

Report on Capacity Building in Belize



Initiative for Climate Action Transparency - ICAT

Report on Capacity Building in Belize

Deliverable #3

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6 May 2024

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The Initiative for Climate Action Transparency (ICAT), supported by Austria, Canada, Germany, Italy, the Children's Investment Fund Foundation and the ClimateWorks Foundation.

Supported by:



Environment and
Climate Change Canada

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



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Introduction

The National Climate Change Office (NCCO), under the Ministry of Sustainable Development and Climate Change, is implementing the Initiative for Climate Action Transparency (ICAT) Phase 2 project. The objectives of the phase 2 project are to strengthen national and institutional capacities to support the implementation of the developed national climate change MRV system under ICAT Phase 1, and to enhance sector, subnational and nonstate actor level support and integration into the national MRV system. With the Phase 2 project, Belize will further institutionalize the arrangements for collecting data for the national MRV system in a consultative process with all stakeholders at various levels of government and nonstate actors, and enhance capacities to assess, track and report on climate change relevant information.

The project has four outputs:

1. Analysis of outcomes of phase 1, lessons learned and relation to proposed new activities
2. Enhancing sector-level support and integration into the national climate change MRV system for Belize
3. Strengthening national and institutional capacities and tools to support the implementation of the national climate change MRV system developed under ICAT phase 1
4. Nonstate and subnational action guide piloted for a selected sector and municipality and facilitating their inclusion in the national CC MRV system

This deliverable #3, Capacity Building in Belize, falls under output 3, strengthening national and institutional capacities and tools to support the implementation of the national climate change MRV system developed under ICAT phase 1. This deliverable is a result of two activities, namely, (1) build capacity in statistical analysis and data modelling and project, technical review, and verification processes, monitoring techniques and systems, with the utilization of the ICAT tools and assessment guides where applicable, and (2) enhance capacity in reporting of GHG emissions and sinks based on UNFCCC framework, including BTR requirements, updated IPCC guidelines, etc. Therefore, this deliverable summarizes the trainings and capacity building held in Belize.

With the support of UNEP-Copenhagen Climate Centre (UNEP-CCC), experts came in country to carry out two of the training and capacity building sessions. These were:

- ✓ Capacity Building Training on the GACMO tool in Belize
- ✓ Capacity Building Training on NDC Tracking in Belize

Support was also provided by CBIT-GSP, in agreement with UNEP-CCC, for another training session:

- ✓ Training Workshop on National GHG Inventory Preparation and Reporting under the ETF: Agriculture, IPPU, and Waste Sectors

As such, the rest of the report delves into each of the training and provides an overview of what was conducted in Belize including the agenda and participant list.

Greenhouse Gas Abatement Cost Model (GACMO) Training

Overview

The GACMO training took place on January 29th to 30th, 2024 at the Dream Valley Resort in Teakettle Village in Belize. A short webinar which acted as a preliminary meeting for the training was held on January 23rd, 2024. The purpose of the webinar was to explain the main aspects of the GACMO software and advise participants on which datasets would be necessary for the training. It gave participants a chance to prepare in advance for the session.

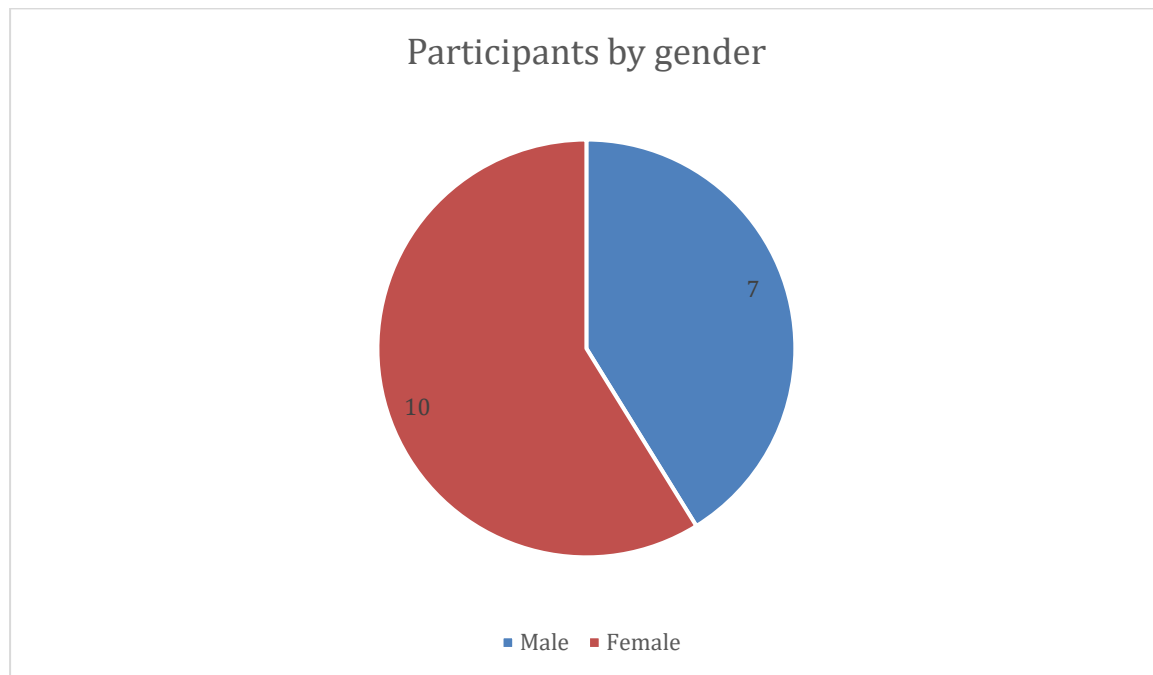
Thibaut Pasquet, an expert from the UNEP-Copenhagen Climate Centre, prepared the material and carried out the training in Belize. The training was tailored to Belize’s NDC actions using national data as much as possible. The training was aimed at technical stakeholders who work with the National Climate Change Office in developing reports such as Biennial Update Reports, Nationally Determined Contributions, etc., and as well as those who are involved in the monitoring of climate actions. This included both government and non-government entities at the national and sectoral levels.

Agenda

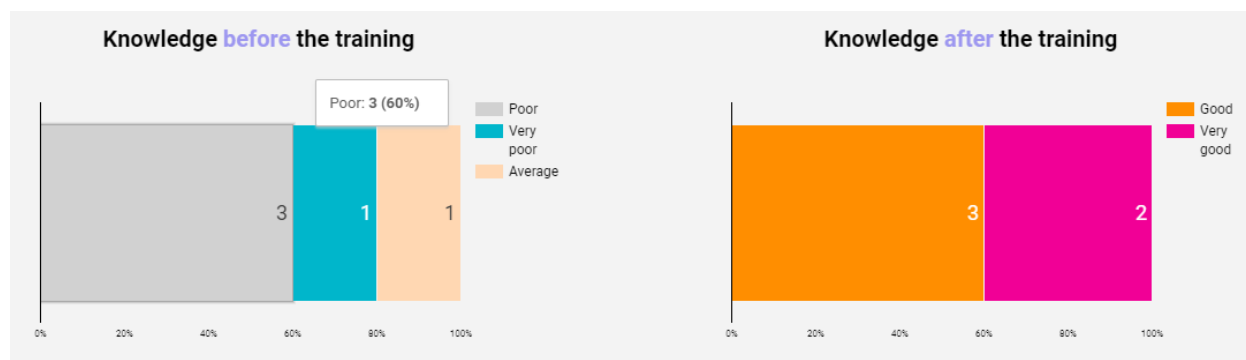
Day 1, January 29th 2024		
09.00 - 09.15	Welcoming address and registration of participants	UNEP-CCC & NCCO
09.15 - 9.30	Introduction to the ICAT Project in Belize	UNEP-CCC & NCCO
9.30 - 9.35	Agenda/organization for the next few days	NCCO
9.35 - 10.35	Description of the GACMO tool Using GACMO for projections and monitoring/reporting	UNEP-CCC
10.35 - 10.55	Pause	
10:55 - 12:00	Reminders about GACMO structure and required data	UNEP-CCC
12:00 - 13:00	Lunch break	
13:00 - 14:00	Exercise applied to assumptions/assumptions - Exercise 1 = Electricity Price and Energy price - Exercise 2 = Grid EF - Exercise 3 = Population and GDP - Exercise 4 = other assumptions	UNEP-CCC
14:00 - 14:15	Pause	
14:15 - 15:15	Exercise applied to Start Year establishment: Energy balance, GHG emission inventory - Exercise 5 = Energy balance - Exercise 6 = Electricity generation - Exercise 7 = Inventory of GHG emissions Presentation of results obtained by participants + Q&A	All participants
Day 2, January 30th 2024		
09.00-09.15	Participants registration	

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9:15 – 10:30	Reminder and summary of previous sessions, Q&A Exercise applied to growth rates (growth factors) - Exercise 8 = Growth - Exercise 9 = Results Analysis Presentation of the results obtained by the participants on growth rates and grid emissions factor/energy prices	All participants
10:30 – 10:45	Pause	
10:45 – 12:00	Presentation. Configuration of the mitigation scenario: addition of mitigation actions Technology sheets (how to adjust a technology option) Discussion of data sources for mitigation policies and measures	All participants
12:00 – 12:30	Applied exercises on mitigation options in the power generation sector. - Exercise 10 = Solar PV - Exercise 11 = Solar insolation - Exercise 12 = Investment cost of solar PV - Exercise 13 = Solar floating PV	All participants
12:30 – 13:30	Lunch break	
13:30 - 14.30	GACMO Results Presentation - GHG emissions in BAU scenario and mitigation scenario. - Marginal abatement cost/revenue curve. - MRV sheet. Use of GACMO for BTR, filling CTF tables for NDC monitoring with GACMO results.	UNEP-CCC UNEP-CCC & NCCO
14:30 – 15:00	Applied GACMO results analysis exercises: MAC Curve, GHG emissions projections - Exercise 14 = Analysis of results - Exercise 15 = Mitigation options in other years	
15:00 – 15:15	Pause	
15.15 - 16.30	Applied GACMO results analysis exercises: MAC Curve, GHG emissions projections (part 2) - Exercise 16 = Results Analysis - Total GHG Emissions - Exercise 17 = Sectoral division of GHG emissions in the BAU scenario and in the mitigation scenario - Exercise 18 = Comparing the results of the BAU scenario in GACMO with the BAU scenario in the NDC	UNEP-CCC Thibaut Pasquet
16:30 – 16:45	Feedback and discussions on the use of GACMO Next steps to develop the GACMO model for Belize	NCCO + All participants



Outcomes as communicated by participants



Responding participants expressed limited knowledge of GACMO prior to the training, while expressing they had attained good or very good knowledge of the tool after having received the training, indicating an effective building of capacity. Participants expressed the tool allowed them to compare mitigation options, establish projections and clearly see the difference in impacts from the business-as-usual scenario, in addition to be able to compare mitigation options and their cost-effectiveness. Participants also expressed that the tool also helped them realize that their own institution can find new ways to enhance emission reductions in their sector at both national and sub-national level, by taking an active role in monitoring and use of the tool.

Capacity Building Training on NDC Tracking in Belize

Overview

The capacity building training on NDC tracking in Belize took place on February 2nd, 2024, at the Dream Valley Resort in Teakettle Village in Belize. The general objective of the training was to support Belize's efforts in implementing the Enhanced Transparency Framework (ETF) under the Paris Agreement. The training provided technical understanding and application of information necessary to track progress made in implementing and achieving the nationally determined contribution (NDC) through Biennial Transparency Reports (BTR), as outlined in the modalities procedures and guidelines (MPGs) for Article 13 of the Paris Agreement. The specific objectives of the training were to:

- Provide participants an overview of BTR reporting requirements in narrative and tabular formats for NDC tracking, as outlines in the MPGs and subsequent UNFCCC guidance.
- Provide a technical understanding of the national and sectoral NDC targets, and implications for MRV, including identification of indicators to enable NDC tracking.
- Undertake practical exercises to familiarise participants with reporting the information necessary to track progress made in implementing and achieving the NDC through the BTR.

Federico Canu, an expert from the UNEP Copenhagen Climate Centre (UNEP CCC), prepared presentations and training material customized to address MRV elements needed to track Belize's NDC targets. BTR common tabular formats were converted into excel format to facilitate the compilation of information during exercises by the participants. The same formats can be useful for future country reporting and could be integrated into the national online MRV system.

This activity was intended for technical officers at the National Climate Change Office (NCCO), who coordinate the implementation of the ETF, and sectoral measurement, reporting and verification (MRV) experts responsible for reporting the progress and implementation of sectoral NDC commitments in Belize. This includes government staff at the national and sectoral levels, and staff from other institutions that are part of Belize's institutional arrangements for reporting under the UNFCCC.

Agenda

Time	Activity	Facilitator
08.30	Registration of participants	NCCO
09:00	Welcome remarks	NCCO
09:15	Introduction - NDC Tracking and BTR reporting requirements	UNEP-CCC
09:45	Q&A	All Participants
10:00	Belize NDC Targets and reporting tables	UNEP-CCC
10:30	Q&A	All Participants
10:45	Break	
11:00	Practical Exercises filling in the BTR tables in sectoral groups	All Participants
11:45	Plenary discussion on the exercise	All Participants
12:00	Closing remarks	NCCO

Outcomes as communicated by participants

The surveys were not completed by participants for this specific training. It is speculated that participants may not have responded to the survey for this training because they were also involved in the GACMO training, potentially perceiving it as a unified survey covering both sessions. Although, during the training participants expressed that they found the shared information useful. Especially the exercise with the BTR reporting tables helped putting the BTR reporting requirements into a practical context. The exercise on identifying indicators and populating the BTR reporting tables with quantitative and qualitative information also helped understanding how different types of policies and measures can be tracked. Finally, the training and exercise also assisted in identifying data gaps, highlighting future challenges for BTR reporting, especially concerning expected and achieved impacts of national climate actions, thus identifying future areas for improvement.

Transport Climate Action Data Tool (TraCAD) Training

Overview

The Transport sector has been identified as one of the sector in most need of capacity enhancement to respond to the transparency requirements under the Paris Agreement. The capacity needs included aspects related to data availability and data collection approaches and methods for GHG impact assessment. By streamlining data collection process, providing standard methodologies, and automatic GHG and marginal abatement cost assessments calculations and reporting, TraCAD had been identified as a tool to address the identified gaps.

A four-day training was held 12-15 March, with remote participation from the instructors from ClimateSI. Before the training ClimateSI assisted with the creation of credentials and configuring the country profile for the tool on ICAT's central server, and shared the tool's User manual. NCCO shared transport related climate actions to be used as cases during the training. The needed credential for each user profile of the tool were established before the training in order for participants to be able to start interacting with the tool in a learning-by-doing approach. The training was structure in such a way that the same class of user would receive training on the specific subjects and functionalities relevant to them, so some sessions were held with selected participants, while other sessions were common for all.

Agenda

Belize Time	Agenda item	Resource Person	Target Audience
Day 1 – 12th March 2024			
9.00 – 9.05	Opening Remarks	Representative from Belize, ICAT Secretariat, UNEPCCC	All the participants
9.05 – 09.30	Introduction and Tool Overview	Eng. H.M Buddika Hemashantha Director – ClimateSI	All the participants
09.30 – 09:45	Q&A		
09.45 – 10.05	Climate Action Module	Sahan Sandeepa	All the participants
10.05 -10.35	Exercise 1- How to submit a climate action	Business Analyst (ClimateSI)	
10.35 -11.00	Common functionalities of the users	Hasitha Ihalawaththa Business Analyst (ClimateSI)	All the participants

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11.00 -11.15	Exercise 1 – Manage Institutions	Hasitha Ihalawaththa Business Analyst (ClimateSI)	Country admin/Sector Admin
11.15 – 11.30	Exercise 2 – Manage Users		Country admin/Sector Admin
11.30 – 11.45	Exercise 3 – Report generation		Country admin/Sector Admin
11.45 – 11.55	Q&A		
11.55 -12.00	Wrap-up and closing remarks	Representative from Belize	All the participants
Day 2 – 13th March, 2024			
09.00 - 09.05	Opening remarks	Representative from Belize	All the participants
09.05 – 09.30	Functionalities of the Country admin	Dilshani Ranasinghe Climate Change and Sustainability Officer (ClimateSI)	Country admin
09.30 – 09.45	Exercise 1 – How to create the country profile		Country admin
09.45 – 10.00	Exercise 2 – How to send an assessment to verification		Country admin
10.00 – 10.15	Functionalities of a verifier	Sahan Sandeepa Business Analyst (ClimateSI)	Verifier
10.15 – 10.30	Exercise 3 – How to verify a climate action		Verifier
10.30 -10.45	Functionalities of the sector admin	Hasitha Ihalawaththa Business Analyst (ClimateSI)	Sector/MRV admin
10.45 – 11.00	Exercise 1 – Accept and assess the GHG impact of a climate action		Sector/MRV admin
11.00 -11.15	Exercise 2 – Accept and assess the MAC assessment of a climate action		Sector/MRV admin
11.15 -11.30	Exercise 3 – How to manage verification results		Sector/MRV admin
11.30 - 11.50	Q&A		
11.50 - 12.00	Wrap-up and closing remarks	Representative from Belize	All the participants

Day 3 – 14 th March 2024			
9.00 -9.05	Opening remarks	Representative from Belize	All the participants
9.05 – 9.30	Functionalities of the data collection team	Dilshani Ranasinghe Climate Change and Sustainability Officer (ClimateSI)	Data collection/ MRV admin
9.30 – 9.45	Exercise 1 – How to send data requests and accept received data		Data collection/ MRV admin
9.45 -10.00	Functionalities of the data-providing institution	Hasitha Ihalawaththa Business Analyst (ClimateSI)	Institution admin
10.00 – 10.20	Exercise 1 – How to manage a data request		Institution admin
10.20 – 10.40	Exercise 2 – Enter data for parameters		Data entry operator/ Institution admin
10.40 - 10.50	Q&A		
10.50- 11.00	Wrap-up and closing remarks	Representative from Belize	All the participants
Day 4 – 15 th March 2024			
9.00 -9.05	Opening remarks	Representative from Belize	All the participants
9.05 – 9.25	Functionalities of the QC team	Sahan Sandeepa Business Analyst (ClimateSI)	QC/MRV admin
9.25 – 9.40	Exercise 1 – How to send a request for QC		QC/MRV admin
9.40 – 9.55	Exercise 2 – How to assure the quality of the activity data and results		QC/MRV admin
9.55 – 10.05	Q&A and open discussion		
10.05 – 10.20	Exercise 3 – Full cycle of GHG impact assessment (group)	Hasitha Ihalawaththa Business Analyst (ClimateSI)	All the participants
10.30 -10.45	Future enhancement and conclusion	All the participants	
10.45 -11.00	Wrap-up and closing remarks	Representative from Belize	All the participants

Participant list

Workshop on National GHG Inventory Preparation and Reporting under the ETF

Overview

The workshop on national GHG inventory preparation and reporting under the ETF was held on April 16th to 18th, 2024 at the Black Orchid Resort in Burrel Boom Village in Belize. The primary objectives of the workshop were to support the country teams in charge of reporting the results of the national GHG inventory process with a comprehensive understanding of the 2006 IPCC Guidelines for National Greenhouse Gas Inventory (GHGI), following the considerations indicated in the MPGs. The specific objectives of the workshop included:

- Provide these national inventory teams with useful information and international experiences to facilitate their reporting to the UNFCCC following the ETF under the Paris Agreement
- Provide an overview of the fundamental principles, methodologies, and reporting requirements outlined in these IPCC 2006 guidelines, with a specific focus on their practical application within the Agriculture, IPPU and Waste sectors.
- Equip participants with the knowledge and insights necessary to actively contribute to accurate measurement and reporting of greenhouse gas emissions, fostering a deeper understanding of sustainability practices in these critical sectors.

The training focused on hands-on training of Belize experts on methodologies for the estimation of GHGs emissions in different sectors. It was divided into four modules: the Crosscutting module which provided an overview of general requirements for reporting National GHG Inventories by the IPCC 2006 guidelines, as well as key aspects to comply with transparency conditions established in MPGs for preparing countries' first BTR.

The other three modules included sector specific sessions in the Agriculture, IPPU, and Waste sectors based on the capacity needs of the country. In each of the sessions, a presentation was delivered to explain the key concepts and to discuss methodologies which will be used to estimate emissions using different methodological tier approaches. Moreover, sources of data, QA/QC, and sources of uncertainty in each of these sectors were discussed, followed by exercises using country specific circumstances.

This training was intended for technical officers who work as coordinators of the national GHG inventory and sectorial coordinators of the inventory. This includes government staff at the national and sectoral levels, and staff from other institutions that are part of countries' institutional arrangements for reporting inventories under the UNFCCC and the Paris Agreement.

Agenda

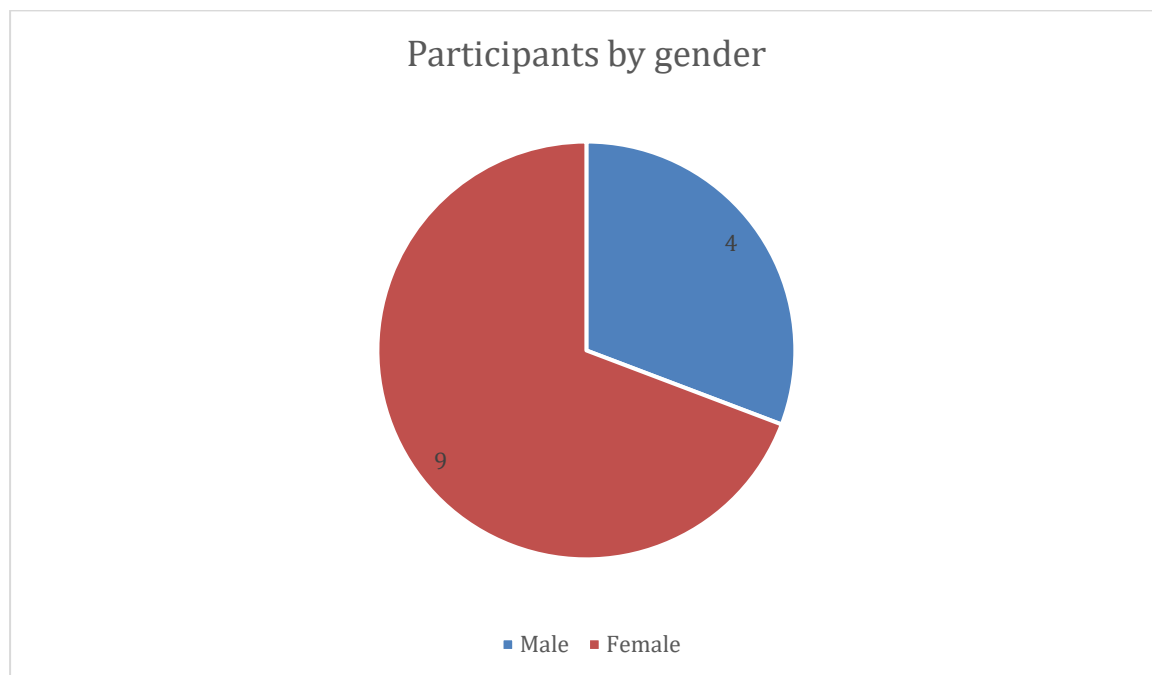
Time	Activity	Speaker
Day 01 - 16/04/2024 (Crosscutting)		
8:45 – 9:00	Registration	
9:00 - 9:15	Opening session and welcoming remarks	NCCO

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9:15 - 9:30	Introductions, Purpose and Objectives for the next 3 days	Brittany Meighan Rancharan, CBIT-GSP
9:30 - 10:00	Presentation: Introduction to the Provisions of the ETF & MPGs, new requirements for Biennial Transparency Reports (BTR) and reporting national GHG inventories under the Paris Agreement and associated flexibility provisions. Presentation of contents of the Common Reporting Table (CRT)	Brittany Meighan Rancharan, CBIT-GSP
10:00 - 10:15	Q&A and sharing of opinions	Facilitator
10:15 - 10:35	Coffee Break	
10:35 - 10:50	Exercise: applying different flexibility provisions for developing countries (tables and text).	Brittany Meighan Rancharan, CBIT-GSP
10:50 - 11:05	Presentation: GHG Inventory Linkages to National Agenda - Linkage to upcoming projects (BTR, REDD+, CBIT) - Legal Arrangements	Kamil Salazar, NCCO
11:05 - 11:20	Presentation: BTR status, plans for preparation of National GHG Inventory for BTR, Challenges in preparing GHG Inventory under the ETF (NID/BTR) compared with the MRV (BUR), Institutional Arrangements	Brittany Meighan Rancharan, CBIT-GSP
11:20 - 12:00	Exercise on BTR Planning Tool	All Participants
12:00 - 13:00	Lunch Break	
13:00 - 14:00	Presentation on IPCC National GHGI Reporting and Guidelines: a) Approaches to Data Collection, Existing data management system, gaps, and suggestions b) Uncertainty analysis c) Methodological Choice and Identification of Key Categories Followed by Q&A session	CBIT-GSP
14:00 - 15:00	Presentation on IPCC National GHGI Reporting and Guidelines: d) Time Series Consistency including splicing techniques (Including practical exercise) e) Quality Assurance/Quality Control and Verification f) Reporting Guidance and Tables g) Recalculation Followed by Q&A session	CBIT-GSP
15:00 - 15:20	Coffee Break	
15:20 - 16:00	Tools and Software for Reporting • Introduction to the tools and software available for facilitating reporting. • Live demo of the IPCC Inventory software tool • Information on UNFCCC ETF Reporting Tool	CBIT-GSP

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16:00 - 16:15	Closing remarks and expectations for following workshop days	Organizers and Host Country
Day 02 - 17/04/2024 (Agriculture & IPPU Sector)		
8:45 - 09:00	Registration, Recap Day 1 and Agenda for Day 2	Facilitator
9:00 - 9:10	Introduction to the Agriculture Sector	CBIT-GSP
09:10 - 9:25	Overview of Belize's Agriculture GHG Inventory	Host Country
9:25 - 10:15	Agriculture Sector Methodological overview for the Agriculture sector Livestock-related emission sources, data collection	CBIT-GSP
10:15 - 10:30	Coffee Break	
10:30 - 11:15	Soil and crop-related emission sources, data collection, and estimation methods	CBIT-GSP
11:15 - 12:00	Agriculture Data Exercise with Belize's GHG Inventory	CBIT-GSP
12:00 - 13:00	Lunch Break	
13:00 - 13:15	Overview of Belize's IPPU GHG Inventory	Host Country
13:15 - 14:15	IPPU Sector Overview Mineral Industry: Cement, Lime, Glass, Use of Carbonates	CBIT-GSP
14:15 - 14:45	Non-Energy Products from Fuels and Solvent Use: Lubricant, Paraffin, Solvent Use, Other	CBIT-GSP
14:45 - 15:00	Coffee Break	
15:00 - 16:00	Product Uses as Substitutes for Ozone Depleting Substances: Refrigeration and Air Conditioning, Foam Blowing Agents, Fire Protection, Aerosols, Solvents, Other Applications	CBIT-GSP
16:00 - 16:15	Discussion and wrapping up	Organizers and Host country
Day 03 - 19/03/2024 (Waste Sector)		
8:45 - 09:00	Registration, Recap Day 2 and Agenda for Day 3	Facilitator
09:00 - 09:15	General Overview of Waste Sector	CBIT-GSP
09:15 - 09:30	Overview of Belize's Waste Sector GHG Inventory	Host Country
9:30 - 10:30	Waste Generation and Management Data, Waste composition data + Q&A session	CBIT-GSP
10:30 - 10:45	Coffee Break	
10:45 - 12:00	Solid Waste Disposal: Managed and Unmanaged Incineration and Open Burning + Q&A session & Exercise	CBIT-GSP
12:00 - 13:00	Lunch Break	
13:00 - 14:00	Knowledge Check Exercise	CBIT-GSP
14:00 - 14:45	GHG Inventory Team Planning Session	NCCO + Sector Leads
14:45 - 15:00	Coffee Break	
15:00 - 15:15	Main learnings and evaluation of the event - next steps	Organizers and Host Country



Outcomes as communicated by participants



All responding participants confirmed they will apply the attained knowledge from the training in their work. The attained knowledge has been deemed especially helpful for the preparation for the respective sectors' GHG inventory chapters in the BTR and for strengthening institutional information systems on GHG emissions. Participants now see the importance of transparency and methodological thoroughness, acceptable approaches in the lack of data, and the need for coordination across sectors. 80% of respondents said they were very satisfied with the training, and 20% said they were satisfied.