

**Australian  
Volunteers**



# **Training Manual on Climate Change Monitoring/ Measuring, Reporting and Verification**

**A 13-module course (26 hours) held between Dec. 23, 2019 - Nov. 13, 2020  
at the Environmental Conservation Department, Nay Pyi Taw**

Jointly Prepared by

**Environmental Conservation Department,  
Australian Volunteers Program, and  
Global Green Growth Institute**

February 2021

**Disclaimer: Training material has been prepared based on the CGE training materials on the national GHG inventories.**



# **INTRODUCTORY FOREWORD**

## FORWARD LETTER BY ENVIRONMENTAL CONSERVATION DEPARTMENT

Climate change is the most significant issue for the 21<sup>st</sup> century. While it has been developing for many decades, it is now at a crucial stage where mitigation actions are critical and adaptation actions are vital to ensure the ongoing survival of humanity in a changed and changing world. The Republic of the Union of Myanmar has been a long-term signatory to international climate change treaties and clearly understands the role the entire global community, including itself, needs to take to tackle this issue of fundamental significance.

The Environmental Conservation Department has gladly partnered with the Global Green Growth Institute to address different issues within the broad extent of Climate Change. Education, awareness, and capacities across the country have been acknowledged as important factors for understanding Climate Change and to take actions needed to try to address problems. Hence, ECD has been very supportive of GGGI in developing an initiative to provide Climate Change training to ECD staff, and more broadly where needed.

With the Australian Volunteers Program, GGGI has developed a volunteer assignment “Climate Change MRV Training of Trainers, Capacity Building Specialist” (where MRV means monitoring, reporting and verification). This has involved the active support of two AVP volunteers over during the period of 2018-2020 to develop and deliver, a valuable in-house 14 lesson training program covering the essential background information on climate change and on the MRV of the NDC. In addition, specific sub-sectoral trainings on the MRV of Energy, Industrial Processes and Product Use (IPPU) and Agriculture were developed in 2020 training modules. Unfortunately, due to Covid-19, the inperson training had to be curtailed, meaning only 9 of the lessons were delivered in-person, while 4 lessons were delivered online.

I would like to acknowledge ECD’s appreciation for the effort that has gone into the development of this manual and associated presentations. Together with the training of ECD’s own in-house trainers, these materials will form a valuable resource that ECD will use and adapt as an education tool in line with its Human Resource strategy in maintaining and building government capacities to fulfill the Government of Myanmar’s reporting obligations to the UNFCCC.

Sincerely,



Hla Maung Thein  
Director General  
Environmental Conservation Department

## FORWARD LETTER BY AUSTRALIAN VOLUNTEER PROGRAM

The title of this Australian Volunteers Program (AVP) assignment was “Climate Change MRV Training of Trainers, Capacity Building Specialist”. It was to run for 12 months as a follow-up to a previous AVP assignment, during which time the AVP volunteer, in collaboration with GGGI (the Global Green Growth Institute) and ECD (the Environmental Conservation Department) would:

- ◆ develop a training plan,
- ◆ produce a series of lessons,
- ◆ deliver them to a group of ECD trainers, and finally
- ◆ observe and provide feedback to the trainers as they delivered the lessons to ECD staff.

Each lesson consisted of a PowerPoint presentation and an accompanying English transcript as a guide for the trainers. ECD produced Burmese language translations of the transcripts. The 14-lesson program was to be delivered between December 2019 to April 2020.

Unfortunately, with the spread of the Covid-19 pandemic, AVP deemed it necessary to return all volunteers back to Australia with the subsequent termination of all AVP assignments. Five lessons were still to be prepared and delivered covering the climate change sub-sectors, data, quality assurance and a final summary of the program. GGGI produced lessons to cover the sub-sectors (Energy, IPPU and AFOLU), and GGGI and AVI delivered a summary lesson. Myanmar has significant data needs including developing data collection systems, ensuring data quality and providing analysis of data time series, as well ensuring quality control in monitoring actions addressing Myanmar’s targets under the Paris agreement, which it is great to note that it is addressing through its CBIT project.

This booklet is a tangible output from the AVP assignment that will provide a permanent reference for the parts of climate change covered under the training. It should not be considered as an exhaustive stand-alone reference as it also delivers references for additional useful materials; however it should serve as the starting point for any staff intending to be involved in climate change MRV related activities. Hopefully the training will be used into the future to provide valued, constructive background for climate change to help in understanding its complexities and facilitate the implementation of adaptation and mitigation actions in Myanmar.

Sincerely,



Dr. Andrew White  
Climate Change and MRV Training Specialist  
Australian Volunteer Program

## FORWARD LETTER BY GLOBAL GREEN GROWTH INSTITUTE

The Environmental Conservation Department (ECD) within MONREC is the national focal agency for the UNFCCC and as such plays a central role in Monitoring, Reporting and Verification (MRV) of all actions undertaken by the Government of Myanmar (GoM) to implement its commitments under the Paris Agreement. GGGI signed an MOU with MONREC on Feb.9, 2017 to support the GoM in implementation of Myanmar's Nationally Determined Contributions (NDC).

Under the guidance of ECD DG U Hla Maung Thein, GGGI has committed to supporting the GoM to develop the national institutions and human capacities needed for collection, quality control, and reporting on the data related to NDC implementation. In parallel with GGGI's assessing the existing institutional frameworks for data collection and reporting, GGGI's embedded advisory team and ECD have implemented a program to strengthen human capacities within government under technical oversight of GGGI experts in MRV (Mr. Siddhartha Nauduri) and Climate Diplomacy (Ms. Anna Shulz).

During 2018-2019, GGGI, ECD and the Australian volunteer, Ms. Kristina Downey, developed a training curriculum that was implemented with 24 ECD staff on the foundational principles of climate change, an orientation to the Paris Agreement, an overview of the components of Myanmar's expected NDC MRV system, and an on Climate Diplomacy. We would like to particularly acknowledge the support in training materials development and training program coordination by ECD Climate Change Unit staff: Ms. Su Su Lwin (SO) and Ms. May Eindra Kyaw (DSO).

In order to initiate institutionalization of this knowledge and training capacities, ECD and GGGI were pleased to welcome AVI volunteer Dr. Andrew White in late 2019 to support the development of this capacity-building program into a Training-of-Trainers (ToT) program. While the trainings were curtailed due to the COVID19 outbreak, we are pleased to have been able to complete most of the intended training modules, and the delivery by the Trainers of the course to 25 ECD staff during 2020. We would like to acknowledge the contributions in time and expertise by those ECD Climate Change Unit Trainers in this program: Dr. San Win (DD), Daw Thin Thuzar Win (DD), Daw Thi Thi Soe Min (AD), U Aung Thu Han (AD), Daw Zinmar Phyu (SO), U Khin Maung Soe (SO), U Kyaw Soe Win (SO) and U Nay Linn Oo (DSO), and our thanks to staff member Mr. Siddhartha Nauduri (MRV Specialist), Mr. Thiha Aung (Country Program Officer) and Ms. Thinn Thinn Khaing (Program Associate) who helped to coordinate/facilitate these training activities.

Looking to the future, ECD and GGGI aim to develop these skills and training materials further into sector-specific trainings to be delivered with each ministry/agency whose contributions will be needed in the MRV of Myanmar's NDC actions. We are eager to explore further partnerships that can support the development/implementation of such capacity-building activities. Given the limitations on in-person training posed by the current COVID situation, particular efforts will need to be made to develop more virtual, interactive learning platforms to support delivery of these materials, as well as others identified in ECD's Human Resources development strategy.

Finally, GGGI would like to express its warm appreciation for the strong support and guidance provided by ECD DG U Hla Maung Thein in developing GGGI's partnership with ECD to support MRV of the NDC, and reiterates its commitment to supporting the GoM in this area in the future.

Sincerely,



Dr. Aaron J.M. Russell  
GGGI, Myanmar Country Representative

## LIST OF ACRONYMS

AFOLU	Agriculture, Forestry and other land use
AWGCC	ASEAN Working Group on Climate Change
BAU	Business as Usual
BTR	Biennial Transparency Report (see TUR)
BUR	Biennial Update Report
CBIT	Capacity-Building Initiative for Transparency
CCA	Climate Change Adaptation
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CMP	Conference of the Parties serving as the meeting of the Parties to the the Kyoto Protocol
COP	Conferences of the Parties (of UNFCCC)
ECD	Environmental Conservation Department
ETF	Enhanced Transparency Framework
FLEGT	European Union's Forest Law Enforcement Governance Trade programme
FMCP	Facilitative multilateral consideration of progress
FNC	First National Communication
GEAP	Gender Equality Action Plan
GEF	Global Environmental Facility
GGGI	Green Global Growth Institutue
GHG	Greenhouse Gas
ICA	International Consultation Analysis (of TUR, now called Multi-lateral Sharing of Views)
ICTU	Information for Clarity, Transparency and Understanding
INC	Initial National Communication
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Product Use
LDC	Least Developed Countries
LULUCF	Land use, Land use change and Forestry
MCCA	Myanmar Climate Change Alliance
MCCMP	Myanmar Climate Change Master Plan (2018-2030)

MCCP	Myanmar Climate Change Policy (2019)
MCCS	Myanmar Climate Change Strategy (2018-2030)
MCCSAP	Myanmar Climate Change Strategy and Action Plan (2016-2030)
MoNREC	Ministry of Natural Resources and Environmental Conservation
MRRP	Myanmar Reforestation and Rehabilitation Program
MRV	Monitoring/Measuring, Reporting and Verification
MSDP	Myanmar's Sustainable Development Plan (2018)
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NAPA	National Adaptation Program of Action
NC	National Communication
NDC	Nationally Determined Contribution (from INDC)
NECCCCC	National Environmental Conservation and Climate Change Central Committee
NIR	National Inventory Report
PA	Paris Agreement
PCCB	Paris Committee on Capacity Building
PFE	Permanent Forest Estate
PPF	Protected Public Forests
QAQC	Quality Assurance Quality Control
REDD+	Reducing Emissions from Deforestation and forest Degradation in developing countries
RF	Reserved Forest
RPC	Representative Concentration Pathways
SIDS	Small Island Developing States
SME	Small to medium enterprise
SNC	Second National Communication
TER	Technical Expert Review
TNA	Technology Needs Assessment
TUR	Transparency Update Reports (update for BUR)
TWG	Technical Working Group
UNFCCC	United Nations Framework Convention on Climate Change

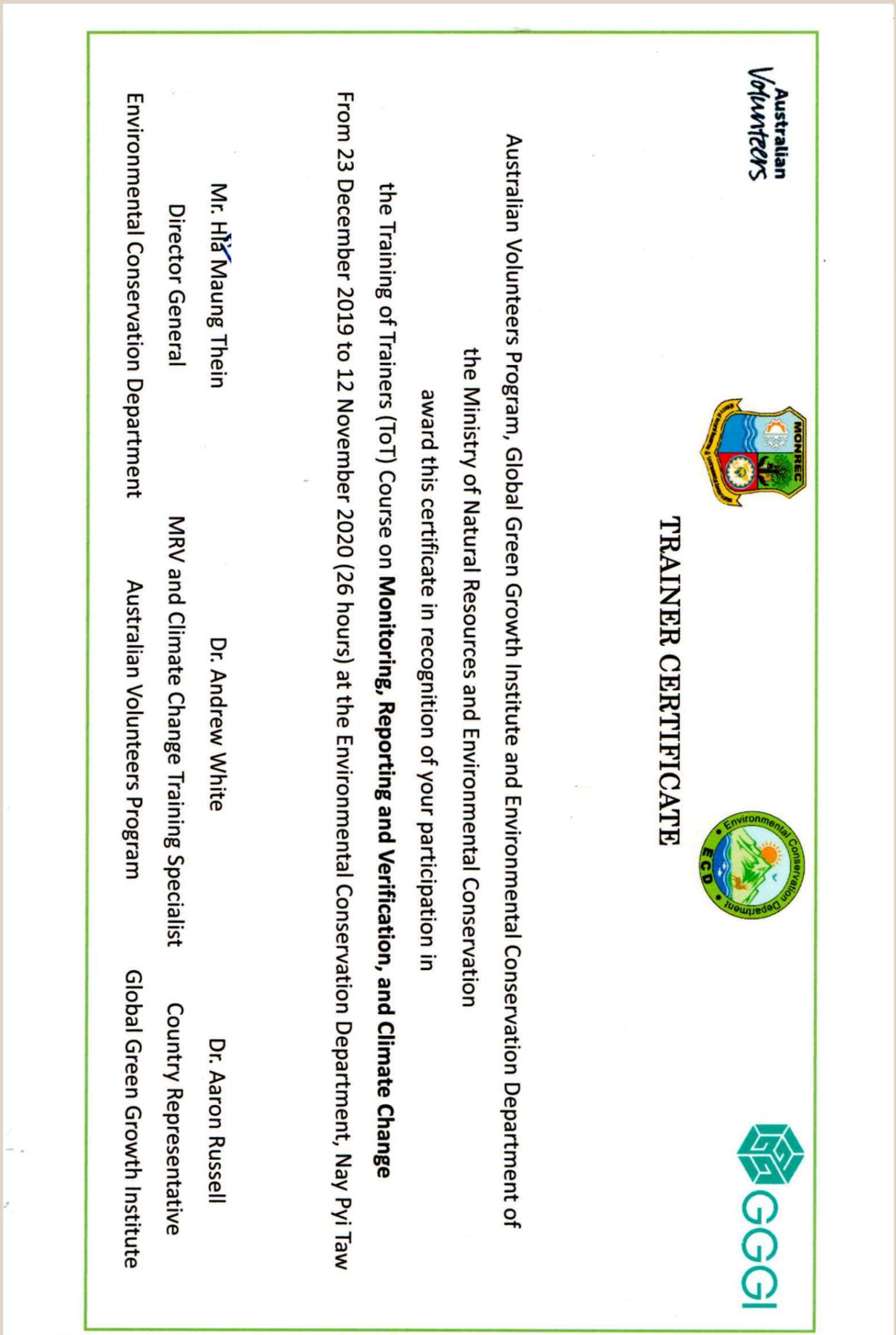




Figure (1): GGGI MRV TOT Training Closing Session



Figure (4): Dr. Andrew White, AVP climate change capacity building specialist, delivering training for ECD staff via Zoom



Figure (2): Ms. Kristina Downey, AVP climate change specialist, providing tran training



Figure (5): Mr. Siddhartha Nauduri, GGGI MRV specialist, delivering MRV training for ECD staff via Zoom



Figure (6): Dr. San Win, Deputy Director, who led contributions in time and expertise in Training-of-Trainers (ToT) program for ECD Climate Change Unit Trainers

Figure (3): Dr. Andrew White, AVP climate change capacity building specialist, delivering in-person training for ECD staff



Figure (7): Ms. Kristina Downey, AVP climate change specialist, providing hands-on training to ECD staff





Follow our activities on  
Facebook and Twitter



[www.gggi.org](http://www.gggi.org)