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2023 SEA Program on SDG and NZE

# Call for Participants for the International Joint Research and Training Workshop on Environmentally Green Technology for Sustainable Development Goals and Net Zero Emission

## ■ Introduction

Driven by the deterioration of environmental quality and the climate change, 2030 sustainable development goals (SDGs) and 2050 net zero carbon emission (NZE) have merged as significant global issues. **More than 130 countries have set or are considering a target of reducing the emission of greenhouse gases to net zero by mid-century.** Up to now, most countries have pledged to cut down CO<sub>2</sub> emission by at least 45% in 2030 and achieve the net zero emission in 2050. This huge challenge creates a great need for **most governments to focus on the development of cutting-edge green technology for a sustainable environment and energy.** **Actually, not only the net zero CARBON emission, the net zero emission of water and solid waste are also essential to achieving the SDGs goals by 2030.**

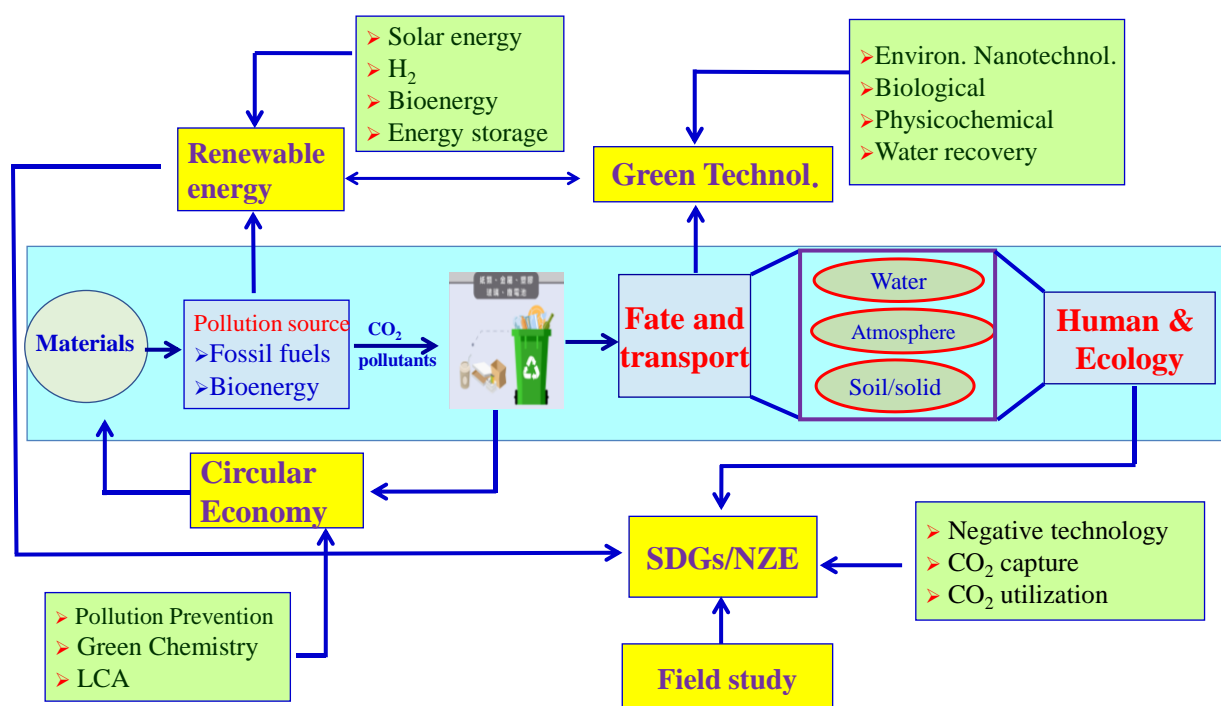
Among the 17 SDG goals promulgated by the UNDP, SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action) are highly related to the energy and environment and are also crucial for NZE. During the past decades, Taiwan has successfully developed key technologies using environmentally green-based technology, circular economy, and renewable energy for SDGs and NZE. We do believe that the international collaboration with our neighboring countries is not just only a treasure for ASEAN and South Asian Countries during their transition stage but also a win-win situation in the world, especially in the Asian region.

In addition to SDGs 6, 7, 12 and 16, the international partnership for the goals (SDG 17) is definitely one of the crucial activities that needs to be addressed. Therefore, National Tsing Hua University (NTHU), Taiwan held the first workshop of the SEA program in 2012. After the success of the 1<sup>st</sup> SEA program, NTHU continues to find financial support from the National Science and Technology Council (NSTC) and MOE, Taiwan to hold the SEA program with different topics for more than 8 years. After the long break caused by COVID, **under the support**



of the NSTC, Taiwan, NTHU will again hold the SEA workshop on 「Environmentally Green Technology for Sustainable Development Goals and Net Zero Emission」 during October 17 – 28, 2023. Due to the importance of the SDGs and NZE worldwide, **the purpose of this joint research and training workshop (SEA workshop) is to strengthen the academic cooperation between Taiwan and International societies, especially Southeast/South Asian countries and other developing countries in the areas of environmentally green technology, sustainability, and net zero carbon emission.**

To fulfill the fundamental and advanced knowledge of SDGs and NZE, a 12-day course containing environmental green technology, SDG strategy, renewable energy, and CO<sub>2</sub> capture and utilization, laboratory, and field trip will be introduced and planned (please see Figure 1). **We encourage government officers and professors with administrative positions to attend this training program.** A total of 25–30 fully-supported participants will be invited. In addition, several partially supported participants will be offered. Through this training course, we do believe that the participants will gain knowledge in cutting-edge technology for SDGs and NZE as well as to form a strong academic networking system for water-energy nexus, SDGs, and NZE. This would significantly reinforce the close academic and educational collaboration between Taiwan and Southeast/South Asian countries in the areas of energy and environment.



**Figure 1.** The fate and transport of CO<sub>2</sub> and pollutants in the environment, and the strategies for controlling CO<sub>2</sub>/pollutants emission to achieve SDGs and NZE.



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## ■ Curriculum Planning

This SEA workshop, funded by the **National Science and Technology Council (NSTC), Taiwan**, will primarily address the impact of industrialization and the use of fossil fuels on environmental pollution and global climate change. The development and application of low-carbon green energy for environmental sustainability will also be emphasized. The core concept for curriculum design is centered around the employment of environmentally green technology to achieve SDGs and NZE (**Figure 1**). The cutting-edge technology related to climate change, environmental sustainability, waste recycling and reuse, energy-saving technology and CCUS nexus will be introduced.

This workshop will also cover the development of environmentally benign technology for converting agricultural/industrial wastes to value-added materials and the fabrication of biochars and their application to the environment and energy sectors. Additionally, a foresight meeting on the strategy of the SDGs and NZE will be held. Several scholars from different countries such as the Philippines, Indonesia, Thailand, Vietnam, Malaysia, and Nepal will be invited to present the policies and strategies of ASEAN and South Asia Countries. Campus, lab, and cultural tours, as well as visits to some universities in Taiwan, will be organized

Through the designed course, the participants will first learn the comprehensive knowledge in SDGs and NZE. The release of toxic chemicals and CO<sub>2</sub> from the combustion of fossil fuels, and the impact of these toxic chemicals on global warming, as well as human health will be addressed and discussed in the courses. In addition, the concept and application of low-carbon and renewable energy including solar energy, hydrogen energy, bioenergy, and energy storage will also be introduced. After 60 hours of course design, trainees can not only learn comprehensive knowledge in using green technology to achieve SDGs and NZE, but can also expand their professional network from the possible mutual collaboration through lectures and seminars, laboratory tours, field trips, and visit to several prestigious universities in Taiwan such as National Tsing Hua University (NTHU), National YangMing ChiaoTung University (NYCU), National Central University (NCU), and National Chung Hsing University (NCHU).

## ■ Tentative course timetable (October 17 – 28, 2023)

Date	9:00~12:00	12:00	13:30-16:30	16:30~18:00
10/17 (Tue)	Arrival and Registration / Welcome Reception (6:30 – 8:30 pm)			
10/18 (Wed)	Opening ceremony/	Lunch	Self-introduction/ poster	Poster session



	self-introduction		session	
10/19 (Thu)	Lectures: Environmental Technology	Lunch	Lectures: Environmental Technology	Campus tours
10/20 (Fri)	Lectures Environmental Technology	Lunch	Lectures: Environmental Technology	Laboratory Tour I
10/21 (Sat)	Culture Tour			
10/22 (Sun)	Culture Tour			
10/23 (Mon)	Lectures: Renewable Energy	Lunch	Lectures: Renewable Energy	Laboratory Tour II
10/24 (Tue)	Field trip I : University	Lunch	Field Trip II: Company	
10/25 (Wed)	Lectures: Renewable Energy	Lunch	Lectures: CCS	Laboratory Tour III
10/26 (Thu)	Lectures: CCU	Lunch	Field trip III: Company	
10/27 (Fri)	Lectures: CCU	Lunch	Foresight Meeting	Closing remarks
10/28 (Sat)	Departure			

## Training Venue

The SEA program will be held in the Education Hall, National Tsing Hua University (NTHU), Hsinchu, Taiwan.

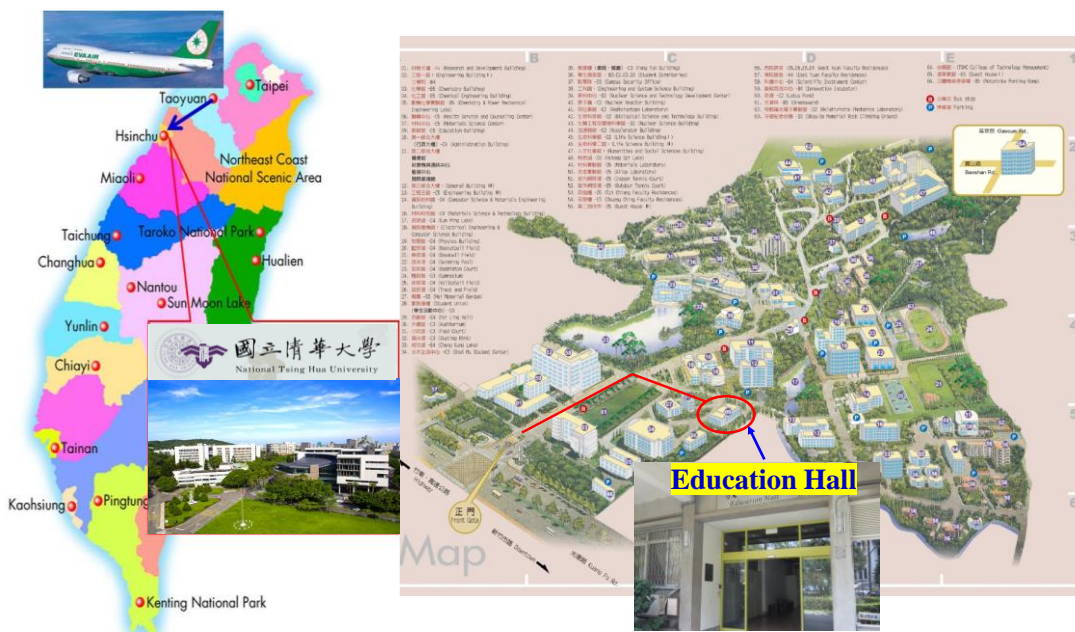


Figure 2. NTHU MAP and training workshop venue (Education Hall) in the NTHU campus.



## ■ How to Apply?

Applicants who are interested in this international workshop can fill up the **Google form** (<https://forms.gle/fwNHoLFPdSops9zn6>) or **scan the QR code**. Following are the details of the application:

### ➤ Deadline

**The application deadline is August 20<sup>th</sup> (Sunday), 2023.**



### ➤ Qualification

1. Candidates should be, but not limited to, postgraduates, lecturers, faculties, or researchers who are highly interested in learning environmental science and low-carbon green energy. Previous experience in environmental and/or energy science and technology is unnecessary.
2. Former participants who have attended our SEA training program sponsored by MOST/NSTC, Taiwan, are **NOT ALLOW** to apply.

### ➤ Number of Participants

The SEA workshop will provide 25 – 30 **fully supported** participants internationally, especially those scholars from ASEAN, India, Sri Lanka, the Middle East, and other developing countries. The selection criteria are based on the **CV, statement of purpose, and other additional documents provided by the applicants. Besides**, 5–7 partially supported participants. For those partially supported participants, airfares will NOT be reimbursed, and the organizer will provide local hospitality including accommodation, meals, and transport during the period of training program.

### ➤ Award Details

The workshop will provide round-trip air flight ticket (except for those partially supported participants), housing, food, and fees for field and cultural trips during the training period. Selected participants should confirm their attendance through email as soon as possible prior receiving acceptance letter.



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## ➤ Reimbursement for Overseas Transportation Expenses

Roundtrip economy class air tickets from the participant's home country to Taiwan can be reimbursed (except for those partially supported participants). The maximum reimbursable amount will be announced after the decision on the selection of participants. **A flight boarding pass and passport with arrival/departure record/stamp are required for airfare reimbursement. Photo of the flight boarding pass and Taiwan departure stamp must be emailed upon arrival in participant's home country.**

## ➤ Airport Pick-up

A batch schedule for airport pick-up will be arranged according to participant's flight schedule.

## ➤ Accommodation

All the participants will stay in the NTHU guest house or selected hotel which is located close to Tsing Hua campus. **Two participants will share one room.** Each room is well equipped with TV and wireless internet. **If you prefer to stay in a single room, EXTRA FEE will be charged upon checking in.**

## ➤ Meals

Breakfast, lunch and dinner are all included in the meal. If you have any special dietary requirement, please inform us in advance.

## ■ Contact us

**For further information or questions, please contact the Ms. Chau from the International College, National Tsing Hua University, Hsinchu, Taiwan.**

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radoong@mx.nthu.edu.tw (Prof. Ruey-An Doong)

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