



# **Course Outline**

# **Annual International Training Course**

# Training on Global Warming Mitigation and Adaptation by Balancing Sustainable Energy Management and Sufficiency Economy Philosophy

- Course Title: Training on Global Warming Mitigation and Adaptation by Sustainable Energy Management and Sufficiency Economy Philosophy 2023
- **2. Duration:** June  $7^{th}$  June  $27^{th}$  2023

## 3. Background and Rational:

## **TICA:** Thailand International Cooperation Agency

TICA is a national focal point for Thailand's international development cooperation. It was established in 2004 to realize Thailand's aspiration to be a contributor to international development cooperation. Believing that global challenges are best addressed through international cooperation and global partnership, TICA continue to work closely together with its development partners to realize the global development agenda through various capacity-building and human resources development programmes. In response to the recent changes in the global landscape of development cooperation, TICA has strengthened its partnerships to harness the synergy of South-South and Triangular Cooperation to tackle global development challenges, including expediting the implementation of Sustainable Development Goals (SDGs). It also continues to realign our focuses in order to deliver Thailand'commitments as a global reliable partner.

Since 1991, TICA, in collaboration with educational institutions in Thailand, has offered short- term training courses under its Annual International Training Course (AITC) programme. The number of courses offered each year varies between 25 to 35 courses for 20-35 participants per course. AITC not only fosters good and friendly relations which Thailand has already enjoyed with recipient countries across regions, but also helps Thailand to reach out to those countries with which we desire to engage more closely. The courses offered by TICA in 2023-2025 are

categorized into 5 themes: Sufficiency Economy Philosophy (SEP), food security, climate change and environmental issues, public health, BCG Model relate.

#### **Rational:**

Global Warming is the rising of the mean temperature of the Earth's atmosphere and oceans since the late 19th century. The average surface temperature has increased since the early 20th century. The primary cause is the increasing of the greenhouse gases from fossil fuel and deforestation. The Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) is the international treaty developed in order to reduce the greenhouse gases. With limitation of commitment, it is not enough to stabilize the greenhouse gas.

The UNFCCC was adopted on 9 May 1992 and open for signature from 4 June 1992, during the United Nations Conference on Environment and Development (UNCED), or the Earth Summit, at Rio de Janeiro, Brazil. The Convention enters into force on 21 March 1994 and currently has 197 Parties. Thailand becomes a Party in the Convention on 28 March 1995, and thereafter participates in the Conference of the Parties (COP) to this day particulary COP 26 in Glasgow.

The post 2015 development agenda namely 17 Sustainable Development Goals (SDG). The SDG number 7 is the affordable and clean energy. The issue of energy is much more getting attention when various studies of global warming lead the people to the conclusion that the energy consumption is one the major causes for global warming. Referring to the Act of Energy Conservation and Promotion B.E. 2535 (1992) together with the Energy Conservation and Promotion Fund, Thailand has been revealing the consciousness and awareness in energy through various programs under the ministry of energy and its departments. The academic sector by many universities in the theme of energy in Thailand is directed toward to the part of mitigation by the technology of energy conservation and renewable energy. The emphasized technology is however caused the unbalance of environmental, social, and economical issues. Thailand is facing with the problem of energy consumption growth whereas the power supply by constructing the new power plant is in the difficulty of making people understand. There is always protest by local community during the preparation or construction of the new power plant. This reflects clearly to the unbalance of three pillars of sustainability.

Apart from applying the technology of energy conservation and renewable energy to alleviate global warming, demand-side management is also required for improving energy efficiency and raising public awareness of energy savings. The Sufficient Economy Philosophy (SEP), which is a tool for achieving a balanced way of life under sustainable development based on three principles: moderation, rationality, and self-immunity, together with two prerequisites: virtues and knowledge, would be an approach for global warming mitigating and adaptation by

managing energy demand and increasing energy-saving awareness of the need to become self-sufficient.

This course pays attention to the area of the environmental, social and economic issues. A part of this program is the 2.5-week training on Global Warming Mitigation and Adaptation by Sustainable Energy Management and Sufficient Economy Philosophy.

The program aims at building the concept of balancing components in sustainable development. The output of this training is to have a training filling in the gap of the overview picture of the university and country. The participants will be able to disseminate and apply the concept of Sustainable Energy Management and Sufficient Economy Philosophy aiming to solve the global warming in their countries. The sustainability in view of self-direction without support from world scheme is the expected outcome.

## **Organization/Institution:**

Faculty of Environmental Management, Prince of Songkla University

#### 4. Objectives:

The program is designed to:

- To provide all participants with knowledge about the balancing of sustainability among economic, social, and environmental aspects.
- To provide all participants with various concepts of Sustainable Energy Management (SEM) to mitigate global warming.
- To provide all participants with an approach, based on Sufficient Economy Philosophy (SEP), for global warming mitigation and adaptation.
- To exchange the international ideas of global warming mitigation and adaptation.
- To create a network among all participants

# 5. Course Contents:

VDO presentation: @Faculty of Environmental Management,
Price of Songkla University
Welcome, Introduction
Assoc. Prof. Dr. Kuaanan Techato, PSU
Opening of the Training
by representative from TICA
Global Warming Climate Change and Sufficiency Economy
Philosophy
(1) VDO presentation:
Location: Tectonic plate movement measuring station
Address: Phuket Province
Mr. Md. Shahariar Chowdhury, PSU  Country Report
Assoc. Prof. Dr. Kuaanan Techato, PSU
The international experience of global warming mitigating and
adaptation. (2) VDO presentation:
Location: Chana Power Plant
Address: Pa Ching Subdistrict, Chana District, Songkhla Province
Mr. Md. Shahariar Chowdhury, PSU
Country Report
Assoc. Prof. Dr. Kuaanan Techato, PSU
Supplier and a supplier was an area are and in I as all Authority Office
Sustainable energy management in Local Authority Office (3) VDO presentation:
<b>Location :</b> Tha Kham Subdistrict Administrative Organization
Address: Tha Kham, Hat Yai District, Songkhla
Dr.Issara Chanakaewsomboon, PSU
Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU

Monday 12 June 2022 :	Renewable Energy
09.00 – 12.00 a.m.	Solar PV and solar recycling
	(4) VDO presentation:
	Location: Planeet Farm Co. Ltd.
	Address: Klong U-Ta Phao Sub-district, HatYai District Songkhla Province
	Mr.Md. Shahariar Chowdhury, PSU
12.00 16.00 m	Country Report
$13.00 - 16.00 \ p.m.$	Assoc. Prof. Dr. Kuaanan Techato, PSU
Tuesday 13 June 2022	
09.00 – 12.00 a.m.	Wind turbine and low-speed vertical axis wind turbine (Part 1) (5) VDO presentation:
	Location: Krabi Provincial Administrative
	Address: Krabi Province
	Asst.Prof. Dr. Montri Luengchavanon, PSU
13.00 – 16.00 p.m.	Country Report
W 1 1 1 1 1 200	Assoc. Prof. Dr. Kuaanan Techato, PSU
Wednesday 14 June 2022	Wind turbine and low-speed vertical axis wind turbine (Part 2)
09.00 - 12.00 a.m.	(6) VDO presentation:
	Location: Energy Absolute Company Limited
	Provincial Electricity Authority (PEA) / Electricity
	Generating Authority (EGAT) (Wind len)
	Address: Hua Sai Sub-district, Hua Sai District, Nakhon Si Thammarat
	Province /Ranot Sub-district, Ranot District, Songkhla
	Province
12.00 14.00	Asst.Prof. Dr. Montri Luengchavanon, PSU  Country Report
$13.00 - 16.00 \ p.m.$	Assoc. Prof. Dr. Kuaanan Techato, PSU
Thursday 15 June 2022	
09.00 – 12.00 a.m.	Biodiesel, biomass power plant, and biomass gasification
02100 12100 <b></b>	(7) VDO presentation:
	Location: New Biodiesel Co., LTD.
	Address: Sawiat, Tha Chang District, Surat Thani
	Dr.Issara Chanakaewsomboon, PSU
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU

Friday 16 June 2022	
09.00 – 12.00 a.m.	Gasification (8) VDO presentation:
	Location: Production plant of fuel from plastic waste
	Address: Kanchanaburi Province
	Dr.Issara Chanakaewsomboon, PSU
13.00 – 16.00 p.m.	Country Report
-	Assoc. Prof. Dr. Kuaanan Techato, PSU
Monday 19 June 2022	
09.00 – 12.00 a.m.	Fuel Cell (9) VDO presentation:
	Location: Sirindhorn Building, Faculty of Engineering
	Address: Price of Songkla University, Kho Hong Sub-district, HatYai
	District Songkhla Province
	Asst.Prof. Dr. Montri Luengchavanon, PSU
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU
Tuesday 20 June 2022	
09.00 – 12.00 a.m.	Nano Technology (10) VDO presentation:
	Location: Faculty of Environmental Management Address: Price of Songkla University, Kho Hong Sub-district, HatYai District Songkhla Province Asst. Prof. Dr. Montri Luengchavanon, PSU
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU
Wednesday 21 June 2022	
09.00 – 12.00 a.m.	Geothermal (11) VDO presentation:
	Location: Betong Hot Spring Address: Betong District, Yala
	Asst.Prof.Dr. Helmut Josep Durrast, PSU
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU

Thursday 22 June 2022	
09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) and Sustainable Development Goal (SDG) (Part 1) (12) VDO presentation: Location: Kriengsak Farm, Chiang Mai Province Address: Chiang Mai Province Dr. Nuttuya Yuangyai
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU
Friday 23 June 2022	
09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) and Sustainable Development Goal (SDG) (Part 2) (13) VDO presentation: Location: Mae Fah Luang University Address: Chiang Rai Province Dr. Nuttuya Yuangyai
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU
Monday 26 June 2022	
09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) for community-based mitigating and adaptation to global warming (Part 1) (14) VDO presentation:  Location: Medical Glove Company Limited Address: Lam Thap Subdistrict, Lam Thap District, Krabi Province  Dr. Nuttuya Yuangyai
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU
Tuesday 27 June 2022	110000. 1 roj. Dr. 11mmmm 100mm0, 1 00
09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) for community-based mitigating and adaptation to global warming (Part 2) (15) VDO presentation:  Location: Prince of Songkla University, Trang Campus Address: Mueang Trang District, Trang Province  Dr. Nuttuya Yuangyai
13.00 – 16.00 p.m.	Country Report Assoc. Prof. Dr. Kuaanan Techato, PSU
16.00 – 17.00 p.m.	Conclusion & Closing Ceremony Assoc. Prof. Dr. Kuaanan Techato, PSU

# 6. Participants Criteria:

Applicants must fulfill the following requirement:

- Be nominated by their respective government;
- Education: All related to Energy, Environment, and Sufficiency Economy Philosophy or has relevant working experience
- Language: proficiency in English (speaking, reading and writing)

#### 7. Attendance and Evaluation

Participants who completed the training will receive a certificate base on:

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

#### 8. Venue:

Songkhla: Faculty of Environmental Management, Hatyai, Songkhla

## 9. Expected Results:

The participant will be able to be a balancer in the future and join with the faculty of environmental management to produce at least one case of global warming solving in their countries.

## 10. Organization/Institution:

# Implementing Agency;

Faculty of Environmental Management, Prince of Songkla University

#### Contact Person

Dr. Kuaanan Techato,

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Faculty of Environmental Management, Prince of Songkla University, Hat yai, Songkhla,

Thailand 90110, Tel + 66-7428-6838

Email: nuttaya.y@psu.ac.th Website: www.envi.psu.ac.th

# 11. 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.mail.go.th

# **Schedule for the Online Training Programme:**

# Global Warming Mitigation and Adaptation by Sustainable Energy Management and Sufficiency Economy Philosophy 2023

June 7 th – June 27th 2023

Date/ Period	Time	Content	Speaker	Note
/Topic	(Thailand time)			
Day 1: Wednesday 7 June 2022				
	09.00 – 09.10 a.m.	VDO presentation: @Faculty of Environmental		
		Management, Price of Songkla University		
	09.10 – 09.20 a.m.	Welcome, Introduction	Assoc. Prof. Dr. Kuaanan	
			Techato, PSU	
	09.20 - 09.30 a.m.	Opening of the Training	by representative from TICA	
Global Warming Climate	09.30 – 12.30 a.m.	Global Warming Climate Change and	Mr. Md. Shahariar Chowdhury,	
Change and Sufficiency		Sufficiency Economy Philosophy	PSU	
Economy Philosophy		(1) VDO presentation:		
		Location: Tectonic plate movement measuring		
		station		
Country Report	12.00 16.00	Address: Phuket Province  Country Report	Assoc. Prof. Dr. Kuaanan	
Country Report	13.00 – 16.00 p.m.	Country Report	Techato, PSU	
<b>Day 2 :</b> Thursday 8 June 2022				
The international experience of	09.00 – 12.00 a.m.	The international experience of global warming	Mr. Md. Shahariar Chowdhury,	
global warming mitigating and adaptation.		mitigating and adaptation. (2) VDO presentation:	PSU	
		Location: Chana Power Plant		
		Address: Pa Ching Subdistrict, Chana District,		
		Songkhla Province		
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	

Date/ Period	Time	Content	Speaker	Note
/Topic	(Thailand time)			
<b>Day 3 :</b> Friday 9 June 2022				
Sustainable energy management in Local Authority Office	09.00 – 12.00 a.m.	Sustainable energy management (3) VDO presentation: Location: Tha Kham Subdistrict Administrative Organization Address: Tha Kham, Hat Yai District, Songkhla	Dr.Issara Chanakaewsomboon, PSU	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
		Saturday 10 – June – 22: Official Holiday		
		Sunday 11 – June – 22: Official Holiday		
<b>Day 4 :</b> Monday 12 June 2022				
Solar PV and solar recycling	09.00 – 12.00 a.m.	Solar PV and solar recycling (4) VDO presentation: Location: Planeet Farm Co. Ltd. Address: Klong U-Ta Phao Sub-district, HatYai District Songkhla Province	Mr. Md. Shahariar Chowdhury, PSU	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
<b>Day 5 :</b> Tuesday 13 June 2022				
Wind turbine and low-speed vertical axis wind turbine (Part 1)	09.00 – 12.00 a.m.	Wind turbine and low-speed vertical axis wind turbine (Part 1) (5) VDO presentation: Location: Krabi Provincial Administrative Address: Krabi Province	Asst.Prof. Dr. Montri Luengchavanon, PSU	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	

Date/ Period	Time	Content	Speaker	Note	
/Topic	(Thailand time)				
Day 6: Wednesday 14 June 202	2				
Wind turbine and low-speed vertical axis wind turbine (Part 2)	09.00 – 12.00 a.m.	Wind turbine and low-speed vertical axis wind turbine (Part 2) (6) VDO presentation:	Asst.Prof. Dr. Montri Luengchavanon, PSU		
		Location: Energy Absolute Company Limited Provincial Electricity Authority (PEA) / Electricity Generating Authority (EGAT) (Wind len) Address: Hua Sai Sub-district, Hua Sai District, Nakhon Si Thammarat Province /Ranot Sub-district, Ranot District, Songkhla Province			
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU		
<b>Day 7 :</b> Thursday 15 June 2022					
Biodiesel, biomass power plant, and biomass gasification	09.00 – 12.00 a.m.	Biodiesel, biomass power plant, and biomass gasification (7) VDO presentation: Location: New Biodiesel Co., LTD. Address: Sawiat, Tha Chang District, Surat Thani	Dr.Issara Chanakaewsomboon, PSU		
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU		
	Saturday 16 – July – 22 : Official Holiday				
	Sunday 17 – July – 22: Official Holiday				

Date/ Period	Time	Content	Speaker	Note
/Topic	(Thailand time)			
<b>Day 8 :</b> Friday 16 June 2022				
Gasification	09.00 – 12.00 a.m.	Gasification (8) VDO presentation: Location: Production plant of fuel from plastic waste Address: Kanchanaburi Province	Dr.Issara Chanakaewsomboon, PSU	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
		Saturday 17 – July – 22: Official Holiday		
		Sunday 18 – July – 22: Official Holiday		
<b>Day 9 :</b> Monday 19 June 2022	T			
Fuel Cell	09.00 – 12.00 a.m.	Fuel Cell (9) VDO presentation: Location: Sirindhorn Building, Faculty of Engineering Address: Price of Songkla University, Kho Hong Sub-district, HatYai District Songkhla Province	Asst.Prof. Dr. Montri Luengchavanon, PSU	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
<b>Day 10 :</b> Tuesday 20 June 2022				
Nano Technology	09.00 – 12.00 a.m.	Nano Technology (10) VDO presentation: Location: Faculty of Environmental Management Address: Price of Songkla University, Kho Hong Sub-district, HatYai District Songkhla Province	Asst.Prof. Dr. Montri Luengchavanon, PSU	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	

Date/ Period	Time	Content	Speaker	Note
/Topic	(Thailand time)			
Day 11: Wednesday 21 June 202	2			
Geothermal	09.00 – 12.00 a.m.	Geothermal (11) VDO presentation: Location: Betong Hot Spring Address: Betong District, Yala	Asst.Prof.Dr. Helmut Josep Durrast, PSU	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
<b>Day 12 :</b> Thursday 22 June 2022				
Sufficient Economy Philosophy (SEP) and Sustainable Development Goal (SDG) (Part 1)	09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) and Sustainable Development Goal (SDG) (Part 1) (12) VDO presentation: Location: Kriengsak Farm, Chiang Mai Province Address: Chiang Mai Province	Dr. Nuttuya Yuangyai	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
<b>Day 13 :</b> Friday 23 June 2022				
Sufficient Economy Philosophy (SEP) and Sustainable Development Goal (SDG) (Part 2)	09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) and Sustainable Development Goal (SDG) (Part 2) (13) VDO presentation:  Location: Mae Fah Luang University  Address: Chiang Rai Province	Dr. Nuttuya Yuangyai	
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
		Saturday 24 – June – 22: Official Holiday		
		Sunday 25 – June – 22: Official Holiday		

Date/ Period	Time	Content	Speaker	Note
/Topic	(Thailand time)			
<b>Day 14 :</b> Monday 26 June 2022				
Sufficient Economy Philosophy (SEP) for community-based mitigating and adaptation to global warming (Part 1)	09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) for community-based mitigating and adaptation to global warming (Part 1) (14) VDO presentation: Location: Medical Glove Company Limited Address: Lam Thap Subdistrict, Lam Thap	Dr. Nuttuya Yuangyai	
		District, Krabi Province		
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
<b>Day 15 :</b> Tuesday 27 June 2022				
Sufficient Economy Philosophy (SEP) for community-based mitigating and adaptation to global warming (Part 2)	09.00 – 12.00 a.m.	Sufficient Economy Philosophy (SEP) for community-based mitigating and adaptation to global warming (Part 2) (15) VDO presentation:  Location: Prince of Songkla University, Trang	Dr. Nuttuya Yuangyai	
		Campus  Address: Mueang Trang District, Trang  Province		
Country Report	13.00 – 16.00 p.m.	Country Report	Assoc. Prof. Dr. Kuaanan Techato, PSU	
	16.00 – 17.00 p.m	Conclusion & Closing Ceremony	Assoc. Prof. Dr. Kuaanan Techato, PSU	