

# GREENRE MANAGER'S COURSE

## 16<sup>TH</sup> INTAKE (PETALING JAYA)



\*HRDF claimable

\*CPD for Complete Course: **BEM** (15 points), **LAM** (3 points) & **GreenRE** (15 points)

**Course Date (9am – 6pm):**

3 July 2018	<b>Basic Course</b>	<b>Complete Course</b>
4 & 5 July 2018	<b>Advanced Course</b>	

**Examination Date:**

4 Aug 2018 (half-day)

**Venue:**

Lecture Room 1, Wisma REHDA, Kelana Jaya (PJ)

\* 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 is separated into two which called as Basic and Advanced course. Day 1 is the Basic course. Meanwhile, the Advanced course is the combination of Day 2 & Day 3. It is mandatory for the participants to take the Basic course before register for the Advanced course. However, to be eligible to sit for the examination, participants shall complete both courses (Basic and Advanced) within two years from the date of the first attendance of the Basic course.

The full 3-day course (Complete course) provides 15 CPD (BEM), 15 CPD (GreenRE) and 3 CPD (LAM). Basic course provides 5 CPD (BEM), 5 CPD (GreenRE) and 1 CPD (LAM); Advanced course provides 10 CPD (BEM), 10 CPD (GreenRE) and 2 CPD (LAM). Basic course shall also serve as a refresher course for existing certified GreenRE Managers and they are encouraged to attend it in order to renew the certificate.



# COURSE SCHEDULE

	3 JULY 2018 (BASIC)	4 JULY 2018 (ADVANCED)	5 JULY 2018 (ADVANCED)
0830 – 0900	BREAKFAST & REGISTRATION		
0900 – 0930	INTRODUCTION TO GREMC	EFFICIENT AIR-CONDITIONING (CHOONG CHOW NENG)	TYPOLOGY OF SUSTAINABLE BUILDING DESIGN & WATER EFFICIENCY (HOI JUNG WAI)
0930 – 1000	GREENRE ASSESSMENT PROCESS		
1000 – 1030	GREENRE TOOLS NEW VERSION 3.1 (GREENRE)		ENVIRONMENTAL PROTECTION (HOI JUNG WAI)
1030 – 1100			
1100 – 1130			
1130 – 1200			
1200 – 1230			PV TECHNOLOGIES, TRENDS & TROPICAL COMMON SENSE (CHRISTOPHE INGLIN)
1230 – 1300	TAX INCENTIVES FOR GREEN TECHNOLOGY PROJECTS (MIDA)		
1300 – 1400	LUNCH BREAK		
1400 – 1430	MALAYSIAN STANDARD (SIRIM)	ENERGY EFFICIENT LIGHTING (K. SESHADRI)	SUSTAINABLE CONSTRUCTION AND GREEN PRODUCTS (S. RAMESH A/L V.SUBRAMANIAM)
1430 – 1500	OVERALL THERMAL TRANSFER VALUE: OTTV (DR. JOSEPH KONG)		INDOOR ENVIRONMENTAL QUALITY (Ir. PUA CHING TIAN)
1500 – 1530			
1530 – 1600			
1600 – 1630	DAYLIGHTING (DR. JOSEPH KONG)	ENERGY MODELLING & COMPUTATIONAL FLUID DYNAMICS (PO WOEI KEN)	GREEN INNOVATION FEATURES (GREGERS REIMANN)
1630 – 1700			GROUP PROJECT'S DISCUSSION
1700 – 1730		BMS & EMS (Ir. BERNARD SAGAIYARAJ)	
1730 – 1800			

*\*The above tentative schedule is subject to change. Please visit our website for more details.*

## Module Abstracts and Module Speakers

### MODULE 1 – GREENRE ASSESSMENT PROCESS AND GREENRE TOOLS NEW VERSION 3.1

#### **Module Abstract**

All the processes and steps in GreenRE Assessment which starts from the registration until Site Verification (SVA) will be explained in this topic of GreenRE Assessment Process. The presenter who is one of the GreenRE Assessor will also include the best practice for document submission which can ease the jobs of the clients especially green building consultants.

The rating tools that have been used for GreenRE Assessment will be briefly explained in the next topic which is GreenRE Tools New Version 3.1 by one of the GreenRE Assessor. The two and an a half slot will covers all types of buildings; Non-Residential Building (NRB), Residential Building (RES) and Existing Non-Residential Building (ENRB).

## Module Abstracts and Module Speakers

### MODULE 2 & 3 – OTTV AND DAYLIGHTING

#### Module Abstract

**OTTV** (Overall Thermal Transfer Value) used as control measures for building envelope design in GreenRE Rating Tools. It was developed for air-conditioned building and also a useful indicator for non air-conditioned buildings. Its formulation allows the responsible persons for the design and construction of the buildings freedom to innovate and vary important envelope components such as type of glazing, window size, external shading to windows to meet the maximum OTTV criteria. The two hours lecture will explain about OTTV in GreenRE Rating Tools and also some example of the calculation.

**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.

#### 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 4 – BMS & EMS

#### Module Abstract

Building Management System (**BMS**) is an intelligent microprocessor based controller networks installed to monitor and control a building technical systems and services such as air-conditioning, ventilation, lighting, and hydraulics. This system links the functionality of individual pieces of building equipment so that they can operate as one complete integrated system. One of the benefits of having a BMS is to manage energy efficiency and reduce the operational costs. The management of building ratings and the control system of BMS can also be integrated with Energy Management System (EMS).

#### Module Speaker

Ir. Bernard Sagaiyaraj is a professional Mechanical Engineer with a MBA, who has 28 years of experience in field ranging from System and Product Design, Sales, Marketing, Manufacturing, Facilities Management and Sustainability. This was done in various firms like Hitachi Semiconductor, HSS Engineers Bhd, Accenture, Emerson Climate Technologies and Patton Refrigeration.

15 years experience is related to Refrigeration and Air-Conditioning with a focus in creating low-energy air-conditioning systems. His PhD thesis was on product and system design of active chilled beams for the tropics. Ir. Bernard is also a LEED Accredited Professional (AP), AEMAS Energy Manager, Registered Electrical Energy Manager (REEM) and a HRDF Certified Trainer. He is now working as a General Manager in Bureau Veritas (M) Sdn Bhd.

# Module Abstracts and Module Speakers

## **MODULE 5 – 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 6 – 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 7 – 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.

## Module Abstracts and Module Speakers

### **MODULE 8 – TYPOLOGY OF SUSTAINABLE BUILDING DESIGN & WATER EFFICIENCY**

#### **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. Water Efficiency which is the second criteria in GreenRE Rating Tools will also included in this module. It explains the strategy in an effective ways, the design such as water fittings, the management like monitoring water usage and also Green Plot Ratio.

#### **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 – 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 10 – ENVIRONMENTAL PROTECTION

#### 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.

The speaker also will present about Stormwater Management where 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.

#### 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 11 – SUSTAINABLE CONSTRUCTION & GREEN PRODUCTS

#### Module Abstract

This module explores the practices in construction and materials that are environmentally friendly and sustainable. It will explain on the encouragement of recycling and adoption of building design such as more efficient concrete usage for building components and also the use of products that are environmental friendly. This topic was located under Part 3 of GreenRE Rating Tools which are Sustainable Construction and Sustainable Products.

#### Module Speaker

The speaker, S. Ramesh A/L V.Subramaniam is currently the Quality System Senior Manager for IJM Construction Sdn Bhd, a position which he assumed from September 2007. Previously, he had held several other responsibilities such as Site QAQC cum Environmental Manager, Quality Management Representative and Project Manager. He has 23 years of work experience with construction and property concerns.

His main responsibilities under his current position is to oversee the effective implementation and execution of IJM's Quality Management System. He also conducts internal training that includes technical, quality system and sustainability related training in addition being a coach and mentor to inspiring young IJMers. He did his MSc in Real Estate Investment and Finance from Heriot Watt UK with a dissertation paper on "Factors Affecting Green Residential Development in Malaysia"

## Module Abstracts and Module Speakers

### MODULE 12 – INDOOR ENVIRONMENTAL QUALITY

#### Module Abstract

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

Ir. Pua Ching Tian started his career as a mechanical engineer with a M&E engineering consultancy firm. Since then, he was actively involved in hospital engineering health services. His experience in the health industry include engineering design, consultancy and construction activities in under PMC, turnkey and PFI projects.

He has led several major hospitals both government and private sectors such primary, secondary and tertiary categories, energy efficiency rating and compliance, mould prevention, air quality control in health services related Air Conditioning/Mechanical Ventilation system and engineering management work. Ir. Pua Ching Tian graduated from University Kebangsaan Malaysia with a Bachelor Degree in Mechanical Material Engineering. He is currently the principal consultant for KVA Konsult.

### MODULE 13 – GREEN INOVATION FEATURES

#### Module Abstract

This module explores the latest techniques and technologies used for green buildings. Some topics included are innovative energy efficient technologies, innovative daylight solutions, innovative thermal comfort, innovative sky cooling, innovative natural ventilation and others.

#### Module Speaker

Gregers Reimann is the Managing Director of IEN Consultants, the pioneering green building consultancy in Malaysia, which specializes in building designs that have good daylighting, are highly energy efficient and have excellent thermal and visual comfort. Key project references during Gregers' 13 years of working in Asia include the GEO Building designed to be a zero energy office building, the ST Diamond office building (2012 ASEAN Energy Award winner), the Pertamina Energy Tower – the first skyscraper designed to be ZERO energy, the KLIA2 airport (LEED Gold) and the biophilic 'Paramit – factory in the forest' (2018 RIBA International Prize nominee). Gregers has also been a technical reviewer for the EU Energy-Efficiency Buildings project and is the appointed Chairman of the "Green Buildings and Sustainable Communities" committee under the EU-Malaysian Chambers of Commerce and Industries (EUMCCI).

Gregers regularly contributes to green building articles and frequently lectures at universities. He has a keen interest to pursue innovative and integrated design solutions bridging the gap between architects and engineers.

# REGISTRATION FORM

## PARTICIPANT 1

Salutation & Full Name: .....  
NRIC/Passport No.: .....  
Company Name: .....  
Designation: .....  
Office/HP No.: .....  
Email Address: .....  
Mailing Address: .....

Membership No.: .....  
(refer to the list of membership body below)  
Field Specialization: .....  
(Civil/Mechanical/Electrical/Architect/Surveyor/others)

## PARTICIPANT 2

Salutation & Full Name: .....  
NRIC/Passport No.: .....  
Company Name: .....  
Designation: .....  
Office/HP No.: .....  
Email Address: .....  
Mailing Address: .....

Membership No.: .....  
(refer to the list of membership body below)  
Field Specialization: .....  
(Civil/Mechanical/Electrical/Architect/Surveyor/others)

## PAYMENT INFORMATION

Please tick  which part (s) you are participating;  
Complete Course  Basic Course  Advanced Course

### Early Bird

**(before 15/6/18)**

**Member**

**Complete Course (Day 1, 2 & 3)**

RM 980.00

**Basic Course (Day 1)**

RM 429.00

**Advanced Course (Day 2 & 3)**

RM 629.00

**Non-member**

RM1190.00

RM 509.00

RM 759.00

### Normal Rate

**Member**

RM1150.00

RM 489.00

RM 739.00

**Non-member**

RM1400.00

RM 589.00

RM 889.00

Course fees;

i) include 0% of GST.

ii) include training materials, F&B and examination fees.

iii) are **HRDF claimable**

Member rate: **REHDA/SHARED/SHEDA/IEM/PAM/ACEM/MIP/RISM/MBAM**

Bank drafts of cheque should be crossed and made payable to "GreenRE Sdn Bhd". The cheque/cash can be deposited to GreenRE's Public Bank account no. **3182 978 625** and please email the bank in slip to [training@greenre.org](mailto:training@greenre.org). Submit your registration form to [training@greenre.org](mailto:training@greenre.org)

## CONTACT PERSON (if different from the above)

Salutation & Full Name: .....  
Office/HP Tel. No.: .....

Designation: .....  
Email address: .....

## IMPORTANT NOTES & DISCLAIMER

1. Upon the approval and confirmation of registration and payment, the e-confirmation will be sent to your email.
2. Cancellation will occur no fee but replacement is compulsory.

The organizer reserves the right to change the content, venue and date or cancel the event if insufficient minimum target number of participants are met

**Company Stamp with Address**