Issue 2/2019

GREENRE BUILD

SEMI - ANNUAL BULLETIN

GreenRE
Malaysia's Leading Green Building Certification Body

ISO 9001 Quality Management

Energy Efficiency is the Lowest Hanging Fruit

Realising the Circular Economy

BARE in ALOR SETAR

Encomas House : First Platinum rated GreenRE certified building in Alor Setar. For the love of green and sustainable development.

- From Alor Setar, to the world.

Foreword

Dear Readers,

Welcome to the year end edition of the GreenRE bulletin for 2019.
It has been an exciting year for us as the green building industry in Malaysia continues to grow. It is encouraging to witness the continued rise of green building projects in the country.

It is imperative that buildings, public infrastructure and urban design follow green development principles. The design and quality of Malaysia's built environment is the key to a sustainable city and will secure good quality of life for its occupants. Further, integration of smart technology into buildings will enable improved monitoring and control of major energy consumers. This coupled with incorporation of local renewable energy sources will dramatically lower the carbon footprint of a building.

GreenRE's position as a certification body allows us to bring together multidisciplinary stakeholders to integrate strategies and create pathways to drive the green building movement in Malaysia. GreenRE has set out an ambitious plan to support Malaysia's sustainability goals through enhanced collaboration with key industry stakeholders.

Some of the notable highlights for GreenRE are, the Green Build Conference (GBC) 2019, the first international conference organised by GreenRE with a prominent speakers from Australia, Hong Kong, Singapore and Malaysia, GreenRE Managers course successfully achieving its 20th intake and the Green Building Tax Incentive Forum (GBTIF). GreenRE's project portfolio has reached 180 projects encompassing more than 100 million square feet.

Finally, our sincere appreciation to the GreenRE Advisory Panel (GREAP), Technical Panel and Training Panel. It is with all stakeholders participation and contribution do we continue to grow and evolve.

Best Wishes for 2020!

Datuk Muztaza Mohamad
Chairman,
GreenRE Management Committee

Contents

Panasonic

nanoe™ TECHNOLOGY

To live healthy, we care about the food and water we consume. But, what about the air?

We breathe 18kg of AIR per person per day

FOOD 1.3kg per person per day

WATER 1.4kg per person per day

Air Is Life

Air is what we consume the most daily. And yet, the air we breathe is often polluted. At Panasonic, we aim to deliver Total Air Solutions that improve your indoor air quality.

We improve the Quality of Air, so you can improve the Quality of Life.

Panasonic Malaysia Sdn Bhd (26975-W)
Customer Care Centre: Tel: 03-7953 7600 Fax: 03-7953 7606 (Mon to Fri: 9am-5pm)
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E-mail: ccc@my.panasonic.com www.panasonic.com.my

A Better Life, A Better World

Scan here for more info!

QUALITY AIR FOR LIFE

Green Building Tax Incentive Forum (GBTIF) 2019

How does the incentives for projects and assets differ? Can a project apply for green tax incentive before incuring capex? Is the green office interior certification eligible for tax incentives? Can hotel projects claim the green building tax incentive?.

These were some of the questions discussed by a panel of government representatives during the Green Building Tax Incentive Forum (GBTIF) 2019 held last 21st August 2019 at Wisma REHDA.

GreenRE and REHDA Malaysia organised the Green Building Tax Incentive Forum (GBTIF) 2019 to provide a platform for all relevant stakeholders in the building industry to deliberate and clarify the current financing scope, submission requirements and future tax incentive plans beyond 2020 in Malaysia.

The Government provides an Investment Tax Allowance (ITA) for purchasing green technology equipment /assets and an Income Tax Exemption (ITE) for providing green technology services as an initiative to encourage the buying and selling of green technologies. Under the Green Technology Tax Incentive, there is a Green Investment Tax Allowance (GITA) for Assets, GITA for Projects, and Green Income Tax Exemption (GITE) for Service Providers.

The event was attended by over 70 participants from government bodies and agencies, developers, green consultants and green service providers. The panellist included representatives from Ministry of Environment, Science, Technology, Environment and Climate Change (MESTECC) (Dr Gary Theseira, Special Officer), Inland Revenue Board (IRB) (Pn Suhaini Anuar, Deputy Director Tax Incentive Advisory Division), and Malaysia Investment Development Agency (MIDA) (Cik Wan Hashimah Wan Salleh, Director of Green Technology Division).

Key points raised and issues shared during the GBTIF 2019 will be put forward to the relevant ministries by GreenRE and REHDA to ensure that all stakeholders are able to fully enjoy the offerings set out to drive the green building industry in Malaysia.

Since then, in Budget 2020, it was announced that the Green tax exemptions, Green Investment Tax Allowance (GITA) and Green Income Tax Exemption (GITE), will be extended to 2023. This is in line with the national goals to achieve its target of 20% renewable energy mix by 2025 and ambitious target of reducing emissions intensity of GDP by 45% by 2030.

From left: Pn Suhaini Anuar (IRB), Cik Wan Hashimah (MIDA) and Dr Gary Theseira (MESTECC).

Participants at the forum.

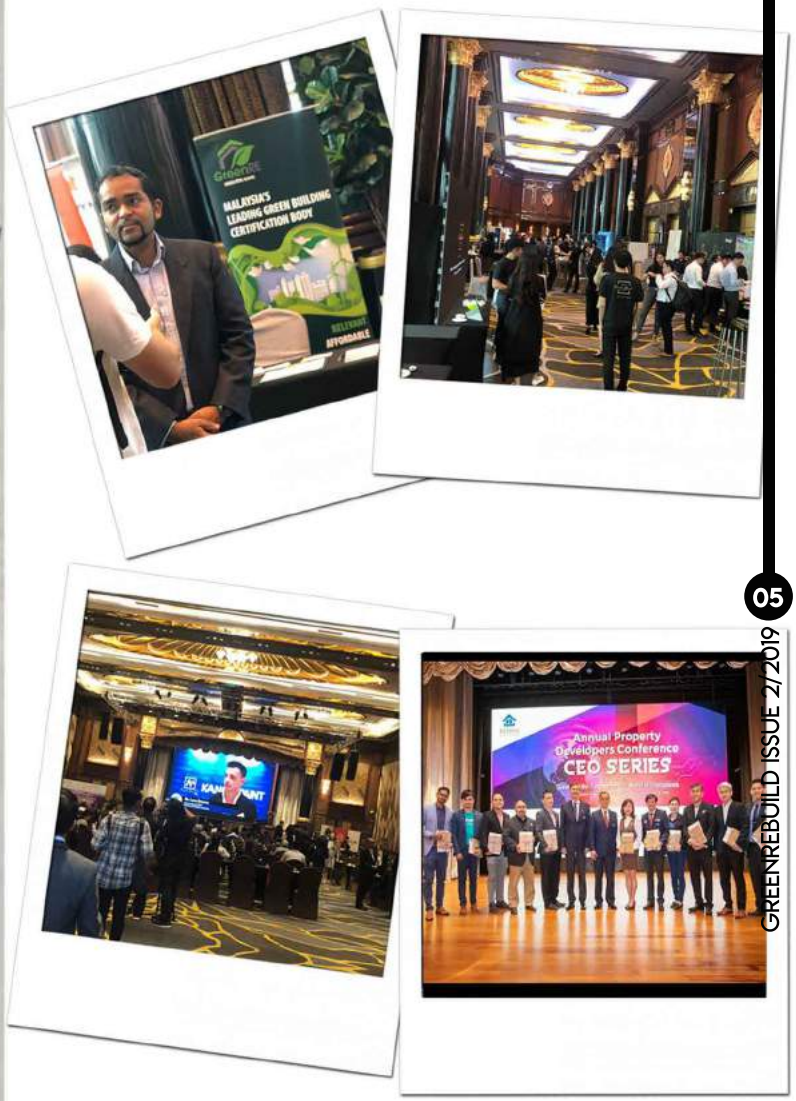
GreenRE @ IGEM 2019

GreenRE participated in this year's International Greentech & Eco Products Exhibition & Conference (IGEM) 2019 held on 9th - 11th October 2019 at Kuala Lumpur Convention Centre.

GreenRE also presented two pocket talks on Sustainable Construction Practices and Green Building Design Principles, presented respectively by Nur Fateha and Siti Suhana, senior assessors in GreenRE.

GreenRE @ REHDA Insitute's CEO Series & Housing Conference 2019

GreenRE participated in REHDA Institute's CEO Series & Housing Conference, 19th - 20th October 2019 held at Sunway Hotel, Petaling Jaya, Selangor.



PARTNERSHIP & COLLABORATION OPPORTUNITIES

We would like to work together with you to promote sustainability in the built environment. We have a number of exciting training and events lined up for 2020.

Please contact Ms Juanita (juanita@greenre.org) | Ms Nariemah (training@greenre.org) for more details on our outcoming programs and events.

Tel: (603) 7803 2978 Fax: (603) 7803 5285 Email: info@greenre.org

GreenRE Page: GreenRE GreenRE Sdn Bhd GreenRE Sdn Bhd Malaysia

GRETS on Principles of Lighting Technology & DIALux Hands On

The GreenRE Technical Seminars (GRETS) are short courses introduced in 2018 to expand GreenRE's training portfolio by providing a platform for knowledge sharing and profesional development.

The fourth session in the series - Principle of Lighting Technogy & Dialux Hands On was held from 26th - 27th November 2019, at Wisma REHDA. The course was conducted by Mr Don Chew, Founder of Sense Advisory and Luminance Systems. With over a decade experience in lighting technologies and lighting design consultancy, the speaker was also able to provide technical product knowledge on human-centric lighting.

This 2-days rigorous programme covered Principles of Daylighting and Lighting, Lighting Technology and Design using DIALux as Lighting Design Tool. DIALux is a software for planning, calculating and visualising indoor and outdoor lighting.

Picture 1: Example of DALI system (digital addressable lighting interface) such as dimming control , sensor ready by phone, DMX (stage lighting).
Picture 2: Components of light protection and ballasts
Picture 3: Type of lighting - highbay , streetlight & flood light.
Picture 4: Examples of LED lighting (linear, strips, downlight)

Hands on demonstration session by Mr Don Chew (Sense Advisory and Luminance Systems) with all the participants.

GreenRE Evening Talk (GREET):

Adaptive Passive House Technology in Tropical Countries - Trial in Energy Efficiency as Patchwork or Holistic Approach

by Prof. Dr. Karl Wagner.

GreenRE Evening Talks are organised to unite industry experts and members in an interactive networking session on selected current topics. This second session was held on 31st July 2019 at Wisma REHDA. Prof. Dr. Karl Wagner of UniKL Malaysia presented his research findings on a holistic approach to passive house technology in tropical application.

GreenRE Refresher Course 2019

GreenRE Refresher Course 2019 was held last 12th September 2019 at Wisma REHDA. The half-day course was organised to provide industry practitioners, specifically certified GreenRE Managers up-to-date information with the latest development in green building industry, regulations and GreenRE updated rating tools and requirement. In this session, GreenRE introduced, 'Guidelines for Renewal of Non-Residential Buildings', and a new assessment tool, Office Interior (INT V1.0). GreenRE Assessors also conducted a discussion on common mistakes and requirements and standards of a good submission.

GreenRE Manager's Course 2019
19th and 20th Intake

GreenRE Manager's Courses (GREMC) are 3 day training programmes organised to provide crucial information and knowledge on the best practices and green building principles, in addition to an in-depth understanding of GreenRE rating tools criteria and certification process. GREMC als o includes a MCQ examination and group project. The 19th and 20th intake of GREMC was held 23-25th July 2019 and 22 – 24th October 2019 respectively. Speakers for GREMC are industry experts from Singapore and Malaysia who are able to share case studies and insights from their years of experience in their field of expertise. Candidates who pass both MCQ examination and group project are eligible to apply to become GreenRE Managers. Currently, we have 235 active GreenRE Managers.

GreenRE Upcoming Events & Training 2020

Feb

18	GREMC 21st Intake (Basic Course)
19	GREMC 21st Intake (Advanced Course)
20	GREMC 21st Intake (Advanced Course)

Mar

10	GreenRE Technical Seminar
11	GreenRE Technical Seminar
21	GREMC 21st Intake (Examination Day)

Jun

09	GREMC 22nd Intake (Basic Course)
10	GREMC 22nd Intake (Advanced Course)
11	GREMC 22nd Intake (Advanced Course)
23 - 25	International Construction Week 2020
24	Technical Seminar in conjunction with ICW

Jul

11	GREMC 22nd Intake (Examination Day)
16	Green Build Conference (GBC) 2020

GreenRE Technical Panel Members

Tan Phay Ping
Managing Director,
BSD Consultancy Sdn Bhd

Ar Clement Wong
Principle Architect,
Clement Wong Architecture

Ar Kevin Teh
Consulting Director,
ESD Greentech Sdn Bhd
(until November 2019)

Choong Chow Neng
Director, Business & Operation,
G-Energy Global Pte Ltd

Farizan D'avezac De Moran
Senior Partner,
GreenA Consultants

Gregers Reimann
Managing Director,
IEN Consultants Sdn Bhd

Hans Weemaes
Managing Director,
Neapoli Sdn Bhd

Azril Amir Jaafar
Principal,
Veritas Architects Sdn Bhd

Sr Wan Ainon Zuraiha Wan Abdul Khalid
Chair of Building Management Board,
Royal Institution of Surveyors Malaysia (RISM)

Teo Chui Ping
Bandar Utama Development Sdn Bhd

GreenRE Training Panel Members

Ar Dr Joseph Kong
Principle,
Joseph Kong Architecture

Ar Clement Wong
Principle Architect,
Clement Wong Architecture

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IJM Corporation Bhd

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Director,
Axial Design Works Sdn Bhd

Christophe Inglin
Managing Director,
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Po Woei Ken
Associate Director,
BSD Consultancy Pte Ltd

Gregers Reimann
Managing Director,
IEN Consultants Sdn Bhd

GreenRE Advisory Panel Members

Ministry of Energy, Science, Technology, Environment & Climate Change
MESTECC

Ministry of Housing & Local Government
KPKT

Federal Department of Town & Country Planning
PLAN Malaysia

Ministry of Works
Public Works Department (JKR)

Tenaga Nasional Berhad
TNB

Construction Industry Development Board
CIDB

Ministry of Energy, Science, Technology, Environment & Climate Change
Department of Environment

Sustainable Energy Development Authority
SEDA

Malaysia Investment Development Authority
MIDA

Ministry of Transport
MOT

SIRIM Berhad
SIRIM

Suruhanjaya Perkhidmatan Air Negara (SPAN)
National Water Services Commission

Suruhanjaya Tenaga (ST)
Energy Commission

Malaysia Green Technology Corporation
MGTC

Malaysian Institute of Planners
MIP

Institute of Engineer Malaysia
IEM

Royal Institution of Surveyors Malaysia
RISM

Malaysia Association of Facility Management
MFAM

Persatuan Pengurusan Kompleks Malaysia (PKKM)
Malaysia Shopping Malls Association

Master Builders Association Malaysia
MBAM

Institut Sultan Iskandar
Universiti Teknologi Malaysia

Malaysia University of Science & Technology
MUST

National University of Singapore
NUS

Universiti Tunku Abdul Rahman
UTAR

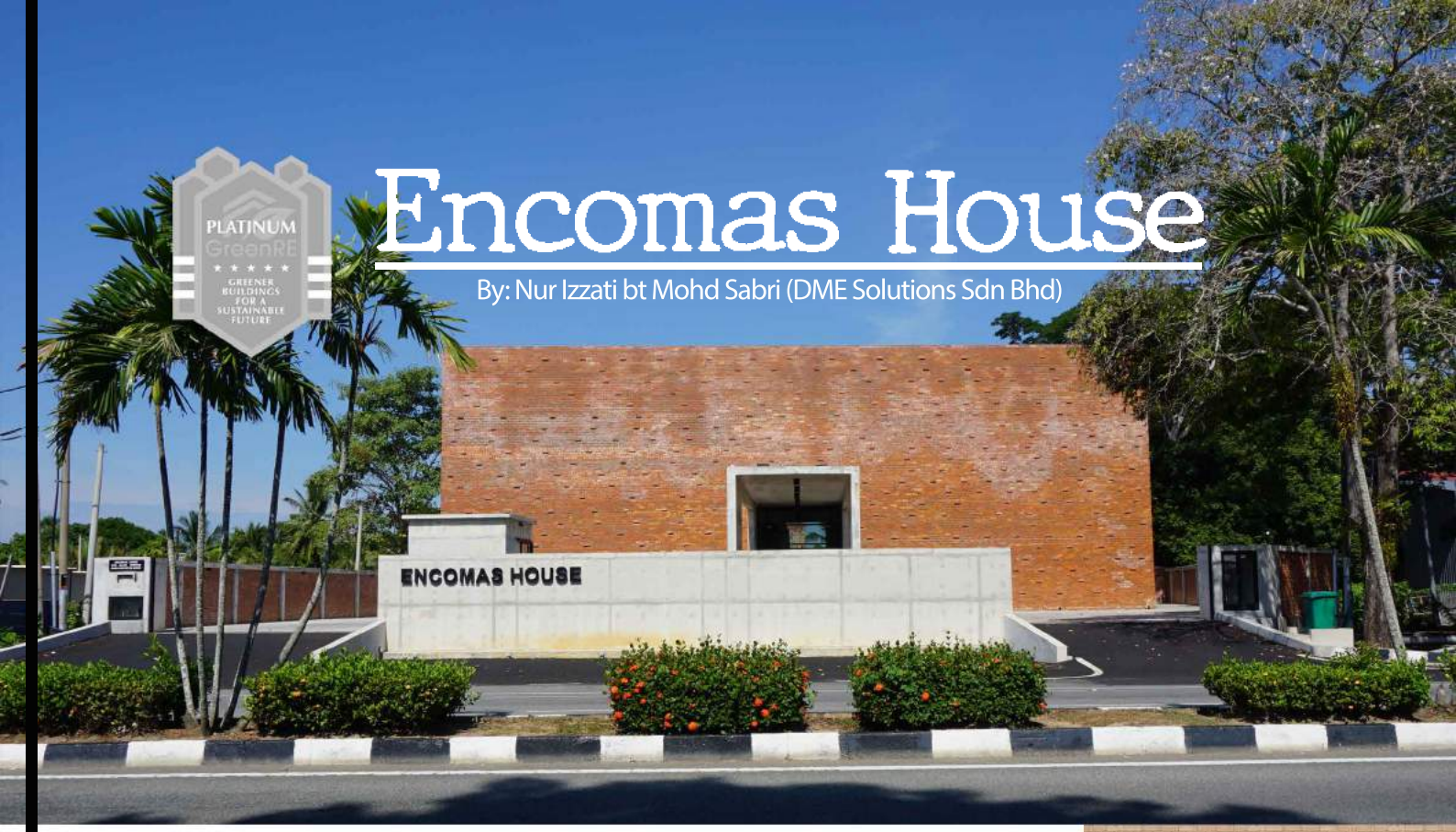
Thank You

Highest appreciation to our Technical Panel, Training Panel & Advisory Panel Members for your support and contribution in 2019.

We look forward to our continued collaborations and mutual growth.

Encomas House

By: Nur Izzati bt Mohd Sabri (DME Solutions Sdn Bhd)



Encomas House is an office-cum-Sales Gallery which serves as the headquarters of Encomas Sdn Bhd, a construction and developer company based in Alor Setar, Malaysia. Under the leadership of its Managing Director, Dato' Rick Cheng, the company has evolved into a pioneer green building developer in Kedah. Encomas House is the testimony evidence of the company's commitment to environmentally sustainable design, construction and operation. The project team invested substantial time and resources to explore and integrate new technology and innovation into the building envelope as well as the engineering system. As a result, the new headquarters has become the first building in Alor Setar to be Platinum-rated under the GreenRE assessment tool.

The Encomas House is estimated to be 30% more energy efficient as compared to conventional buildings, a feat achievable through the installation of Low-E glass which significantly reduces the heat transmittance into the interior without compromising on daylight optimisation in the office spaces. The East and West facing facades are built of double brick walls which further reduce the building cooling load and thus contribute to the overall energy saving. Furthermore, the corridors, staircases and car park are naturally ventilated to encourage energy efficient designs.

PROJECT NAME:
ENCOMAS HOUSE

LOCATION:
ALOR SETAR, KEDAH

DEVELOPER:
ENCOMAS SDN BHD

ARCHITECT:
AZIMIN ARCHITECT

M&E ENGINEER:
PERUNDING P.L.A

C&S ENGINEER:
JURUTERA PERUNDING KABATAS SDN BHD

GREEN BUILDING CONSULTANT:
DME SOLUTIONS SDN BHD

CONTRACTOR:
RIK CONSTRUCTION

The building is equipped with 5-stars rating electrical appliances under the esteemed Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), which encompasses the use of air-conditioning system, television, fans and refrigerator in order to reduce the building electrical consumption. LED lighting and motion controlled washroom lights are among other noteworthy energy saving features, along with photocell sensors installed in the office spaces located along the perimeter zones and daylit areas. As a measure of water efficiency, all the installed water fittings in Encomas House are rated Excellent under the Water Efficiency Labelling and Standards (WELS) scheme and sub-meters are used to monitor the water consumption and for leak detection.

Taking note of its close proximity to Sungai Anak Bukit, the building utilises water from the river to tend to its landscaping needs, which also includes existing trees that are thoughtfully preserved during the construction of Encomas House. Additionally, the landscape uses compost fertilizer recycled from horticulture waste which eliminates the use of chemical fertilizer to ensure the health and well-being of the public and environment. The company intends to promote environmentally friendly transport options and facilities by providing boat shuttle services at the jetty in the near future, as well as bicycle parking lots in an effort to reduce the pollution from individual car use.

Encomas Sdn Bhd has adopted a number of environmental management strategies by monitoring the construction phase to minimise the energy and water consumption, and construction waste. The interior walls are fully painted with low VOC paints for healthy living, and the building demonstrates efficient concrete usage by achieving a Concrete Usage Index of less than 0.39 m^3/m^2.

With all the numerous green features and initiatives implemented in Encomas House, it is set to pave way in becoming the benchmark of environmental and sustainable design in the industry.

Realising the Circular Economy

By : Ir Ashwin Thurairajah (GreenRE Sdn Bhd)

What is the Circular Economy?

We currently use the equivalent of 1.5 earths to meet our resource needs and absorb the resulting waste. This is projected to rise to the equivalent of 2 earths by 2030 meaning it will take 2 years to regenerate the resources we use in 1 year[1]. The traditional linear economy which has a 'take, make, dispose' model is not sustainable and needs to be replaced by the regenerative circular economy embracing reuse, repair, remanufacturing and closed recycling loops. The practical application of the circular economy has been popularised by the "Cradle to Cradle" design philosophy by Braungart and McDonough[2] whereby closed loop natural systems are imitated to solve human problems. Life cycle assessment is at the core of this concept whereby the overall impact of a product or service is assessed at the onset to minimise its environmental impact.

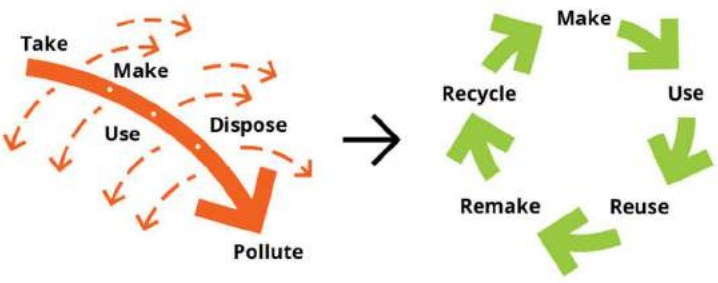


Figure 1: Linear vs Circular

What are the benefits?

The circular economy looks at all the options across the supply chain to use as few resources as possible in the first place, keep resources in circulation for as long as possible, extract the maximum value from them while in use, then recover and regenerate products at the end of service life. This means designing products for longevity with repairability in mind so that materials can be easily dismantled and recycled. This approach to product development and use will bring a myriad of benefits across the triple bottom line of sustainability[3] as follows:

- **Alleviate global warming**

Global demand for resources such as industrial metals and natural gas is projected to double by 2050[4]. Further, the process of extracting, converting and using these resources result in increased carbon dioxide emissions into the atmosphere. Reducing, reusing and recycling these resources has the potential to drastically reduce global warming. For example, recycling aluminium uses only a fraction of the energy required to extract the material from iron ore.

- **Waste prevention and reduced environmental pollution**

Globally we generate about 1.3 billion tons of waste per year which is far more than can be properly reprocessed and recycled. This has led to several environmental tragedies with the most pertinent being ocean plastic

pollution. By 2050 it is estimated that there will be more plastic in the ocean than fish by weight. At the development stage, we need to reconsider our use of single use plastics particularly in product packaging.

- **Economic competitiveness**

Optimising the use of resources will enable businesses to hedge against rising resource and material prices. Changing consumer consumption patterns will drive adoption of "as-a-service" business models with a focus on availability rather than ownership. Scalable subscription services whic h were popularised by entertainment behemoths like Spotify and Netflix is also being considered by companies like Ikea and Lego to improve utilisation of their end products and drive up profits.

- **Job creation**

Closing the loop in the product cycle through repair, remanufacturing and recycling is estimated to create an additional 40-50 million new jobs globally by 2030[5].

What are the main challenges?

Our global economy is intrinsically designed to cater for mass production whereby goods can be produced fast and in large to volumes to meet-ever increasing market demand. Despite realisation of the need to change from a linear consumption and production model towards a circular one, the following challenges remain:

- **Consumer behaviour**

Consumers are accustomed to convenience in consuming our products and this has resulted in the proliferation of single use plastics. Today we use 20 times more plastics than we did 50 years ago[6]. Moving towards a zero-waste lifestyle will necessitate consumer behavioural changes.

- **Technology**

Technological advancements are required to broaden the spectrum of recyclable products. For example, the sorting process to process different grades and qualities of aluminium will need to be made more affordable to encourage wider adoption.

- **Recycling networks**

The world's population is on track to exceed 9.5 billion people by 2050[7]. Most of this growth will occur in developing countries particularly Asia fuelling rapid industrialisation. However, the lack of proper infrastructure to facilitate recycling and remanufacturing will hamper the circular economy in this region.

- **Government regulation**

Strong waste management regulations in developed countries has resulted in a "waste transfer" particularly plastic waste to developing countries with softer restrictions such as Vietnam and Indonesia. A clear policy and regulatory direction on minimising waste globally is necessary.

GreenRE and "Circular Buildings" in Malaysia

In setting higher standards for property development in Malaysia through our voluntary green building standards, GreenRE aims to drive the sector towards being more sustainable. The circular economy concept is embraced in our push for closed loop buildings by rewarding projects that optimise the construction and operation of a building throughout its lifecycle. Following are some of the key components of a circular building:

- **Site selection**

Development on brownfield previously contaminated sites is encouraged to reduce pressure on clearing greenfield land. Further, restoring existing buildings or structures reduces energy and waste associated with demolition and construction.

- **Sustainable materials and products**

Re-use and salvage of buildings materials can significantly reduce the amount of virgin materials used for construction. Cement production is one of the largest producers of greenhouse gas emissions responsible for around 8% of global emissions. As an essential component of concrete, the use of green cements which replace ordinary portland cement with waste material from other industrial processes such as fly ash drastically reduces the embodied carbon of concrete. Sustainably harvested wood and steel are encouraged for building superstructure design. Eco-labelled products should be used where possible throughout the building.

Recycling infrastructure

Buildings are encouraged to provide recycling bins for separation of waste. This should be extended to all refuse stations and central waste collection within the building.

Resilience

Buildings should be designed with a long-term view both in terms of higher quality materials and adaptability in design to enable resilience and relevance throughout its life cycle.

Figure 2: Image: Building Life Cycle

References:

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Ir. Ashwin Thurairajah is a Professional Engineer and has more than 14 years of experience in engineering spanning building services, oil and gas and sustainable development. He speaks frequently in workshops/seminars on the topics of green development and low carbon design. He has contributed to research papers pertaining to distributed generation and renewable energy solutions for residential applications.

Ir. Ashwin Thurairajah
Chief Operating Officer, GreenRE Sdn Bhd, ashwin@greenre.org
MEng, PEng (BEM), PMP, GREM, GBIF

Facts & Figures

Energy sector has remained the largest contributor to emissions over any other sector, representing 72 % of global GHG emissions in 2013.

More efficient energy standards could reduce building and industry electricity consumption by 14%.

To limit global warming to 1.5°C, global net CO2 emissions must reduce by 45% between 2010 and 2030, and reach net zero around 2050.

As of 2015, less than 10% of power was generated through renewable sources in Malaysia.

If people everywhere switched to energy efficient lightbulbs, the world would save US$120 billion annually.

The renewable energy sectors worldwide currently employ more than 2.3 million people; the number could reach 20 million by 2030.

Green buildings can improve people's health and wellbeing. Workers in green, well-ventilated offices record a 101 per cent increase in cognitive scores (brain function).

Green buildings design can spur innovation & contribute to climate resilient infrastructure.

Through building green we create strong, global partnerships.

Source:
https://sustainabledevelopment.un.org/?menu=1300
https://www.worldgbc.org/green-building-sustainable-development-goals
Harvard T.H. Chan School of Public Health / Syracuse University Center of Excellence / SUNY Upstate Medical School, 2015.

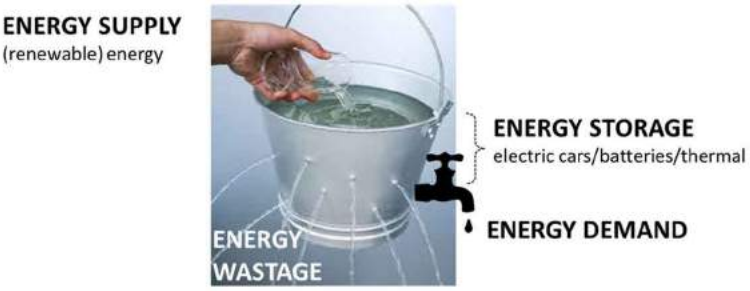
Energy Efficiency is the Lowest Hanging Fruit

By : Gregers Reimann (IEN Consultant Sdn Bhd)

YB Yeo Bee Yin at the National Energy Awards (1st August 2019)

At her keynote address at the recent National Energy Awards 2019, the Minister of Energy, Science, Technology, Environment and Climate Change (MESTECC), YB Yeo Bee Yin, stated that "energy efficiency is the lowest hanging fruit". It was encouraging that the minister hereby shed light on the importance of energy efficiency, as it often plays second fiddle to renewable energy. Energy efficiency does not have the same appeal as renewable energy, it is less visible than, say, a big solar panel installation. However, in terms of the economic rate of return, energy efficiency is the more attractive option, or as the minister formulated it "the lowest hanging fruit". So, while Malaysia has set an ambitious target of getting 20% of its electricity from renewable energy, the energy efficiency targets should be pushed equally – if not more – aggressively. Besides, nation-wide implementation of energy efficiency will reduce the overall electricity consumption, and hence make it easier to achieve the 20% renewable energy target.

A good way to illustrate the relationship between energy efficiency and renewable energy is by using the leaky bucket analogy. The bucket represents the national energy system. Energy consumption is represented by water drawn from the tap, whereas energy wastages is depicted by holes in the bucket. The energy supply is represented by pouring water into the bucket.



Energy Systems / Buildings are like a leaky bucket. First step is to plug the holes (energy efficiency)

While the constantly growing demand can be met by keep pouring more and more water into the bucket, the more sensible approach, also economically, is to start by plugging the holes, in other words, to implement energy efficiency measures.

For the building sector, the International Energy Agency (IEA) found that 80% of the economically attractive energy savings are never implemented. For the Malaysian building sector, significant and economically attractive energy saving potentials exist both the residential and the commercial building sector[1]. So, why are these energy efficiency potentials not realized? One of the core problems is lack of awareness among builders, buyers and tenants alike. Energy efficiency is usually not part of the equation in the building sector in Malaysia. Buyers and tenants do not demand for energy efficiency, and hence, developers do not deliver it.

Mandatory energy labelling of buildings in Malaysia will help to bring energy efficiency to the forefront. Following

1 Study by Danida for the Malaysian government

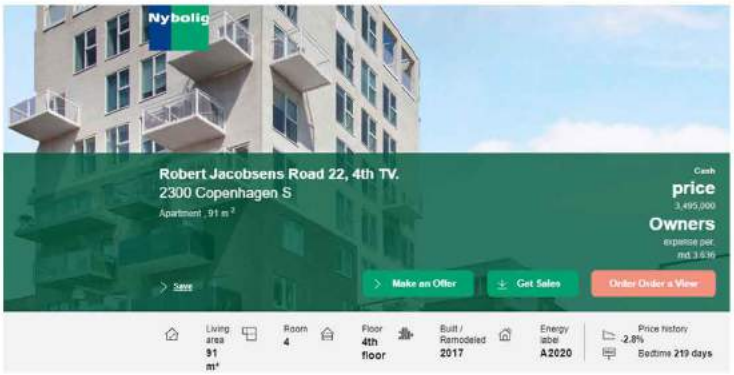
the same logic of the existing Malaysian 5-star energy rating household appliance such as air-conditioners and refrigerators, an energy label for buildings will inform the buyer/tenant up front about the building's monthly energy bill, hence, becoming one of the determining factors at the point of purchase/lease.

Another benefit of mandatory energy labelling of buildings is that it will make building owners more willing to invest in energy efficient building retrofits because the investment will improve the energy label, and hence, add value to the property at the point of sale/lease. In other words, spending money on an energy efficiency retrofit will not be a waste of money, because the expense is recuperated through a higher sales/rental price.

Mandatory energy labelling of buildings has already been a reality for more than ten years in the European Union, where the Energy Performance of Buildings Directive (EPBD) requires that buildings offered for sale or rent shall include the building energy label in the advertisement, as illustrated in the screendumps below from an online real estate agency in Denmark. One of the search criteria is "Energy", following the European energy rating scale, namely from energy rating A (most energy efficient) to energy rating G (least energy efficient).

The energy label is one of the search parameters on the real estate company Nybolig in Denmark (Jan 2020)

Below is a screendump for one of the energy efficient apartment listings, where the energy label "A" is displayed at the bottom, or rather "A2020", which means that the building energy rating is "A" according to the 2020 building code.



The energy label is one of the search parameters on the real estate company Nybolig in Denmark

Malaysia has already taken an important step towards energy labelling of buildings. The Malaysian government should be lauded by taking the lead, namely by requiring the government building to undergo mandatory energy labelling. The scheme is first being rolled out for office buildings, while more complex buildings, such as government hospitals, will follow.

The MESTECC energy label for office buildings

The Malaysian governments effort to push for mandatory energy labelling for government buildings should be lauded and encouraged – and eventually legislated - on a national scale.

Such initiatives should go hand in hand with mandatory green building certification that go beyond the narrow focus on energy efficient by also setting targets for occupant health and well-being. The Malaysian buildings have lots of potential for improvements, so let us follow the advice of the minister and start plucking the "lowest hanging fruits" through a concerted effort improving the energy efficient standards.

Gregers Reimann specializes in energy efficient and green building design with excellent indoor environment. His green building consultancy pursues innovative and integrated design solutions bridging the gap between architects and engineers. In addition to green building consultancy, Gregers regularly contributes to green building articles and frequently lectures at universities.

Gregers Reimann
Managing Director, IEN Consultants Sdn Bhd, gregers@ien.com.my
Chairman of the Green Building committee, EUMCCI

HRDF claimable

IEM 15 cpd

LAM 3 cpd

ST 12 cpd

GREENRE MANAGER'S COURSE 21ST INTAKE

GREM is a 3 days' course to equip professionals or technical individuals with knowledge and skills of green building practices to enable them to participate in the design process, incorporate integrated design and facilitate GreenRE certification.

Venue

Wisma REHDA, SS5, PJ

Time

9 am - 6 pm
8.30 am (Registration)

Date

18th Feb '20 (Basic)
19th - 20th Feb '20 (Advanced)
*Complete course is 3.5 days including the examination

Examination Date
28th Mar '20

COURSE OBJECTIVES

- Provide crucial information and knowledge on the best practices and green building principles.
- Understand and reduce life cycle cost of green buildings.
- Legislative requirements on Environmental Sustainability for Buildings.
- Provide an understanding on the interpretation of the GreenRE Tool Criteria, Scores and certification process.

EXAMINATIONS

The exam measures knowledge about green building, GreenRE rating system and the certification process. The exam is divided into 2 sections. Part A multiple choice test, Part B a group project.

In keeping with our green and sustainable practices, course notes will be available in e-format.

GREM APPLICATION REQUIREMENTS

- Complete all 3 days within 2 years with 75% attendance.
- Pass MCQ test and group green building project.
- Professional Experience: A recognised degree or diploma in related disciplines (engineering, architecture etc.), approved by the GreenRE Review Panel, in addition to 3 years work experience (degree holders) or 5 years (diploma holders).

GreenRE Manager Certificate is valid for 2 years from issuance.

RENEWAL REQUIREMENTS

- Compulsory Attendance for GreenRE Refresher Course OR GreenRE Manager's Course–Basic per renewal cycle.
- Accumulation of Continuing Professional Development (CPD) Points of 10 CPD points per year.

You can attend the GREM course even if you do not wish to be a Certified GreenRE Manager course and certification are independent. The multi-faceted courses will be beneficial for general development as it provides an overview to the topic of green building design and technologies. In such instances, you can choose to opt out of the MCQ Test and group project if enrolment of the course is purely for knowledge.

Reach us: training@greenre.org

www.greenre.org | Page: GreenRE | GreenRE Sdn Bhd | GreenRE Sdn Bhd Malaysia

REGISTRATION FORM

Salutation & Full Name:

NRIC No.:

Company Name:

Designation:

Membership No.:
(refer to the list of membership)

Office/HP No.:

Email Address:

Field Specialization:
(Civil/Mechanical/Architect/Surveyor/Others)

Mailing Address:

PAYMENT INFORMATION

Please tick [/] which part(s) are you participating:

Complete Course ☐ **Basic Course** ☐ **Advanced Course** ☐

Early Bird (Before 12/1/2020) ☐ **Normal Rate (After 12/1/2020)** ☐

	Complete Course (Day 1, 2 &3)	**Basic Course (Day 1)**	**Advanced Course (Day 2 & 3)**
Member	RM 1040 / RM1219 ☐	RM 455 / RM 519 ☐	RM 666 / RM 784 ☐
Non Member	RM 1262 / RM1484 ☐	RM 540 / RM 625 ☐	RM 805 / RM 943 ☐

Course Fees;
i) includes **6% SST (SST No.: B16-1809-32000727)**
ii) includes training materials, F&B, examination fees and certificates
iii) are **HRDF claimable**
Member Rate: **GREM/REHDA/IEM/PAM/BQSM/SHAREDA/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 and registration form to **training@greenre.org**.

CONTACT PERSON (IF DIFFERENT FROM THE ABOVE)

Salutation & Full Name:

Office/HP 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 & address

GREENRE TECHNICAL SEMINAR 01-2020

Efficient Central Air-Conditioning Design and Measurement & Verification Systems

10th & 11th March 2020
9 am - 6 pm
Wisma REHDA, Petaling Jaya

CPD GREENRE, IEM, LAM, ST

Introduction

The major criteria in GreenRE Tools is Energy Efficiency (Part 1) which contributes about 50% of the total scoring points. Credits are allocated for the various energy efficient designs, practices and features used.

GreenRE has introduced pre-requisites to air-conditioning system design including installation requirement for provision of permanent major system for chiller plants.

Objectives

To provide the fundamentals and knowledge of air-conditioning, central chilled water plants, chilled water airside systems, chiller plant performance measurement & verification (M&V) and their optimization.

Target Group

- Engineers, Architects, Planners, Surveyors
- Sustainable & Environmental Managers, Green Building Consultants
- Developers, Project Managers, Building Owners involved in green building projects

Early Bird Fees
*before 21/2/2020
RM 799
*member
RM 1099
*non member

Normal Fees
*after 21/2/2020
RM 899
*member
RM 1199
*non member

Kindly contact
Ms. Nariemah
(training@greenre.org)
Tel: 03 - 7803 2978
Fax:03 - 7803 5285

GreenRE

www.greenre.org

ISO 9001 Quality Management

Registration Form

Salutation & Full Name:

Company Name:

Designation:

Office/Mobile No.:

Email Address:

Mailing Address:

Membership No.:
(GREM/REHDA)

Participants who have successfully completed the course by attending at least 75% of the 2 days-course will be issued with a Certificate of Attendance from GreenRE.

This technical seminar provides CPD points from GreenRE, IEM and LAM.

PAYMENT INFORMATION

Early Bird (before 21th February 2020):

Member (REHDA/GREM) - RM 799.00
Non-Member - RM 1099.00

Normal Fee (after 21th February 2020):

Member (REHDA/GREM) - RM 899.00
Non-Member - RM 1199.00

Course fee is subject to 6% SST (SST No.: B16-1809-32000727). 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 & please email the bank in slip and your registration form to training@greenre.org.

NOTES:

1. Upon 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.

CONGRATULATIONS

New GreenRE Managers (GREMs)

Cert No	Name	Company
GREM0210	NURUL SHAQINA MOKTARROJI	LJ ENERGY SDN BHD
GREM0211	CHEONG MIN QI	G ENERGY (M) SDN BHD
GREM0212	Ir. ZAINAL FITHRI MAT ZAHARI	MARA INCORPORATED SDN BHD
GREM0213	NOOR IRMAYATI ISMAIL	WCT CONSTRUCTION SDN BHD
GREM0214	LIM YEW KWANG	WCT CONSTRUCTION SDN BHD
GREM0215	EWE CHERN YUE	BSD CONSULTANCY SDN BHD
GREM0216	MUHAMMAD LUTFIRRAHMAN SAHDAN	ORANGEBEAM CONSTRUCTION SDN BHD
GREM0217	LENG PAU CHUNG	UNIVERSITI TEKNOLOGI MALAYSIA
GREM0218	WONG KIEN HOO	VERITAS ENVIRONMENT SDN BHD
GREM0219	NORAINI BINTI HUSSAIN	E&O PROPERTY (PENANG) SDN BHD
GREM0220	RUQAYYAH BTE ANUAR	SIME DARBY PROPERTY
GREM0221	LAWRENCE YONG BING YUN	SHIMANO COMPONENTS (M) SDN BHD
GREM0222	S MUGENESWARAN A/L SHANMUGAM	BAERLOCHER (M) SDN BHD
GREM0223	MUTHU KUMARAN GUNASEGARAN	MCDONALD'S MALAYSIA
GREM0224	NG PENG HONG	IGB PROPERTY MANAGEMENT SDN BHD
GREM0225	TAN SIE TING	NEAPOLI SDN BHD
GREM0226	LEE XIN HUNG	RDC ARKITEK SDN BHD
GREM0227	CHAN CHUN KIAT	SUNWAY INTEGRATED PROPERTIES SDN BHD
GREM0228	MOHAMMAD SUFFI BIN MOHD KHAIRI	ARKIKRAF SDN BHD
GREM0229	THOMAS DONAL HEALY	STONE EPC (SABAH) SDN BHD
GREM0230	ONG LAY HONG	E&O PROPERTY (PENANG) SDN BHD
GREM0231	MUZAFFAR MAZLAN	CHEVRON MALAYSIA LIMITED
GREM0232	GERALD ANAK GIRISING	SUNWAY ISKANDAR SDN BHD
GREM0233	WAN LI PENG	SUNWAY SERENE SDN BHD
GREM0234	NICKLAUS TAN OON XIN	ARUP JURURUNDING SDN BHD
GREM0235	CINDEL SOO YUNG YUNG	BSD CONSULTANCY SDN BHD

We welcome these newly certified GreenRE Managers (GREM) to our GreenRE community. We look forward to working together towards greening the real estate industry in Malaysia.

The greatest threat to our planet, is the belief that someone else will save it. -Robert Swan

Newly Certified & Renewed Projects

Project Name & Location	Company	ESD Consultant	Design Reference	Type of Certification	Date of Certification
Encomas House, Alor Setar, Kedah	Encomas Sdn Bhd	DME Solutions Sdn Bhd	NRB v1.2	Actual	21/11/2019
Emporis (Non-Residential), Petaling Jaya, Selangor	Emporis Sdn Bhd	Next Gen Sdn Bhd	NRB v3.0	Provisional	21/11/2019
SFI Food Sdn Bhd (Phase 1), Taiping, Perak	SFI Food Sdn Bhd	SFI In-House Team	EIND v1.0	Actual	22/11/2019
SFI Food Sdn Bhd (Phase 2), Taiping, Perak	SFI Food Sdn Bhd	SFI In-House Team	EIND v1.0	Actual	22/11/2019
Tropicana Garden 2, Petaling Jaya, Selangor	Tropicana Indah Sdn Bhd	DME Solutions Sdn Bhd	RES v3.1	Provisional	30/10/2019
Dewan Bankuet MBSA, Shah Alam, Selangor	Majlis Bandaraya Shah Alam	Neapoli Sdn Bhd	NRB v3.0	Provisional	23/10/2019
Sunway Citrine-Citrine Hub Iskandar, Johor	Sunway Iskandar Sdn Bhd	ESD Greentech Sdn Bhd	ENRB v3.1	Actual	19/8/2019
Arcuz Kelana Jaya, Selangor	Mahsuri Kelana Sdn Bhd	Zeal Greentech Sdn Bhd	RES v3.0	Provisional	18/10/2019
Fortuna @ Bukit Bintang, Kuala Lumpur	KKH Development Sdn Bhd	DME Solutions Sdn Bhd	NRB v3.1	Provisional	5/8/2019
Residensi Riana Dutamas 1, Kuala Lumpur	368 Segambut Sdn Bhd	Green Quarter Sdn Bhd	RES v3.1	Provisional	26/8/2019

PLATINUM

GOLD

SILVER

BRONZE

GreenRE applauds these developments for incorporating green principles and applications, contributing towards lowering Malaysia's carbon footprint and the sustainable development agenda!

GREENRE TOOLKITS MEMO

RES 1-1 Residential Envelope Transmittance Value (RETV):

RETV is the residential counterpart of OTTV and takes into consideration the three basic components of heat gain through the façade of a building. The thermal transmissions factors are modified to reflect the unique cooling requirements of residential buildings.

For the purpose of presenting the calculations to GreenRE, only external facades of the dwelling spaces (i.e living, dining, study and bedrooms) are to be considered. Portions of dwelling space external façade facing a corridor ***AND*** exposed to direct sunlight shall be included. External façade of kitchens and toilets are ***NOT*** included in the RETV calculation.

Appropriate solar correction factors specific to RETV are to be used as these differ from factors used for OTTV calculation.

$$RETV = 3.4(1 - WWR)U_w + 1.3(WWR)U_f + 58.6(WWR)(CF)(SC)$$

RES 1-2 Naturally Ventilated Design:

Option 2(i) - For credits pertaining to building layout design, whereby orientation of window openings is aligned to maximise prevailing wind direction (i.e N-S direction) only windows adjoining dwelling spaces and kitchens will be considered. Windows adjoining toilets/bathroom and store rooms will not be considered.

For high rise residential buildings, windows along double loaded coridoors will not fulfill this criteria unless they are facing an airwell or void whereby unobstructed airflow can be reasonably expected.

Ventilation simulation is encouraged where the rule of thumb design principles do not lead to a satisfactory ventilation score to prove acceptable wind speed of 0.6m/s through dwelling spaces.

RES 1-8 Cool Hardscaped Area:

The area of application for % calculation of hardscape material SRI will be for the ground floor site area ONLY. This can be estimated by the following formula:

Site Area - Plinth Area – Softscape Area = Hardscape Area

RES 1-3 & NRB 1-5 Daylighting:

For daylighting credits, simulation or suitable daylight calculation is necessary for occupied and common areas to achieve the minimum daylight factors per MS-2680 and MS-1525. Window area % rule of thumb (UBBL) is not sufficient to prove adherence to these criteria.

For common areas, artificial lighting circuit schematics are necessary as documentary evidence to prove design that allows controllability to maximise harvested natural daylight.

Airconditioning System Design

Effective January 2020, GreenRE will adopt MS-1525:2019 for benchmarking air conditioning system efficiency for the purpose of building energy modelling.

GreenRE will also adopt the revised ST Ratings for domestic air conditioners per circular issued by Suruhanjaya Tenaga (ST) in May 2018. Excerpt of circular is as follows:

PRODUCTS	UPDATES	IMPLEMENTATION DATE
Air Conditioner	Added: ISO 16358-1	1 Jun, 2018
	Updated: EER (Energy Efficiency Rate) to CSPF (Cooling Seasonal Performance Factor)	
Refrigerator	Updated: MS IEC 62552:2011 to MS IEC 62552-3:2016	
Washing Machine	Added: Energy efficiency label requirement to MS IEC 60456:2012	1 Sept, 2018

Energy Efficiency Index (EEI)

Effective January 2020, the EEI calculation will be a ***MANDATORY*** requirement for building project submission to GreenRE. The requirement applies to both new and existing buildings for all target ratings. For residential buildings, the EEI calculation applies to common area only.

All GreenRE Managers (GREMs) and/or submitting professional are responsible to comply accordingly.

GREENRE NEWS

Restaurant (Annex to NRB, ENRB and INT Tools) v1.0

On 1st October 2019, GreenRE have launched a Restaurant Tool as an annexe to its existing Non-Residential (NRB), Existing Non-Residential Building (ENRB) and Interior (INT) Design Reference Guide. The GreenRE Restaurant rating system is targeted at standalone and/or building integrated restaurant operations. For further info kindly email us at ***info@greenre.org.***

Congratulation SFI Foods Sdn Bhd!

GreenRE to congratulate SF Foods Sdn Bhd for being the first to have ***TWO*** industrial buildings certified under Existing Industrial Facilities (EIND). Both industria l building namely SFI Food Sdn Bhd (Phase 1) and SFI Food Sdn Bhd (Phase 2) has been awarded actual certificate with Silver rating.

GreenRE Managers (GREMs) Certification Renewal

Attention to All GreenRE Managers,

In order to maintain the high standards of professional competency, the validity period of the certified GreenRE Manager will be granted on a 2-yearly basis. You are required to renew the certification for every 2 years by following the requirements which are;

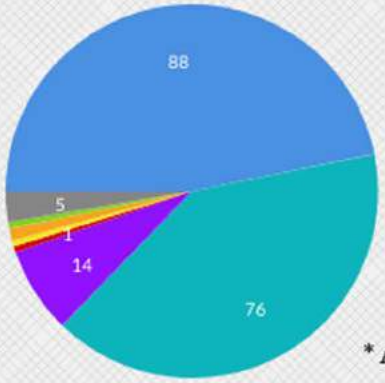
i) To attend at least one GreenRE Refresher Course (GRERC) ***OR*** Basic Course in GreenRE Manager's Course (GREMC) – Certificate of Attendance to be attached with the renewal application.
ii) To collect ***10 CPD points per year*** from any of these activities;
- Courses organized by GreenRE / REHDA Youth / REHDA Institute ***OR***
- Any courses related to the green building industry (subject to be approved by the Management of GreenRE ***OR***
- Involve in GreenRE projects (Note: completion means that the Letter of Award, stating the GREM of the project, has already been awarded by GreenRE Sdn Bhd. It does not mean the physical completion of the project)

Kindly refer to the ***CPD Guidelines*** in our website, ***www.greenre.org***

Project Statistic

Jun-Dec 2019

Registered Project



- Residential (RES) (46.81%)
- Non-Residential Building (NRB) (40.43%)
- Existing Non-Residential Building (ENRB) (7.45%)
- Healthcare Facilities (HC) (0.53%)
- Industrial Facilities (IND) (0.53%)
- Existing Industrial Facilities (EIND) (1.06%)
- Office Interior (INT) (0.53%)
- Township (TS) (2.66%)

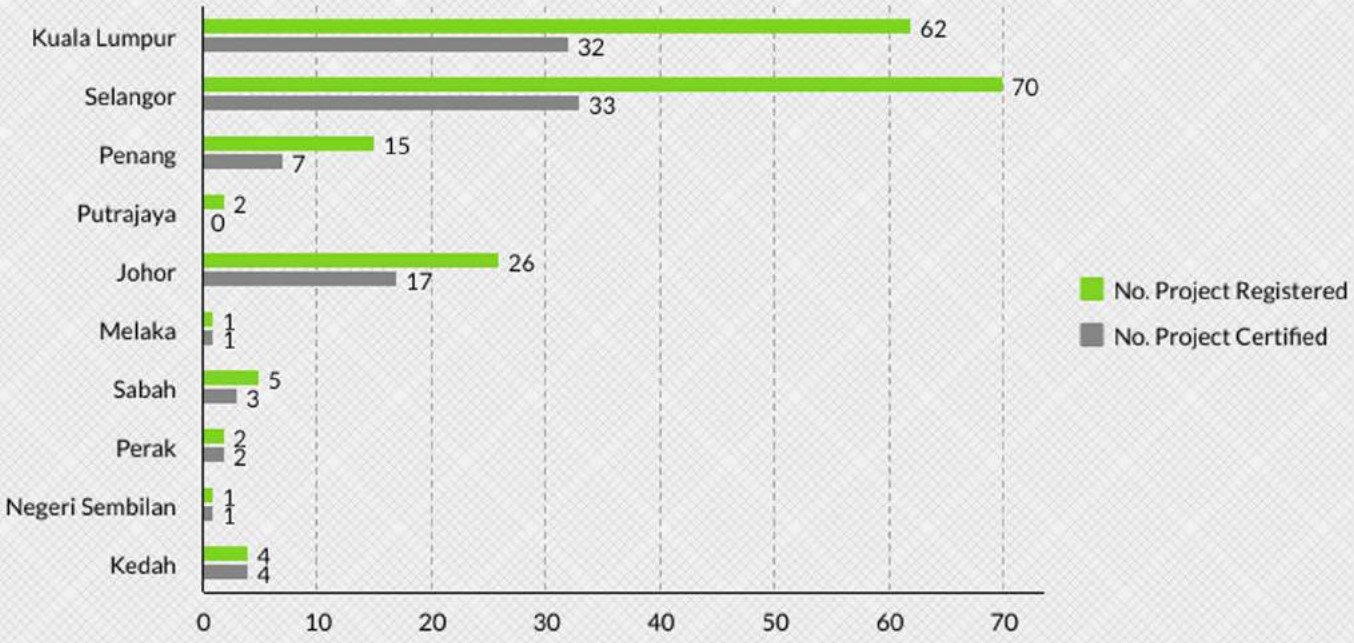
* As per End of December 2019

188
Registered Projects

Building
4,649,461.91 sqm

Township
1,976.20 acre

Project Distribution



Certified by Rating

11%
Residential (RES) 27%
Non-Residential Building (NRB) 73%

23%
Residential (RES) 57%
Non-Residential Building (NRB) 35%
Existing Residential Building (ENRB) 4%
Township (TS) 4%

20%
Residential (RES) 41%
Non-Residential Building (NRB) 41%
Existing Non-Residential Buildin (ENRB) 5%
Township (TS) 5%
Existing Industrial Facilities (EIND) 8%

44%
Residential (RES)46%
Non-Residential Building (NRB) 33%
Existing Non-Residential Building (ENRB) 16%
Township (TS) 5%