## **Towards Green Growth with Waste Utilisation**

Pogramme	Annual International Training Courses Thai International Cooperation Programme
Course Title	Towards Green Growth with Waste Utilisation
Duration Closing Date for Application	September 12 - 22, 2016 June 15, 2016
Number of Participants	18-20
Eligible Countries	<ul> <li>Asia: Afghanistan, Bangladesh, Georgia, Indonesia, Iran, Jordan, Kyrgyzstan, Malaysia, Maldives, Nepal, Oman, Pakistan, Palestine, Philippines, Sri Lanka, Tajikistan, Timor-Leste, Uzbekistan, Yemen, and Thailand</li> <li>Africa: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Congo, Djibouti, Egypt, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Lesotho, Libya, Malawi, Mali, Mauritania, Mauritius, Morocco, Namibia, Rwanda, South Sudan, Sudan, Swaziland, Togo, Tunisia, Zambia, Zimbabwe</li> <li>Pacific: Cook Island, Fiji, Marshalls Island, Nauru, Palau, Papua New Guinea, Vanuatu, Solomon Island, Tonga, Tuvalu</li> <li>Member Countries; FEALAC, OAS and CARICOM</li> </ul>

## **Objectives**

#### The course aim to:

- To exchange the situation of waste problems and waste utilisation of different countries
- To disseminate knowledge of the waste utilisation technologies as tools for waste management and enhance the opportunity for participating countries to achieve the Green Growth concept
- To initiate a collaboration network across countries for waste utilisation awareness

## Qualifications

### Applicant for this course shold:

All participants should have an understanding of an involvement in at least one of the following fields:

- Environmental Engineering or Environmental Science
- Environmental Engineering Technology Management
- Waste or Solid Waste Management
- Participants' age must be under 55 years.

#### **Course Contents**

Waste transformation and utilisation technologies, including biogas technology for agriculture and industrial wastes; biogas purification technology for electricity generation and vehicle and household gas production; composting technology; transformation of municipal solid waste into the refuse derived fuel (RDF); and gasification technology, will be discussed.

- 1. Lecture:
  - Solid Waste Management of Chiang Mai municipality
  - Principle of Biogas Technology and Application for Industry
  - Biogas Production from Animal Wastes
  - Biogas Purification Technology and Utilisation for Compressed Biogas (CBG) Production
  - Principle and Application of Composting Technology
  - Transformation of Solid Waste into refuse derived fuel (RDF)
  - Gasification Technology for Agricultural and Solid Wastes

#### 2. Field Trip:

- Chiang Mai Solid Waste Management Centre
- Application of Biogas Technology in a Food Factory
- Biogas Production and Utilisation in a Poultry Farm
- CBG Production System for Vehicles
- Aerated Static Pile Composting System Demonstration center and Earthworm Research and Development Center, Maejo University
- ChiangMai Sightseeing at Wat Phrathat Doi Suthep (ChiangMai Main Temple)
- ChiangMai Culture Learning at The ChiangMai City Arts and Culture Centre

ARDF Production System/ Utilisation of Gasification Technology for Agricultural Waste

# 3. Presentation & Evaluation

- Each participant is required to prepare his/her Country Report on "Waste Management and Utilisation Situation in Your Country" (Maximum 5 pages, A4, single column, single space, font size "Times New Roman 12"
- Participants must attend at least 70% of the training, and pass the final writing exam.

## Institution

## The course will be conducted by:

Environmental Engineering Department, Faculty of Engineering, Chiang Mai University Chiang Mai, 50200 Thailand Phone: (66 53) 944192 Ext. 108 Fax: (66 53) 210328 Email: patiroop@eng.cmu.ac.th