GreenRE Manager's Course 14th Intake (Sabah)

*** HRDF claimable**

*** CPD for 3 Parts: BEM (15 points), LAM (3 points) & GreenRE (15 points)**

Course Date:
6th March 2018 (Part I)
7th March 2018 (Part II)
8th March 2018 (Part III)

Time
9.00am – 5.00 pm

Examination Date:
21st April 2018 (half-day)

Venue:
Sky Hotel Kota Kinabalu (Lorong Kemajuan Karamunsing)

* **Please refer registration form for course fees**

Course Objectives

This is to accord recognition to professionals who have the knowledge and ability to advise their development project team in designing sustainable buildings.

- To gain better understanding of GreenRE criteria and framework
- To facilitate towards an Integrated design which is compliance with GreenRE standards
- To conduct cost benefit analysis of options and to explore innovative solutions which would enhance scoring
- To coordinate the documentation process necessary for smooth processes of certification and implementation

Learning Outcomes

An in-depth understanding of GreenRE criteria for buildings including baseline, scores and certification process.

* Ability to implement practical strategies and solutions to minimize energy & water usage to improve indoor environmental quality and to reduce waste

* Familiarize with current sustainable best practices which are applicable to green buildings

* Ability to facilitate and manage buildings for GreenRE certification

Certification Requirements

Applicants for the **certified GreenRE Manager** must satisfy the following criteria:

A recognised degree in engineering, architecture or other building related disciplines approved by the **GreenRE Review Panel** with a minimum 3 year working experience in a related field for degree holders or 5 years minimum working experience for diploma holders

OR

Other Building practitioners with a minimum of 5 years relevant working experience accepted by the **GreenRE Review Panel**

AND

Has successfully completed the **GreenRE Manager's Course**.

Applicant is deemed to have successfully completed the course by attending at least 75% of the 3-day course and passing the examinations and group project.
The GreenRE Manager's Course consists of three (3) parts; Part I, Part II & Part III. Participants have the options to attend all the three parts or any one or two of the three parts. To be eligible to sit for the examination, participants shall complete all three parts within two years from the date of the first attendance of the course.

The full 3-day course consisting of 3 parts provides BEM accredited 15 CPD, GreenRE 15 CPD and LAM accredited 3 CPD. Each part provides BEM accredited 5 CPD, GreenRE 5 CPD and LAM 1 CPD. Part I of the course shall also serve as a refresher course for existing certified GreenRE Managers and they are encouraged to attend Part I of the course in order to renew the certificate.

A sustainability initiated by:. REHDA

Course Schedule

<table>
<tr><th></th><th>PART I
6 MARCH 2018</th><th>PART II
7 MARCH 2018</th><th>PART III
8 MARCH 2018</th></tr>
<tr><td>0830 – 0900</td><td colspan="3">BREAKFAST & REGISTRATION</td></tr>
<tr><td>0900 – 0930</td><td>INTRODUCTION TO GREMC</td><td rowspan="9">EFFICIENT AIR-CONDITIONING
(CHOONG CHOW NENG)</td><td rowspan="2">DAYLIGHTING
(DR. JOSEPH KONG)</td></tr>
<tr><td>0930 – 1000</td><td rowspan="7">ENERGY EFFICIENT LIGHTING
(K.SESHADRI)</td></tr>
<tr><td>1000 – 1030</td><td rowspan="2">INDOOR ENVIRONMENTAL QUALITY
(DR. JOSEPH KONG)</td></tr>
<tr><td>1030 – 1100</td></tr>
<tr><td>1100 – 1130</td><td rowspan="2">OTTV
(DR. JOSEPH KONG)</td></tr>
<tr><td>1130 – 1200</td></tr>
<tr><td>1200 – 1230</td><td rowspan="2">STORMWATER MANAGEMENT ISSUES
(DR. NORLIDA MOHD DOM)</td></tr>
<tr><td>1230 – 1300</td><td>GREENRE ASSESSMENT PROCESS</td></tr>
<tr><td>1300 – 1400</td><td colspan="3">LUNCH BREAK</td></tr>
<tr><td>1400 – 1430</td><td rowspan="4">PHOTOVOLTAIC TECHNOLOGIES,
TRENDS & TROPICAL COMMON SENSE
(CHRISTOPHE INGLIN)</td><td rowspan="3">ENERGY MODELLING &
COMPUTATIONAL FLUID DYNAMICS
(PO WOEI KEN)</td><td rowspan="3">PASSIVE COOLING FOR GREEEN BUILDING
DESIGN IN THE TROPICS
(RPOF. DR. SHAH KWOK WEI)</td></tr>
<tr><td>1430 – 1500</td></tr>
<tr><td>1500 – 1530</td></tr>
<tr><td>1530 – 1600</td><td rowspan="3">TYPOLOGY OF SUSTAINABLE BUILDING DESIGN
(HOI JUNG WAI)</td><td rowspan="2">GREENERY PROVISIONS & IRRIGATION
(AR. CLEMENT WONG)</td></tr>
<tr><td>1600 – 1630</td><td rowspan="2">GREENRE TOOLS VERSION 3.0</td></tr>
<tr><td>1630 – 1700</td><td>GROUP PROJECT'S DISCUSSION</td></tr>
<tr><td>1700 - 1730</td><td></td><td>TAX INCENTIVES FOR GREEN
TECHNOLOGY PROJECTS (MIDA)</td><td></td></tr>
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**The above tentative schedule is subject to change. Please visit our website for more details.*

Module Abstracts and Module Speakers

MODULE 1 – PHOTOVOLTIC (PV) TECHNOLOGIES, TRENDS & TROPICAL COMMON SENSE

Module Abstract

Photovoltaic (PV) system uses solar panels to absorb and convert sunlight into electricity, without creating air or water pollution during this process. This module introduces various PV technologies and their system components. Building Integrated Photovoltaic (BIPV) are solar products that generate electricity and aesthetically integrated into the building as roof, façade, skylight atrium etc.

Participants will be introduced to key terminologies and case studies of PV system. Issues related to maintenance, installation and performance monitoring will be discussed. Participants will have the opportunity to understand the energy yield and economics of installing PV system. Guidelines and rules of thumb to install PV system will be introduced in this module too.

Module Speaker

Mr Christophe Inglin is an expert in PV industry, with more than 20 years of experiences throughout the value chain of silicon ingots in manufacturing solar panels to turnkey solar power plants. He is the MD of Energetix Pte Ltd (Singapore), which involves in the design, installation and maintenance of rooftop solar power plants and large scale solar farms.

Christophe is a much sought-after speaker and trainer in PV industry. He conducts PV-related courses at Building & Construction Authority (BCA) – Singapore and Real Estate and Housing Developers' Association (REHDA) – Malaysia regularly. He also conducts regular workshops for Asian Productivity Organization, headquartered in Tokyo and for Sustainable Energy Association of Singapore (SEAS) , which he sits as Vice Chairman for SEAS.

Module Abstracts and Module Speakers

MODULE 2 – ENERGY EFFICIENT LIGHTING

Module Abstract

Buildings use significant amount of electricity for lighting purposes. This module explores ways to achieve energy efficient lighting by means of natural (daylighting) and artificial lighting as well as various lighting controls. Participants will be introduced to key terminologies in relation to lighting and different types of light fixtures.

Module Speaker

Mr K. Seshadri is the CEO of Gritti Consulting Pte Ltd (Singapore). He has vast experiences in the field of lighting technology and design. He is the ex-Vice President for Philips Lighting (Asia Pacific), a corporation which he worked with of more than 20 years since 1976.

He is the Adjunct Lecturer for Building & Construction Authority (BCA) – Singapore and a part-time lecturer at the National University of Singapore (NUS) in the specialization field of lighting technology and design.

Seshadri has been the Convener of Singapore Standards of Working Group for Lamps & related equipment (IEC34) for the past 25 years. He is also the Secretary General to Lighting Association of Singapore.

MODULE 3 – EFFICIENT AIR-CONDITIONING

Module Abstract

Air-conditioning system forms a vital part of a building as it provides thermal comfort to its occupants. This module introduces different components of an air-conditioning system and its associated functions. Participants will learn to analyse the energy performance characteristics of an air-conditioning system and thus to identify the potential energy saving in the system.

Module Speaker

Mr Choong Chow Neng is the Regional Director (Business & Operation) of G-Energy Global Pte Ltd (Singapore) - a leading energy service company (ESCO) which specializes energy audit within buildings. He has vast experiences in the field of air-conditioning and mechanical ventilation (ACMV). He was instrumented in setting up G-Energy offices in Malaysia and Indonesia.

Mr Choong is also a lecturer of BCA Academy for Singapore Certified Energy Manager (SCEM) course. He lectures on various ACMV topics in Green Mark Manager Course and GreenRE Manager Course.

MODULE 4 – STORMWATER MANAGEMENT ISSUES

Module Abstract

Stormwater runoff occurs during rain precipitating over the land surface. With climate change due to rapid urbanization/development, we are constantly experiencing heavy rainfall within short duration of time. Furthermore, the ground is not able to soak up stormwater runoff fast enough due to the addition of roads, driveways, parking lots, rooftops and etc. Thus, it remains one of the contributing factors to flash floods.

Participants will learn about the formulation and requirements of Urban Stormwater Management Manual (MSMA) by the Department of Irrigation and Drainage (DID) – an approval condition to Development Order (DO) Plan for development projects.

Module Speaker

Dr Norlida bt Mohd Dom is the Deputy Director of the Regional Humid Tropics Hydrology and Water Resources Centre for Southeast Asia and Pacific (HTC Kuala Lumpur). She holds a doctorate degree in Urban Hydrology from Universiti Sains Malaysia (USM).

Dr Norlida has been attached to the DID's Applied Hydrology Unit for more than 20 years in different capacities with a wealth knowledge and deep understanding of flood and river models throughout Malaysia's waterways.

Module Abstracts and Module Speakers

MODULE 5 – DAYLIGHTING, INDOOR ENVIRONMENTAL QUALITY (IEQ) AND OTTV

Module Abstract

Daylighting is a technique used to illuminate building interiors without artificial lighting, thus reducing the consumption of electricity. It also can be applied as a design element to the building form architecturally.

This module introduces the techniques in bringing daylight into the buildings. The glazing and external shading devices are discussed in reducing the admission of solar radiation in the building. The methodology of daylight simulation is discussed in relation to the requirements spelled in MS1525:2014 and GreenRE rating tools.

For the **IEQ**, people spend about 80-90% of time indoor. There are studies indicating that a range of comfort and health related effects are linked to the building's indoor environmental quality (IEQ) in terms of thermal, acoustic (noise), visual and air quality.

Indoor Air Quality (IAQ) is discussed in this module by introducing methods in improving IAQ. The standard code of practice and management for IAQ is also elaborated.

Sound Transmission Class (STC) value is introduced in this module, in order to measure the noise level.

Module Speaker

Ar Dr Joseph Kong is professional architect registered with LAM/PAM. He holds a doctorate degree in Sustainable Design from University of Malaya. To date, he has received local and international awards in sustainable design. Also, he has published a number of articles and conference papers, outlining passive design strategies for buildings in tropical countries.

Ar Dr Joseph speaks frequently in workshops/seminars on the topics of green design concepts and sustainable construction methods to the fraternity of building industry.

MODULE 6 – PASSIVE COOLING FOR GREEN BUILDING DESIGN IN THE TROPICS

Module Abstract

This module explores the latest techniques and technologies used as passive cooling for green buildings in the tropics. The cutting edge of technology such as nanotechnology is discussed at length and various examples are provided as proof to the adoption of technology in green building designs.

Module Speaker

Prof Shah Kok Wei (Dr) is the Assistant Professor and Deputy Program Director of the Department of Building, School of Design and Environment – National University of Singapore (NUS). He is appointed as the BCA Ambassador and a member of SPRING and SGBC technical review committees. He is also the advisory board member of Vietnam Green Building Council and VGBC education committee, a visiting professor at Tianjin University of Technology (China) and the reviewer of the famous journal namely Energy and Building.

At NUS, Prof Shah leads a research team conducting advanced research on smart nanomaterials, nanostructured phase change materials and their green building applications, as well as nano enhanced thermal management.

Module Abstracts and Module Speakers

MODULE 7 – GREENERY PROVISIONS & IRRIGATION

Module Abstract

This module examines the provision of credit points scored within GreenRE Tools, such as the calculations of Green Plot Ratio (GnPR). Concepts of green roof, vertical green, conservation of vegetation and trees on-site, compost pit, rainwater harvesting system, drought-tolerant plants are discussed at length too.

Module Speaker

Ar. Clement Wong is a Principal Architect registered under Board of Architect Malaysia (LAM). Graduated from University of Melbourne in 1999, he has 16 years of experience in various housing, commercial and institution projects. He is the founder of Clement Wong Architecture and also the leader of the Company's Project Management Team which role and responsibility is to oversee the full cycle of the project, and to provide Project Management Consultancy (PMC).

This firm focusing on sustainable design and a touch of creativity and the projects consist of residential, institutions, commercials, highrise and resorts. Clement Wong Architecture also focus on green building design and productively engage in global community. They also provide an office space for research and design experiment including vertical garden, rain water harvest, sustainable construction methods and low carbon footprint material.

MODULE 8 – TYPOLOGY OF SUSTAINABLE BUILDING DESIGN

Module Abstract

This module explains on the definition of passive design including the sustainable design strategy, the comparison with the active design and some case studies. The climate which relates with the passive design which consist of several elements especially in Malaysia will be presented in this module and also some understanding on insulation.

Module Speaker

Mr. Axxu Hoi Jung Wai is a Director of Axial Design Works Sdn Bhd. He has a particular interest in the research and design of Health Care project and sustainable building design. Graduated from University Malaya and Edinburgh University, Axxu has developed his skills working with practices internationally on projects in many international locations.

Whilst in Malaysia he worked on projects which included the Hong Kong Institute, The Chong Ching Eco Tower, a feasibility study for the Kuala Penyu Resort Master Plan and concept design for an eco hospital in Kuala Lumpur. Axxu is proficient in 3D and drafting using a variety of packages including AutoCAD, REVIT, Maxwell Studio and Sketchup. He is also multi-lingual being fluent in English, Mandarin, Cantonese and Malay.

MODULE 9 – ENERGY MODELLING & COMPUTATIONAL FLUID DYNAMICS (CFD)

Module Abstract

Energy Modelling and CFD have been included in one module. CFD uses mathematical and fluid mechanics modelling in computation software to understand and to visualize the flow of liquid, predominantly air. This module will introduce the methodology and application of CFD modelling/simulation. Air ventilation within/around building can be understood better with the application of CFD simulation.

Module Speaker

Mr. Po Woei Ken (Ken Po) is an Associate Director at BSD Consultancy Pte. Ltd. He graduated from University of Kansas and practiced as a CFD engineer in USA for more than 5 years before returning to Southeast Asia. In USA, Ken performed CFD analysis on aircraft wings, engines, rotor blades etc of aircrafts such as those operated by NASA. In BSD, Ken specialized in 3 dimensional CFD analysis for the simulation of airflow inside and outside buildings for the prediction of thermal comfort, air quality and contaminant distribution. He also successfully used CFD to evaluate effectiveness of fabric duct ventilation system for a large aircraft hanger in Singapore.