



Course Outline

Annual International Training Course

1. **Course Title:** Climate Change Mitigation & Adaptation: Pathways for Sustainable Development

2. **Duration:** 19-30 May 2025 (10 Working days)

3. **Background:**

Climate change, an undeniable global issue, strongly influences sustainable development. The importance of the climate change issue can be seen in the United Nations Sustainable Development Goals (SDGs) as Goal No. 13, which aims to take urgent action to combat climate change and its impacts. A warming climate alters natural ecosystems and the productivity of human food sources, thus hindering sustainable development speed. Developing and least developed countries will be affected the most, partly due to the lack of ability to cope with those changes. Although redressing a changed climate system may not be possible at this stage, mitigation and adaptation measures can be employed to minimize the impact of climate change on several sectors. Thus, mitigation and adaptation measures can be viewed as tools for shaping the direction of global development.

The real problem in implementing mitigation & adaptation measures lies in the fact that the understanding of the concept for both measures is limited in poor developing and least developed countries. Moreover, measures employed in one local area may sometimes not apply to another area. Thus, designing a policy or program appropriate to each locality is crucial. This training course aims to provide participants with information via lectures, classroom activities, and field visits. In addition, mitigation and adaptation practices in Thailand, such as smart farming, the agricultural sector, and the micro-grid energy production system, will be covered to provide the participants with best-case practices.

4. **Organization/Institution**

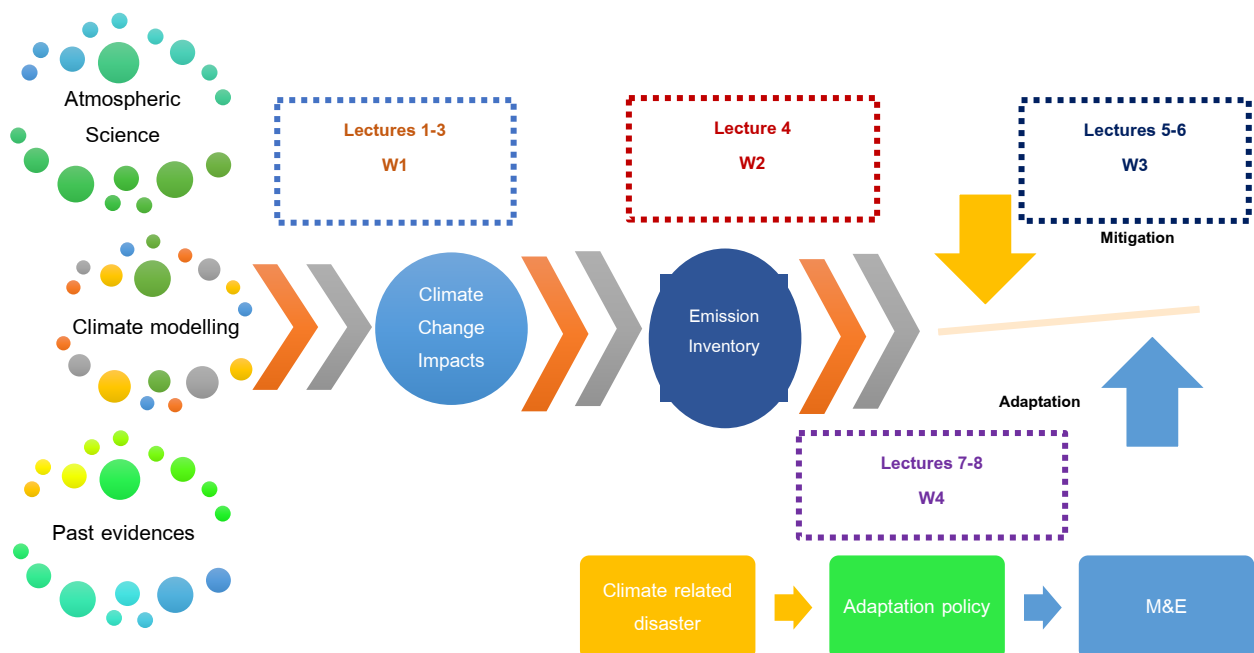
Environmental Science Research Center, Faculty of Science, Chiang Mai University

5. Objectives:

The program is designed to enhance participants' knowledge in mitigation and adaptation, which enormously facilitates sustainable development by reducing climate change's impacts on livelihood. In addition, the course also intends to provide hands-on experience for the participants in various aspects related to climate change mitigation & adaptation planning and implementation via class exercises, assignments, and discussion sessions.

6. Course Contents:

The course will provide participants with nine lectures and four workshops, as shown in the diagram below. The course is designed to provide participants with basic knowledge of atmospheric science, evidence-based impacts of climate change, and the tools for climate monitoring. Then, participants will learn and carry out the calculation of GHG emissions to develop a GHG inventory. The workshop on this Topic will also provide participants with the development of mitigation measures for the selected sector. Finally, we will discuss various mitigation and adaptation measures based on the emission inventory. However, due to the lack of understanding of adaptation policy design, the steps in drafting/designing adaptation policy will be covered with an exercise in which participants must present their work on the last day of the training program.



7. **Participants Criteria:**

Applicants must fulfil the following requirements:

- Be nominated by their respective governments;
- Education: Bachelor's degree with basic knowledge in environmental science or deals with environmental issues in their work.
- Language: proficiency in English (speaking, reading, and writing)

8. **Attendance and Evaluation**

Participants who complete the training will receive a certificate based on:

- Real-time class attendance (not less than 80%)
- Interactive class participation
- Presentation and report
- Overall assessment

9. **Venue:** Environmental Science Research Center, Faculty of Science, Chiang Mai University

10. **Expected Results:**

Upon completion of this training course, participants will be able to perform the following tasks;

- a. Explain the relationship between climate change and sustainable development, emphasizing how mitigation and adaptation measures can facilitate sustainable development.
- b. Understand the theory behind GHG emission calculation and calculate gas emissions from the selected sector.
- c. Develop a climate change policy/action plan suitable for local conditions.

11. **Organization/ Institution:**

- **Implementing Agency;** Environmental Science Research Center (ESRC), Faculty of Science, Chiang Mai University

Address: Environmental Science Research Center,
Faculty of Science, Chiang Mai University,
239 Huay Kaew Road, Tambon Suthep, Muang District,

Chiang Mai 50200

- **Contact Person** Assoc. Prof. Dr Alice Sharp (Training Course Working Group Leader) Email: alice.sharp@cmu.ac.th

12. Expenditure/Funding:

Thailand International Cooperation Agency (TICA)
Government Complex, Building B (South Zone), 8th Floor,
Chaengwattana Rd. Laksi District, Bangkok 10210 THAILAND
Website: <https://tica-thaigov.mfa.go.th/en/index>
Email: aitc@mfa.go.th

Schedule for the Training Programme:

.....

Date/ Period /Topic	Time (Thailand time)	Content	Speaker	Note
Day 0: 18 May 2025 All participants arrive in Chiang Mai.				
Day 1: 19 May 2025				
	8.45 - 9.00	Registration		
	9.00 – 9.45	Program Orientation	Facilitator team	
	9.45 – 10.15	Ice-breaking	Facilitator team	
	10.15 - 10.30	Break		
Climate Change Science	10.30 - 12.00	Lecture 1 Climate change: background and future trends	Dr. Kullapa C.	
	12.00 - 13.00	Lunch		Lunch provided
	13.00 - 14.30	Lecture 2 Impacts of human activities on climate change	Dr. Nuttipon Y.	

	14.30 - 15.00	Break		
	15.00 – 16.30	Lecture 3 Impacts of climate change on various sectors	Dr. Nuttipon Y.	
	18.00-20.00	Welcome Dinner		
Day 2: 20 May 2025				
Country report presentation	08.30 - 12.00	Country report presentation	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y. Ms. Palita T.	With two coffee breaks + Lunch
	13.00 - 16.30			
Day 3: 21 May 2025				
Monitoring tools	8.30 - 12.00	Lecture 4 Tools in climate change monitoring	Dr. Nuttipon Y.	With 2 coffee breaks + Lunch
	13.00-16.30	Workshop 1 Tools in climate change monitoring	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y. Ms. Palita T.	
Day 4 : 22 May 2025				
GHG inventory	8.30-12.00	Lecture 5 Estimation of GHGs emission	Dr. Alice S.	With 2 coffee breaks + Lunch
	13.00-16.30	Workshop 2 GHGs calculation exercise	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y. Ms. Palita T.	
Day 5 : 23 May 2025				
GHG inventory	8.30-12.00	Workshop 2 (Continued) GHGs calculation exercise	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y.	With 2 coffee breaks + Lunch
	13.00-16.30			

			Ms. Palita T.	
24-25 May 2025	Weekend Holiday			
Day 6 : 26 May 2025				
Climate change measures	8.30-10.30	Lecture 6 Climate change mitigation measures	Dr. Pumis T.	With 2 coffee breaks + Lunch
	11.00 – 12.00	Lecture 7 Climate change adaptation measures	Dr. Kullapa C.	
	12.00 – 13.00	Lunch		
	13.00 – 14.00	Lecture 7 Continued	Dr. Kullapa C.	
	14.30-16.30	Lecture 8 Climate Change action planning		
Day 7 : 27 May 2025 Field trip (Mitigation Practices)				
Policy design	8.30.00-17.00	Tentative Program -Smart farming at Mea Jo University - Energy Research and Development Institute Nakornping, Chiang Mai University	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y. Ms. Palita T.	With 2 coffee breaks + Lunch
Day 8 : 28 May 2025 Field trip (Adaptation Practices)				
	8.30 – 17.00	Tentative Program -Pong Yang Social Enterprise for sustainable tourism -Landslide warning system	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y. Ms. Palita T.	With 2 coffee breaks + Lunch
Day 9 : 29 May 2025				
	8.30 – 10.30	Lecture 9	Dr. Alice S.	With 2 coffee

		Climate Change Policy Design		breaks + Lunch
	11,00 – 12.00 13.00-16.30	Workshop 3 Climate Change Policy design	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y. Ms. Palita T.	
Day 10 : 30 May 2025				
	9.00-12.00 13.00-16.00	Final presentation Presentation of the country climate change plan	Dr. Alice S. Dr. Pumis T. Dr. Kullapa C. Dr. Nuttipon Y. Ms. Palita T.	With 2 coffee breaks + Lunch