climate policies and actions
3. Policymakers in the country being well equipped to identify domestic benefits and synergies from enhanced climate action and policy transparency which would include mobilizing finances

Expected Activities and Outputs:

Ms. Koulen then briefly explained the upcoming activities from Activity 0 to Activity 6 which spans over the 11-month period. Activity 0 has been highlighted as the inception meeting has been concluded. The other activities entail further stakeholder workshops and training sessions in preparation to build a country specific mitigation model. The list of activities can be seen in Figure 2 below.

Expected Activities and Output

Activities		Outputs
Activity 0	Conduct inception phase	Inception workshop report, regular progress report.
Activity 1	Define desired mitigation model output capabilities for Antigua & Barbuda to implement Paris Agreement	Stakeholder workshop, Mitigation analysis output scope report.
Activity 2	Elaborate baseline modelling framework(s) input data structure and parameters, collect data, and institutionalise collection processes	Training session(s), Baseline scenario specification report
Activity 3	Define mitigation policy scenarios/actions, MRV metrics, and parameterise for model(s)	Training session(s), Scenario design workshop Documentation format for national mitigation policies and actions
Activity 4	Perform scenario analyses	Versions of selected model(s) for Antigua & Barbuda Draft mitigation analysis scenarios and options report
Activity 5	Validate scenario outputs with stakeholders	Validation workshop, Revised mitigation analysis scenario and options report
Activity 6	Document and institutionalise mitigation modelling capabilities for country	Final mitigation analysis scenarios report Projections and scenario analysis data collection manual, Fully documented version of modelling tool(s)

Figure 2. Table showing expected activities and outputs

Next Steps:

1. Bilateral communications will be conducted with data providers whether through formal or informal requests.
2. With continued support from key stakeholder, define a desired mitigation model that would be country specific.

Discussions:

Mr. Oraine Nurse, a member of the ICAT National Coordinating Team conducted the discussion segment. He stated that the ICAT Project provides the capacity to build a resource that should be maintained and updated by stakeholders. Therefore, being a resource that will be available long after the project's timespan. He continued to reiterate that the project is country driven initiative and that it is imperative that feedback is received from stakeholders throughout the development of the mitigation model.

Mr. Justin Goodwin, consultant to the Global Green Growth Initiative (GGGI), added comments stating that the work being done with MRV as well as the NDC implementation plan compiled a list of action plans that can be used to 'kick-start' thinking process for the project.
ChristaJoy Burton, Project Coordinator for the 4th National Communication Project, commented by stating that she is excited to work with the ICAT team and looks forward to training programs that would aid in tracking and analyzing emissions.

Part II. An Overview of GHG Mitigation Assessment and Modelling for Antigua & Barbuda

What is mitigation assessment?
Dr. Donnie Boodlal, CCMRVH consultant, initiated his presentation by defining mitigation assessment. The classical definition used was, "any anthropogenic intervention that can reduce the sources of GHG emissions (abatement) or enhance their sinks (sequestration)."

Why conduct a mitigation assessment?

1. To meet principles and objectives of the UNFCCC. Antigua and Barbuda is a non-Annex 1 party to the UNFCCC, therefore, the mitigation assessment is needed to meet those principles and objectives.
2. To provide policy makers with an evaluation of technologies, policies and practices that can mitigate climate change and contribute to national development objectives.
3. To understand the costs of avoiding climate disruption
4. To identify potential project/ programme investments

Dr. Boodlal further stated that reasons 2,3 and 4 refers to sustainable mitigation on a national appropriate level. He states that the evaluation of technologies, policies and practices should be cohesive with national objectives and priorities.

GHG Inventories & GHG Mitigation

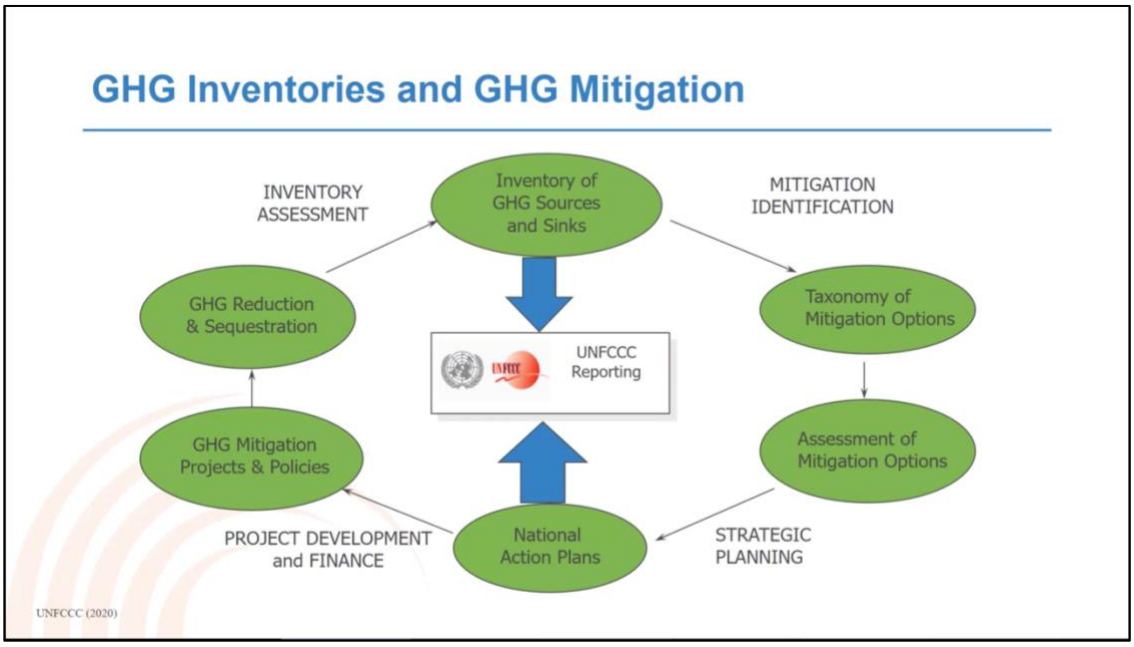


Figure 3. Flowchart showing the reporting steps to the UNFCCC

Dr. Boodlal presented on the dynamic flow of submitting reports to the UNFCCC and where mitigation assessment contributes. He explains that the '**Inventory of GHG Sources and Sinks'** (top center) is done through the submission of NCs and the BUR, this is submitted periodically to the UNFCCC. This report consists of emissions and their contributing sectors in addition to the removal of sinks. '**National Action Plans**' or the NDC is a commitment or a comprehensive action plan which outlines measures on climate change through mitigation measure while simultaneously advancing development. This is also submitted to the UNFCCC. '**Taxonomy of Mitigation Options**' and '**Assessment of Mitigation Options**'(right) involves the identification of mitigation possibilities which consist of listing the possible mitigation options or highlight costs to include abatement practices. Once there is an intended reduction target which would be well informed from the mitigation options a country can then focus on project development which requires financing so that the '**GHG Mitigation Projects and Policies**' can be implemented to increase '**GHG Reduction and Sequestration**.'

Overview of Mitigation Assessment Steps

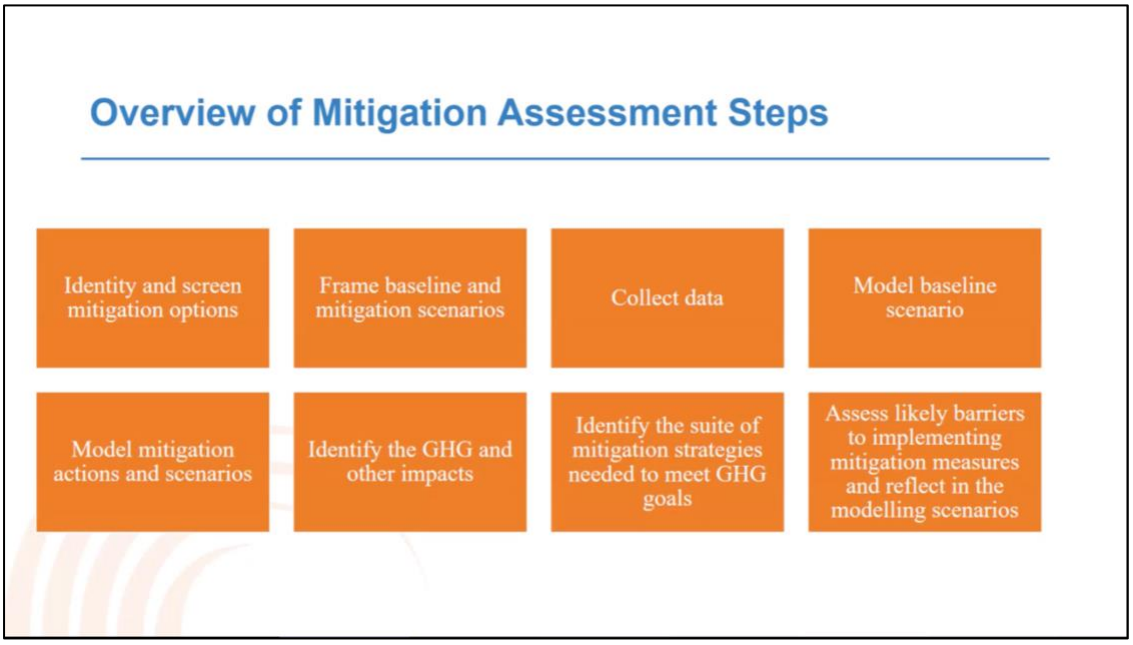


Figure 4. Illustrating the steps of mitigation assessment

'**Identify and screen mitigation options**,' this would-be a list of mitigation options that are country specific based on country priority and objectives.

'**Frame baseline and mitigation scenario**,' baseline scenario refers to how we project our emissions to trend overtime with "business as usual" or without future actions or policies to mitigate emissions. Mitigation scenario refers to how GHG emissions would trend in the future when mitigation options are integrated and how emissions would deviate from the baseline scenario.

'**Collect data,'** relevant data is collected to perform projections and calculations.

'**Model baseline scenario**' this scenario will be modelled first as the mitigation scenario stems from the baseline.

'**Model mitigation actions and scenarios**' this mitigation model is based on the baseline model and timeframe along with mitigation action plans to either abate or improve sequestration.

'**Identify the GHG and other impacts,**' identify the GHG and other impacts based on the mitigation options modelled. Identify GHG emissions under different scenarios and impacts of different mitigation options.

'**Identify the suite of mitigation strategies needed to meet GHG goals**' with a GHG goal a model can be used to identify the suite of mitigation strategies to meet the desired goal.

'**Assess likely barriers to implementing mitigation measures and reflect in the modelling scenarios**'

Proposed Functionality of Antigua & Barbuda Modelling Framework

Dr. Boodlal further explained the required functionality of the modelling framework, specific to Antigua and Barbuda. Some of the functionalities explained are as follows:

1. The requirement of a quantitative representation of all source and sink categories of GHGs from both energy and non-energy sectors.
2. Requires a detailed representation of all sources of energy demand and supply. The model provides the benefit of analyzing energy demand and supply over a specified time frame. Therefore, energy security can be assessed in the model and can be useful to Antigua & Barbuda.
3. Should address other environmental impacts (e.g., air pollution) and social impacts identified as policy priorities by Antigua & Barbuda.

Mentimeter Discussion

Ms. Benise Joseph, Programme Associate at the CCMRVH, led the mentimeter discussion. She first highlighted the role of the CCMRVH and the importance to formulate a robust partnership regionally to ensure that capacity building initiatives are provided, while creating programs that will minimize impact of losing trained personnel. Ms. Joseph further stated that this project revolves around Antigua & Barbuda and it is important that the stakeholders be trained in the model or get an understanding of the model so that it can be maintained and updated to further aid in transparency framework for reporting on NDCs and other activities.

The mentimeter was a live discussion with questions provided that allowed stakeholders to contribute in order to assess the priority and objectives of the key participants. The answers received will assist in choosing the type of model(s) that will specifically fit the needs of the various sectors in Antigua & Barbuda.

Some of the questions asked in the mentimeter were as follows:

1. **What sectors would you recommend being modeled in more detail?**

The participants responded and the sectors were ranked from the highest national priority to the lowest as follows: Energy Demand, Electricity Generation, Transport, Waste, Agriculture, Forestry, Industrial Processes and Other.

2. **Which mitigation actions would you recommend being analyzed for your sector?**

Most of the participants requested that there be a transition from fossil fuels to renewable energy, for example, electric vehicles, solar installation, utility scale solar installation etc.

3. **If you had to pick only a time frame for this analysis/modelling, which would you choose?**

The participants responded to the years provided and is ranked as preferred: 2030, 2050, 2100.

4. **What policies, apart from the NDCs, should the mitigation assessment consider?**

The participants provided some of their suggestions. These included the Environmental Protection and Management Act (EPMA 2019), Sustainable Development Goals (SDG) and Circular economy to name a few.

5. **What other sustainable development impacts should be analyzed in addition to the GHGs?**

The participants provided their feedback, most suggested that ‘resilience to extreme weather events’ should be analyzed most followed by ‘job impacts’ and ‘national productivity and economic growth’. The options ‘Social impact’ and ‘Other’ had the least votes.

6. **For modelling when do you need to see impacts?**

The participants responded and selected that a model that shows the impacts annually is preferred as opposed to seasonally and every 5 years.

7. **Which of the following, in your opinion, is the highest priority for Antigua & Barbuda?**

The attendees present participated and chose from the options provided that the highest priority for Antigua & Barbuda would be to 'Build resilience' and 'achieving NDC targets'.

Mitigation Assessment Modelling Tools

Dr. Boodlal, presented on the modelling tools and introduced the stakeholders to what they call the "bottom-up" model and the "top-down" model. For Antigua & Barbuda the "bottom-up" models are being considered, specifically GACMO, LEAP or PROSPECTS+. It was suggested that the "bottom-up" models are more suitable as they are usually end-use oriented and technology rich.

Comparison of Proposed Tools (New Climate Institute)

Assessment/Tools	GACMO	PROSPECTS +	LEAP
Coverage of emission sources	High-Level	Mid/High-Level	More detailed, particularly for energy sector
Representation of costs	Yes (limited variation over time)	No	Yes (annual variation)
Accessibility	Excel, open-source	Excel, open-source	Windows relational database, requires license
Ease of Navigation	High	Mid	High
Addresses UNFCCC reporting	Mid	High-Mid	High-Mid
Analytical Options	Limited to specific abatement measures	Facilitates multi-scenario analysis; deep-dive analysis requires links to other tools	Facilitates multi-scenario analysis and energy sector planning

Figure 5. Table showing the comparison of the three proposed tools for Antigua & Barbuda.

Dr. Boodlal, continued to state that based on the mentimeter discussions most participants preferred the model to represent impacts annually. Based on the table produced by the New

Climate Institute, the LEAP model would be best for this endeavor. However, LEAP provides the disadvantage in accessibility as a license is required to operate the model as opposed to the other models being Excel-oriented and open sourced.

Next Steps and Closing

Ms. Anik Jarvis, member of the ICAT National Coordinating Team officially closed the inception meeting. She presented the next steps for the ICAT project which includes:

- Bilateral communications would be conducted with data providers whether through formal or informal requests.
- With continued support from key stakeholder, define a desired mitigation model that would be country specific.

Ms. Jarvis thanked the attendees for their participation and for contributing to the productive discussions. Ms. Jarvis also requested from the stakeholders in the upcoming months to continue lending their support to ensure the success of the project.

Annex 1 Agenda

Initiative for Climate Action Transparency: Building National Mitigation Scenario Modelling Capabilities in Antigua & Barbuda

Inception Meeting

Date: Monday 14th December 2020
Time: 9:30a.m. – 11:30a.m.
Location: Microsoft Teams Virtual Meeting
Event Type: Inception Meeting
Meeting Facilitator: Anik Jarvis, ICAT National Coordinating Team

Time	Agenda Items
9:30 – 9:35	**Welcome and Introductions**
9:35 – 9:40	**Opening Remarks –** Data Manager: Jason Williams
9:40 – 9:50	**Remarks –** ICAT Director: Henning Wuester
Part 1	
9:50 – 10:10	**ICAT Project Overview –** ICAT National Coordinating Team: Alisha Koulen
10:10 – 10:30	**Discussion on Local ICAT Project**
Part 2	
10:30 – 11:00	**An Overview of GHG Mitigation Assessment and Modelling for Antigua and Barbuda** – CCMRVH Consultant: Dr. Donnie Boodlal
11:00 – 11:20	**Discussion:** Potential mitigation analysis questions to be addressed in Antigua & Barbuda for the upcoming 5-year period – future scenarios and priority policies
11:20 – 11:30	**Next Steps & Closing**

Pages 18-20 have been removed from the file as they contained personal information