

GreenRE Bulletin

Issue 11 | January - June 2024

www.greenre.org

FEATURED PROJECT :

AEON MALL MEAN CHEY

GREENRE'S FIRST GOLD RATED PROJECT IN CAMBODIA



FEATURED PROJECT :



**Menara KWSP @
Kwasa
Damansara**



**EVENTS:
GreenRE's 4th
Advisory Panel
Meeting**

**FEATURED ARTICLE:
Unlocking
Malaysia's
Energy Efficiency
Potential**



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EDITORIAL TEAM

Advisors

GreenRE Board
Ir. Ashwin Thurairajah

Editorial Team

Juanita Lourdes
Nariemah Abd Ghaffar
Adlina Izham
Nur Fateha Jamaluddin

Contributors

Priya Devan (The Edge Malaysia)
Climate Asia (subsidiary of BSD)
Nariemah Abd Ghaffar
Anis Syakirah (BSD Consultancy)
Ryan Koay (BSD Consultancy)

Design & Layout Adlina Izham

Admin Noriah Ali

EDITORIAL OFFICE

GreenRE Sdn Bhd
1st Floor, Wisma REHDA,
No. 2C, Jalan SS5D/6,
47301 Petaling Jaya,
Selangor.

Tel: +603-78032978
Fax: +603-78035285
Email: info@greenre.org

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AEON MALL

FOREWORD.



Dear Readers,

As we reach the midpoint of 2024, I am delighted to share this latest edition of the GreenRE Bulletin with you. This year has been a transformative period for GreenRE, marked by significant milestones and groundbreaking initiatives that continue to drive our mission of fostering sustainable real estate development in Malaysia and beyond.

In the past six months, GreenRE has made remarkable progress in various areas. Our certification portfolio now boasts over 700 projects, covering more than 500 million square feet. This achievement underscores our commitment to providing an objective and internationally recognized rating system for environmentally sustainable real estate projects. The widespread recognition of GreenRE certification by the Malaysian Government and local authorities further strengthens our position as the leading green building certification body in the country.

One of the highlights of this year has been our 4th GreenRE Advisory Panel Meeting. The future direction of GreenRE and the green real estate sector in Malaysia was discussed by prominent industry experts, and thought leaders during this crucial gathering. GREAP No 4 was attended by over 30 representatives from ministries, professional bodies, universities and GreenRE's Technical Panel.

We are also proud to announce the launch of the GreenRE Energy Certificate. This new certification aims to complement the Energy Efficiency and Conservation Act (EECA), serving as an effective mechanism for assessing and promoting energy-efficient practices in buildings across Malaysia. The introduction of this certification is a testament to our continuous commitment to driving sustainability in the built environment.

Moreover, our collaboration with international organizations such as the Cambodia Green Building Council (CAMGBC) has opened new avenues for knowledge exchange and future joint initiatives. These partnerships are crucial as we strive to elevate the standards of sustainable building practices and contribute to the global sustainability agenda.

As we look ahead to the second half of 2024, we remain dedicated to expanding our reach and impact. Our goal is to not only certify more green buildings but also to foster a culture of sustainability within the real estate industry. We are excited about the upcoming events, training programs, and research projects that will further our mission.

I would like to take this opportunity to thank our team, GREAP Members, GreenRE Technical and Training Panel, for their unwavering support and commitment. Your dedication and collaboration are the driving forces behind our achievements and progress. Looking ahead, it is vital that we remain committed to continuous improvement and strategic growth, your valuable feedback will spur us to enhance our efficiency and foster a culture of collaboration as we strive for excellence together.

Thank you for your continued engagement with GreenRE.

Datuk Hj Muztaza Mohamad
GreenRE Head of Management Committee

EVENT HIGHLIGHTS .

THE 4TH ADVISORY PANEL MEETING (GREAP NO.4) LE MERIDIEN, PETALING JAYA



GREAP No.4 was chaired by Datuk Seri FD Iskandar (GreenRE Chairman)

Petaling Jaya, [8 May 2024] — GreenRE successfully hosted its 4th Advisory Panel Meeting (GREAP No. 4) on May 8, 2024, at Le Meridien Petaling Jaya. This pivotal event brought together key stakeholders, industry experts, and thought leaders to discuss the future direction of GreenRE and the broader green building industry in Malaysia.

The meeting was attended by over 30 members from various organisations, including REHDA Malaysia, Plan Malaysia, Suruhanjaya Tenaga (ST), Tenaga Nasional Berhad (TNB), IEM, Malaysian Green Technology And Climate Change Corporation (MGTC), Jabatan Kerja Raya Malaysia (JKR), Malaysian Institute of Planners (MIP), Malaysia Association of Energy Service

Companies (MAESCO), Persatuan Pengurusan Kompleks (PPK) Malaysia, Master Builders Association Malaysia (MBAM), Royal Institution of Surveyors Malaysia (RISM), Association of Consulting Architects Malaysia (ACAM), Construction Research Institute of Malaysia (CREAM), University Malaya (UM), IG Training Centre (IGTC), UiTM, Jeff Sachs Centre of Sustainable Development, and representatives from the GreenRE Technical Panel and Management Committee.

Key topics discussed at the meeting included strategies to drive and promote green building certification and sustainable real estate in Malaysia. Informative presentations were given by representatives from Plan Malaysia, MGTC, and ST, providing latest updates in their respective sectors:

► **Plan Malaysia: (EV Charging Stations Plans for Malaysia), Gs. Lily Hamaddah binti Ramle, Senior Assistant Director, R&D Division, Department of Urban and Rural Planning.**

Gs. Lily presented on Plan Malaysia's guideline for implementation of EV charging facilities in the country. This guideline will be implemented by local authorities across Malaysia with a minimum 2% parking space allowance for EV charging required for all new developments. Existing and new developments will have to comply with safety requirements by ST and Bomba as well as licensing fees imposed for charge point operators (CPOs) by respective councils. This is in line with the government's plan to make available 10,000 EV charging stations by 2025. Gs Lily also introduced the Malaysia Electric Vehicle Charging Network (MEVNet) dashboard which lists all public EV chargepoints in the country.

► **Malaysian Green Technology and Climate Change Corporation (MGTC):** (Government Incentives for the Green Technology Industry), by Pn Rosmah Mamak Rapi, Manager-Green Incentives, MGTC

MGTC presented on updated green technology incentives introduced in budget 2024 that will be managed by MGTC namely GITA Asset for Own Consumption and Green Technology Financing Scheme (GTFS 4.0). MIDA will now only administer GITA for Business and GITE for solar leasing. Projects certified by approved Green Building Certification bodies will be eligible to claim 100% of qualify CAPEX under the GITA asset for own consumption scheme. Under the GTFS scheme, property developers are eligible to apply for preferential financing up to RM100 million for residential developments with a maximum RM350,000 unit selling price.

- **Suruhanjaya Tenaga:** Update on the Status of EECA presented by Ir. Ts. Zulkiflee Umar, Deputy Director, Energy Efficiency & Conservation

The country is well on track to achieve the 8% energy efficiency savings by 2025 targeted in NEEAP 1.0 and NEEAP 2.0 (2026-20235) will further raise the bar on savings to be achieved. The EECA is due for implementation by the end of 2024. The EECA will be expanded to include thermal energy management on top of electrical energy measures which largely mirror the EMEER regulations currently in force. The act will require registration of two (2) categories of Registered Energy Managers (REM type 1 and 2) and Registered Energy Auditors (REA). Commercial buildings larger than 8000sqm will require energy labelling.

The meeting fostered collaboration and shared valuable insights to advance the green building agenda in Malaysia. The next GREAP meeting is scheduled for the end of 2024. If your organization would like to be part of our panel, please write to us at juanita@greenre.org.



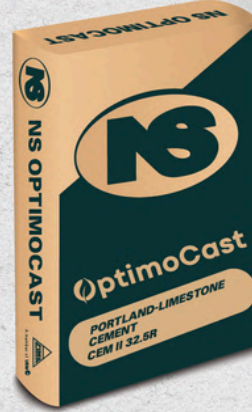
GreenRE Advisory Panel Meeting (No 4), 8 May 2024



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Fax : +603 7665 0018

GreenRE Business Study Trip to Hong Kong & Shenzhen: A Recap

by Nariemah Abd Ghaffar
Training Manager, GreenRE Sdn Bhd



GreenRE participated in a Business Study Trip to Hong Kong & Shenzhen, China, organized by REHDA Institute (RI) from March 5th to 8th, 2024. As a supporting partner, GreenRE was represented by Dato' Rick Cheng (GreenRE Board of Director), Ir. Ashwin Thurairajah (GreenRE Executive Director), and Ms. Nariemah Abd Ghaffar (GreenRE Training Manager). They joined delegates from various government agencies, including the Kementerian Perumahan dan Kerajaan Tempatan Malaysia (KPKT) Minister, YB Tuan Nga Kor Ming, KPKT senior management, state housing authorities, and senior management from developers and landowners. The objective was to explore the development laws and regulations in Hong Kong and Shenzhen, and to examine award-winning projects that exemplify excellence in architecture, innovation, and environmental sustainability, while networking with industry leaders and developers.

Day 1: Hong Kong Highlights

On the first day, delegates visited the Hong Kong Housing Society (HKHS), the second-largest public housing provider in Hong Kong. HKHS embodies the concept of "Building Society," where non-profit organizations work closely with authorities to provide housing as part of their social commitment. The Tanner Hill, the first non-subsidized quality elderly housing project in Hong Kong, was a focal point. This residential development, consisting of three towers with 588 flats over an 8,538.07 m² site area, is for lease only.

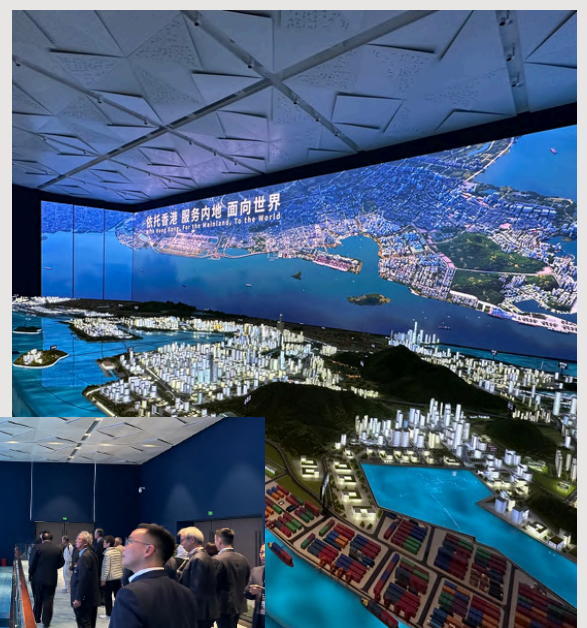
The delegation also attended a presentation by the Bank of China at the JLL Office, focusing on their global sustainability program for colleagues, clients, and communities. Additionally, the group visited the Element Mall in West Kowloon, which is divided into zones named after the five elements of nature: Metal, Wood, Water, Fire, and Earth.

GreenRE Management took this opportunity to meet with the Hong Kong Green Building Council (HKGBC) at their headquarters. Ir. Ashwin and Ir. Harry Lai, the Executive Director of HKGBC, presented on the profiles of both organizations, their certification processes, achievements, and discussed future collaborations in training programs and research. HKGBC is a non-profit, member-led organisation established in 2009, aims to promote the standard and development of sustainable buildings in Hong Kong.



Day 2: Exploring Urban Renewal and Housing Initiatives

The second day included visits to the Urban Renewal Authority (URA), Hoi Tat Estate, and Kerry Properties. URA is a statutory body focused on urban renewal through redevelopment, rehabilitation,



and revitalization, aiming to improve living conditions in old districts. Hoi Tat Estate, similar to Malaysia's PPR (Program Perumahan Rakyat), is a public housing estate developed by the Hong Kong Housing Authority (HKHA) and located on top of a bus terminal, benefiting its 9,000 residents. Kerry Properties provided insights into the Hong Kong residential market, highlighting the impact of geopolitical factors and the COVID-19 pandemic on property demand.

Day 3: Shenzhen's Technological and Business Innovations



In Shenzhen, the first visit was to the headquarters of Huawei Technologies Co. Ltd. The delegates toured the Huawei Research and Development Campus (Ox Horn Campus), a 3.5 mi² area developed into 12 separate towns with European architectural designs, accommodating about 25,000 workers.

The trip continued to Qianhai Shenzhen-Hong Kong Modern Service Cooperation Zone, a major reform initiative promoting cooperation between Shenzhen and Hong Kong. This zone includes significant platforms like the Qianhai Shenzhen-Hong Kong Youth Innovation and Entrepreneur Hub, fostering better growth for Hong Kong's service industry.

The final visit was to the BYD headquarters in Pingshan, Shenzhen. The delegates learned about BYD's comprehensive value chain, from batteries to electric vehicles, mass transportation, and renewable energy. They viewed models of BYD commercial vehicles, rail transits, and passenger vehicles, underscoring BYD's mission of "Technological Innovations for a Better Life."

Conclusion

The trip provided valuable insights and opportunities for collaboration, reinforcing GreenRE's commitment to sustainable development. We look forward to more upcoming collaborations that will drive innovation and sustainability in the real estate sector.



EVENTS AT A GLANCE.



ICE Presidential Roundtable, chaired by ICE President Professor Dr Anusha Shah

January 15, 2024

ICE Malaysia Roundtable Event (Paving the Way to a Sustainable Future)

GreenRE's Datuk Seri Dr Michael Yam and Ir Ashwin Thurairajah was part of the ICE Presidential Roundtable event on 15 January 2024 held at Intercontinental Hotel, Kuala Lumpur. ICE Malaysia is the Malaysian chapter of the Institution of Civil Engineers (ICE).

With the theme, 'Sustainable considerations for adaptation and resilience to effects of climate change', the discussions focused on climate mitigation and adaptation in Malaysia and Southeast Asia, advocating for a shift towards climate action policies, energy transition, sustainable materials, and circular economy models. The meeting was chaired by ICE President Prof Dr Anusha Shah.



GreenRE Team at CRT Manufacturing

January 23, 2024

GreenRE team visited CRT Manufacturing

The GreenRE team visited CRT Manufacturing in Shah Alam, where founders Steven Ong and Huang Mei Si introduced the sustainable benefits of STAR BARS, a steel replacement. STAR BARS, made from fiberglass reinforced with polymer-based epoxy, featured a spiral ribbed profile ideal for concrete reinforcement.



GreenRE Presented on Green Building Certification and Criteria
January 29, 2024

Presentation to Bank Pembangunan Malaysia Berhad (BPMB) Team

GreenRE conducted an introductory session with the Client Coverage team and the MIND & Sustainability team from Bank Pembangunan Malaysia Berhad (BPMB).



GreenRE with Cambodia Ministry of Land Management

February 2, 2024

GreenRE met with the Cambodia Green Building Council and Ministry of Land Management, Urban Planning and Construction

GreenRE met with H.E. Dr. MOM Mony, Secretary General, of the National Council for Building Technical Regulations, Ministry of Land Management, Urban Planning and Construction Cambodia, and the Cambodia Green Building Council to discuss future collaborations on their green building regulations.



GreenRE, REHDA Penang and Penang State Exco

February 8, 2024

GreenRE Meets with Penang Exco of Housing & Environment (Penang Green Council)

GreenRE held a productive meeting with the Penang State Exco of Housing & Environment, Dato' Seri Sundarajoo A/L Somu, along with REHDA Penang committee member Dato' Jerry Chan Fook Sing and Chairman Dato' Khoo Teck Chong. The discussion emphasized the critical role of green building certification in achieving Penang's Green Real Estate goals. GreenRE highlighted the need for intensified regulations and incentives to accelerate progress toward these sustainability objectives.



February 27, 2024
GreenRE was part of Kementerian Kerajaan Tempatan dan Perumahan Sabah I-Hijau festival programme



GreenRE Director and Technical Panel with IIB Team

March 19, 2024

Collaboration with Iskandar Investment Berhad (IIB)

Deputy Chief Minister II and KKTP Minister Datuk Seri Panglima Dr. Joachim Gunsalam Sabah visited GreenRE's Exhibition Booth

GreenRE participated in the Kementerian Kerajaan Tempatan Dan Perumahan Sabah i-HIJAU Festival Programme at the Sabah International Convention Center (SICC). The event, officiated by Deputy Chief Minister II and KKTP Minister Datuk Seri Panglima Dr. Joachim Gunsalam, aimed to promote green practices supporting the Sustainable Development Goals and the Sabah Maju Jaya initiative. The i-HIJAU Festival was a proactive step towards the preservation and enhancement of sustainable development in Sabah.

Medini Investment Center and Iskandar Investment Berhad (IIB), in collaboration with GreenRE, organized a green building workshop for their team. The half-day session featured insightful talks by GreenRE Technical Panel Members. Ms. Nur Izzati from DME Solutions Sdn Bhd presented case studies on green commercial buildings and townships, Mr. Nic Chin from Green Quarter Sdn Bhd discussed energy modeling and ventilation simulation, Mr. Gregers Reimann from IEN Consultants Sdn Bhd highlighted innovations in green buildings, and Ir Ashwin Thurairajah from GreenRE elaborated on green certification and criteria.



GreenRE presented on Green Building Certification with a Focus on Sustainable Material and Construction

March 6, 2024

GreenRE presented to IJM Industry Division

GreenRE's Senior Manager Nur Fateha Jamaluddin and Marketing Manager Juanita Lourdes conducted a knowledge sharing session at Wisma IJM PJ for IJM Construction. The session was attended by representatives from IJM's marketing department, HSE Dept, QAQC Dept, ICP Pile Sales & Technical Department, Ready Mix, and IJM IBS.



In the picture: Dato Tracey Lai, Director of Sales & Marketing 1 Pavilion Property Consultancy; Ms. Nat Quah, General Manager - Sales & Marketing; Mr. Thien Vui Keong, Assistant General Manager - Development; GreenRE's Executive Director Ir Ashwin Thurairajah; Ms. Nur Fateha Jamaluddin; Ms. Juanita Lourdes; and Ms. Nariemah.

April 18, 2024

Pavilion Mont Kiara Handover Ceremony

Congratulations to WCT Land for having achieved GreenRE's Provisional Certificate for Pavilion Mont' Kiara. A certificate handover ceremony was held at Pavilion Property Gallery on Jalan Beringin on April 18, 2024, to celebrate this significant milestone.



GreenRE Director, Ir Ashwin Thurairajah presented on value of green building certification

May 9, 2024

BSD-Climate Asia Technical Seminar on Greening Existing Buildings

On May 9, 2024, the BSD-Climate Asia Technical Seminar on Greening Existing Buildings was held at The Club Bukit Utama Golf Resort. The seminar highlighted the potential of existing buildings in the green building industry, emphasizing the small ratio of existing buildings compared to new ones pursuing green certifications.

Aimed at building owners and facility managers, the outreach program focused on raising awareness of green building features and available technologies. The seminar enriched attendees' knowledge with best management practices for data collection and informed corrective actions within their SOPs.

Topics included:

- Existing Buildings: The Sleeping Giant of ESG & EE
- GreenRE Driving Building Decarbonisation
- Chiller as the Main Energy Consumer
- Case Studies on Chiller Improvement Works
- Is Solar PV for Me?

GreenRE's Executive Director, Ir Ashwin Thurairajah presented on 'GreenRE Driving Building Decarbonisation', the presentation included an Introduction to Green Building Certification, Benefits of GreenRE certified buildings, GreenRE Existing Building Certification and Recertification and Green Features and Process.

This event underscored the importance of greening existing buildings and the challenges faced by buildings owners.



GreenRE at RI's Regional Housing Conference 2024

May 14, 2024

REHDA Institute's Annual Regional Housing Conference 2024

GreenRE had been a supporting partner for the Regional Housing Conference 2024 organized by REHDA Institute at Avante Hotel. The event was officiated by YB Nga Kor Ming, Malaysia's Minister of Housing & Local Government. The conference brought together industry leaders to discuss key issues and advancements in the housing sector, with a focus on sustainable and green building practices.



(From left) BSD Consultancy Sdn Bhd MD Kelly Lee, AEON Mall Mean Chey General Manager Kimura Eisuke, AEON Mall (Cambodia) Co Ltd Managing Director Endo Fumihiko, GreenRE Sdn Bhd Director Datuk Rick Cheng, GreenRE Executive Director Ashwin Thurairajah and AEON Mall Cambodia Co Ltd Construction and Development Department General Manager Kansei Sakura.

May 16, 2024

Aeon Mall Mean Chey, Cambodia, Plaque Handover Ceremony

GreenRE awarded AEON Mall Mean Chey in Phnom Penh, Cambodia, a Gold certification, marking its first certified project in Southeast Asia outside Malaysia. The mall, which features extensive green innovations such as LED lighting, solar panels, and an outdoor park, exemplified sustainable design and operation.



GreenRE Team with REHDA Negeri Sembilan Committee

May 28, 2024

Seminar Memacu Malaysia Vision Valley ke arah Bandar Pintar dan Rendah Karbon

GreenRE proudly served as a supporting partner at Majlis Bandaraya Seremban's Seminar Memacu Malaysia Vision Valley ke arah Bandar Pintar dan Rendah Karbon event, held at Royal Chulan, Seremban. The seminar aimed to drive discussions and initiatives towards developing Malaysia Vision Valley into a smart and low-carbon city. GreenRE's participation reflected its commitment to advancing sustainable urban development and green building practices in Malaysia. GreenRE's Executive Director presented a topic on 'Towards Green Real Estate'.



Launch of Sarawak's Kenyalang Smart City Summit
May 29, 2024

GreenRE Signs MOC with Imasa Dinasti (Sarawak)

GreenRE signed a Memorandum of Collaboration with Imasa Dinasti (a subsidiary of TAK Group of Companies) in conjunction with the Kenyalang Smart City (KSC) summit on 29 May 2024 in Miri, Sarawak. The KSC summit was officially launched by Deputy Premier Datuk Amar Dr. Sim Kui Hian. The KSC initiative marks a significant step towards transforming Sarawak into a developed, high-income region by 2030, reflecting the state's commitment to sustainable urban development and economic innovation. The summit witnessed the signing of seven memoranda of understanding (MoUs) between Imasa Dinasti and its strategic partners, aimed at propelling the development of KSC.

June 21 - 23, 2024

GreenRE @ REHDA Malaysia's MAPEX 2024



Green Building Awareness Drive at Mapex 2024

GreenRE at REHDA Malaysia's Mapex 2024 (Mid Valley Exhibition Centre).

GreenRE's booth was visited by Ketua Setiausaha Kementerian Sumber Asli, Alam Sekitar dan Perubahan Iklim, YBhg Dr Chiing Thoo A/L Kim and REHDA Malaysia President Datuk NK Thong.

GreenRE Senior Manager, Ts Nurfateha Jamaluddin also presented a talk on 'Sustainable Homes'. For more information on practical tips to 'green' your home, visit www.greenre.org and download GreenRE's Homeowners Checklist [HERE](#)



Launch of PDG Property's i-Asrama, Ayer Keroh

June 10, 2024

PDG Property's i-Asrama Harmoni and i-Asrama Damai Handover Ceremony

The launch of PDG Property's 'Bangunan Asrama Pekerja Berpusat di Zon Industri Ayer Keroh Baru' was officiated by YAB Datuk Seri Utama Ab Rauf bin Yusoh, Chief Minister of Malacca and was attended by the Managing Director of PDG Group, Datuk Gwee Yew Kiat. PDG Property's i-Asrama Harmoni and i-Asrama Damai achieved GreenRE Gold certification.

June 31, 2024

Publication of Xiamen University's Research Paper

We are thrilled to announce that a research study funded by our grant has been successfully published in the prestigious Journal of Energy and Buildings- "**Predicting Life Cycle Carbon Emission of Green Office via Integrated LCA-MLR Framework**".

This notable achievement is a testament to the dedication and hard work of our esteemed partners at Xiamen University. We look forward to continuing our partnership with Xiamen University Malaysia to foster further scientific discoveries and advancements in the field of sustainable real estate. The published full article can be accessed [HERE](#)



GreenRE's E-Waste Recycling at One Utama's 1 Recycling Center

20 June, 2024

Zero Waste Lifestyle with 1 Recycling Center

One Utama Shopping Mall's 1 Recycling Centre safely recycles E-waste at an ISO-certified E-waste facility.

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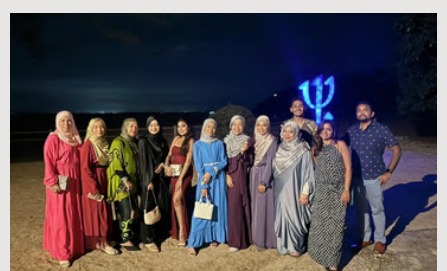
GREENRE'S TEAM BUILDING RETREAT



The GreenRE inaugural team-building retreat marked a significant milestone in fostering camaraderie and collaboration among its employees. This three-day, two-night event at Club Med Cherating provided an immersive experience designed to enhance teamwork and communication skills. The picturesque setting, characterized by lush tropical landscapes and pristine beaches, offered an ideal backdrop for engaging activities aimed at strengthening interpersonal relationships among team members.

One of the highlights of the retreat was the visit to the Kuala Gandah Elephant Sanctuary. This excursion not only allowed participants to engage with these magnificent creatures but also emphasized the importance of conservation efforts. The team were given insights into the sanctuary's mission to rescue and rehabilitate elephants while promoting sustainable tourism practices.

The team engaged in activities such as rock climbing, kayaking, beach volleyball, themed dinners, and charades, fostering laughter, learning, and camaraderie. Having reconnected with nature and each other, the retreat served as a refreshing break from work and a stepping stone towards a more united and motivated team.



TRAINING HIGHLIGHTS.

GREENRE ACCREDITED PROFESSIONAL'S COURSE NO. 34 (PETALING JAYA/ONLINE)

NO. 35 (ONLINE)



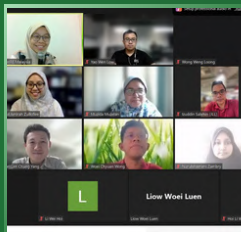
The first GreenRE Accredited Professionals' (GreenREAP) Course for 2024 (No. 34) was successfully held from February 20th to 22nd at Wisma REHDA, Kelana Jaya. We had a great start to the year with almost 80 participants, including 10 for the Basic Course, and offered an online option via Zoom due to high demand from green building and sustainable industry players in other states.

Three months later, the next intake of GreenREAPs' Course (No. 35) attracted more than 90 participants, including 8 from Sarawak developers and Majlis Perbandaran Padawan. The three-day lectures were conducted online via Zoom, while the assessment day on July 11, 2024, was held at Wisma REHDA, Kelana Jaya. Participants were divided into 9 groups, each consisting of 7 members.

Over the course of these sessions, we delved deep into all aspects of green building certification, exploring best practices, green building theory, and emerging technologies. The GreenREAPs' Courses provided an excellent platform for knowledge sharing, skill enhancement, and networking.

Modules covered in the courses included GreenRE Rating tools and processes, Overall Thermal Transfer Value (OTTV), Residential Envelope Transmittance Value (RETV), Sustainable Construction and Green Products, Passive Design for Buildings, Energy Modelling and Computational Fluid Dynamics, Efficient Air-Conditioning, Daylighting and Artificial Lighting, Water Efficiency, Green Plot Ratio, Rainwater Harvesting, Solar Photovoltaic for Buildings and Townships, among others.

Expert trainers, including Ar Dr. Joseph Kong (DME Solutions), Mr. S. Ramesh (IJM), Ar. Axxu Hoi Jung Wai (ADA), Mr. Ken Po (BSD Singapore), Mr. Gregers Reimann (IEN Consultants), Mr. Christophe Inglin (Energetix Pte Ltd), and Mr. Choong Chow Neng (G-Energy), shared their extensive knowledge and experience, creating a dynamic learning environment.



Participants came from diverse backgrounds such as engineers, architects, facilities managers, project managers, green consultants, and academicians. This training course was a remarkable opportunity for our members to enhance their skills, broaden their perspectives, and connect with fellow enthusiasts in our community.

The GreenREAPs' Courses are also applicable for CPD points from Suruhanjaya Tenaga, Institute of Engineering Malaysia (IEM), Lembaga Arkitek Malaysia (LAM), Lembaga Penilai, Pentaksir, Ejen Harta Tanah dan Pengurus Harta (LPPEH), Malaysian Board of Technologist (MBOT), and GreenRE.



There will be another three intakes for the second half of the year: Johor Bahru in August 2024, Petaling Jaya in October 2024, and the last intake is Penang in early November 2024.

GREENRE TECHNICAL SEMINAR 01-2024



OPTIMISING URBAN
MICROCLIMATE
AND
THERMAL COMFORT
USING ORBITAL
STACK FOR GREENRE
TOWNSHIPS

The first training programme of the year began with the GreenRE Technical Seminar. The main objectives of this seminar were to explain urban microclimates and their significance, and to recognize wind comfort and thermal comfort as primary factors affecting the microclimate. Additionally, the seminar introduced the simulation using Orbital Stack and included understanding the 3D modelling requirements and parameters needed.

The seminar was held on February 7, 2024, at Wisma REHDA, Kelana Jaya, with a modest participation of about 10 certified GreenREAPs and consultants from the green building industry. The speakers were from RWDI, Mr. Ghar Ek Lau, Senior Scientist Engineer, and Mr. Zain Adlin, an engineer specializing in Numerical Modelling within the Buildings and Environmental sectors.

This technical seminar was also an HRDC-claimable course, and certified GreenREAPs earned 5 GreenRE CPD points by attending. It was a successful course with excellent feedback from the participants.

Follow us on social media:



GREENRE TECHNICAL SEMINAR 02-2024

EFFICIENT CENTRAL AIR-CONDITIONING DESIGN AND MEASUREMENT & VERIFICATION SYSTEMS

GreenRE Technical Seminar 02-2024 continued with a focus on ACMV (Air-Conditioning and M&V), a yearly training programme. The seminar was presented by two experienced speakers from Measurement & Verification Pte Ltd, Singapore: Mr. Steven Kang (Managing Director) and Ms. Chloe Ng (Business Development Manager). The objective of the course was to provide the fundamentals and knowledge of air-conditioning, central chilled water plants, chilled water airside systems, chiller plant performance M&V, and optimization.

The seminar was conducted entirely online on March 19th and 20th, 2024, with approximately 15 registered participants. Following the lectures, participants were required to sit for an examination (multiple-choice questions) after two weeks. Upon passing, they will receive the certificate of GreenRE M&V Practitioner.

GreenRE is planning to conduct the Green Data Centre technical seminar in November 2024, which will also be presented by the same speakers.



UPCOMING TRAINING.



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JOHOR BAHRU/ONLINE
20-22 August 2024 | 8:30am - 6:00pm
Assessment Date: 20th September 2024 (Johor Bahru)

ABOUT THE EVENT

The GreenREAP's Course is a 3 days course geared to equip individuals with the knowledge and skills on green building best practices. This will enable them to optimize the design of active and passive components in building projects and thereby facilitate GreenRE certification.

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ABOUT THE EVENT

The GreenREAP's Course is a 3 days course geared to equip individuals with the knowledge and skills on green building best practices. This will enable them to optimize the design of active and passive components in building projects and thereby facilitate GreenRE certification.

CPD POINTS:
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GREENRE VENTURES INTO CAMBODIA

PRIYA DEVAN
city.country@bizedge.com



Komsan Park in AEON Mall Mean Chey comprises over 50 species of plants

Following its first certification of a completed international project, the iconic Battersea Power Station in the UK (retail component) in January, GreenRE Sdn Bhd can add another to the list. On May 16, AEON Mall Mean Chey in Phnom Penh, Cambodia was awarded a Gold certificate under the non-residential category by the green building certification body.

The mall was developed and is currently managed by AEON Mall (Cambodia) Co Ltd, which has two other such malls in the country, namely AEON Mall Phnom Penh and AEON Mall Sen Sok City, which opened in 2014 and 2018 respectively.

Well-designed, sustainable mall

AEON Mall Mean Chey was opened to the public in December 2022. Spanning 174,000 sq m, the mall comprises four storeys and has about 4,000 parking bays. It has a total gross floor area of about 180,000 sq m with approximately 250 retail lots.

According to GreenRE executive director Ashwin Thurairajah, AEON Mall Mean Chey is currently the biggest plaza in Phnom Penh.

“GreenRE is proud to commemorate its first certified project in Cambodia and Southeast Asia (outside Malaysia). May this be a platform for further expansion in the region,” he said at a plaque handover ceremony to the mall on May 16.

BSD Consultancy Sdn Bhd, which is the environment, social and governance (ESG) consultant of AEON Mall Mean Chey, said the mall has incorporated green features such as reduced window-to-wall ratio, insulation of external walls and roof as well as low-E coating glass on the building’s facade, effective indoor air quality management plan and use of efficient MERV 14 filters to maintain its indoor air quality, and recycling bins and practice of regular waste management as well as a reuse-and-upcycle waste approach to emphasise the need for recycling among the mall’s tenants and visitors.

For energy efficiency, the mall is equipped with a high-efficiency chiller plant, LED lightings, energy-efficient lifts and escalators, and zero ozone depletion potential (ODP) refrigerant. For water efficiency, the mall has sub-meters linked to the building management system to monitor water consumption, a cooling tower water treatment system with eight cycles of concentration (COC) and drought-tolerant plants for minimal irrigation.



The use of solar panels on the rooftop contributes about 27% in energy savings



Recycling bins are placed around the mall to encourage tenants to reuse and upcycle plastic into furniture like benches for the mall

When asked why it built the mall as a green building, AEON Mall (Cambodia) Co Ltd Managing Director Endo Fumihiko answered during the ceremony, “Green buildings help us, in terms of design, construction and operation, to reduce or mitigate detrimental effects on the environment while also having the potential to create beneficial outcomes.

“[For] AEON Mall Mean Chey, it will benefit us in terms of operating cost savings and increased asset value. [Overall], the mall was designed with its occupants’ health and comforting mind by having better air quality and more natural daylight. This can lead to higher tenant productivity and enhance the property’s value at the same time, as the building contributes positively to the environment.”

Fumihiko added that the mall has solar panels on the rooftop to reduce grid consumption and its carbon footprint. “Other features of the mall include a large outdoor park [named] Komsan Park, electric vehicle (EV) charging stations and an energy management system to ensure the mall’s sustainability.”

Presenting some of the mall’s green features, AEON Mall (Cambodia) Construction and Development Deputy Manager, Sok Seak said the building was designed to maintain sustainability standards following GreenRE’s requirements and fitted with some of the latest green innovations.

“In terms of energy savings, we estimated 27% energy savings of overall building energy consumption through the use of solar panels that have a capacity of 2,881kWp. Our chiller plants are high-efficiency plants of about 0.68kW/RT. We also use air handling units with proper variable speed drive control, which gives us significant energy savings for our air-conditioning,” he added.

Sok also said Komsan Park houses more than 50 species of tropical plants native to Cambodia and other parts of Southeast Asia. The plants were meticulously chosen so that they would be easy to maintain in the long term, he explained.

In order to ensure these green features are maintained to serve their purpose in the long term, he said the management has put in place a corrective maintenance plan that includes planning, monitoring and active management. “Some of the strategies we have put in place include regular maintenance of systems for energy consumption, water savings and air quality improvement on a monthly or yearly basis”.

“Regular inspections of our green features are also needed, especially for the solar panels to maximise energy efficiency and ensure that the cooling tower will be able to continue operating optimally. The use of sensors, meters and building management systems also helps us track the performance of our green features in real time as automated alerts can inform maintenance personnel for faster response when issues arise.”

Taking it a step further

Also on May 16, GreenRE signed a memorandum of understanding (MoU) with the Cambodia Green Building Council (CamGBC) to provide support and knowledge pertaining to green buildings.

At the signing, Ashwin said, “Having completed the certification for the mall, CamGBC has invited us to become a strategic partner to assist in developing its own local green certification tool, developing human capital through training and learning development activities as well as to drive further membership into the council.”

He elaborated on the terms of the MoU, including CamGBC recognising GreenRE as an international certification partner on a non-exclusive basis, with GreenRE contributing 5% of the certification fees in the first year and 10% thereafter from Cambodian projects to CamGBC; jointly creating platforms and/or events for awareness and education; and providing support and guidance to CamGBC members in matters related to green building certification.

CamGBC president, Chea Bunseang said, "Cambodia has been developing slowly after the civil wars and as there is urban development, green buildings are not quite common. Our government also does not have any policies for green buildings.

"As architects in practice, we have to take initiative and an advance step to move on. I think green technology and green building tools for development are a must. In order to create more awareness among the Cambodian people, we must first build our human capital. At the same time, we have to set up our criteria and technology".

So far in practice, CamGBC has started teaching courses on green buildings in Norton University, that we call 'Introduction of Green Building Designs' and it has been very successful. Many students like this course. "Other than that, international investors that come in like AEON are required to have green certification. We are currently developing a green building rating system specific to Cambodia called Cameel. It is now in the pilot stage," Chea added. CamGBC is a non-governmental organisation under the Architects Association of Cambodia.



From left: Architects Association of Cambodia (AAC) Administrative Manager, Chau Darith, CamGBC Secretary, Yim Keokalyan, Chea, AAC President Unnpheng Puthvisal, Cheng and Ashwin at the AAC centre on May 16

"I hope when GreenRE comes in, with education and training, we will be able to build the first generation who will be aware of what green buildings are all about. The outcome of the training is to have our CamGBC members on par with other GBC members".

"After the first batch is trained, they will take over the training and we will expand our human resources. Not only architects but also mechanical engineers and other professionals will be part of the training," Chea said.

GreenRE Director, Datuk Rick Cheng, who was present at the MoU signing, said Malaysia was also once a beginner on green buildings and learnt plenty from the Green Mark Certification Scheme in Singapore over the past years.

"When we first started GreenRE, it was modelled after Green Mark and they were happy to teach us. Today, others can be in a similar position, learning and adopting from GreenRE. We are not using the same model as Singapore anymore because they have a lot of high-rise buildings, whereas in Malaysia, we have more landed developments.

"But Cambodia and Malaysia are very similar in the sense that both build a lot of landed properties and, of course, some high-rise as well. In time, you can do the same thing as we did, which is tweaking the model to suit your own country," Cheng said.

Government support

When speaking about the government's support to raise awareness of green buildings in the country, Cambodian Ministry of Land Management, Urban Planning and Construction secretary-general Mom Mony tells City & Country in an interview following the ceremony: "We currently don't have active initiatives but we do support those who provide us with the funds, namely the United Nations Development Programme and the Global Green Growth Institute, to carry out more green development-related projects".

"I think we now understand better that green buildings are important. The Ministry of Environment has stated that it aims to improve the country's sustainable and environmentally responsible construction practices. My ministry is also pushing for green as much as we can, green in the buildings and in the city." On his outlook for the country's property market, Mom said, "At the moment, it appears to be at a standstill because the global environment is not very encouraging for investors to come in. But I hope more will come in because the government is now trying to provide incentives, for example, the recently approved US\$600million city in the Preah Sihanouk province".

"It all depends on how the government benefits from green buildings in terms of energy and cost savings. The private sector knows the benefits, but does not have the money as it is costly. Since that is the case, we are also pushing for more passive designs like high ceilings and open spaces to allow more natural ventilation and light. This will also consume less energy."



From left: AEON Mall Mean Chey uses a plastic waste composting machine to recycle its plastic waste and high-efficiency chiller plants to maximise energy savings

FEATURED PROJECT.

Floor Area: 180,000m²
Land Area: 174,000m²
Gross Leasable Area: 98,000m²

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CLOSETLOVER

AEON MALL MEAN CHEY GREENRE NRB V3.2

Samdach Hun Sen Blvd, Phum Prek Talong 3, Sangkat Chak Angre Krom,
Khan Mean Chey, Phnom Penh, Cambodia.

Author
Ms. Anis Syakirah



INDOOR AIR QUALITY

- Effective IAQ Management Plan
- Use of efficient Pre-Filter (MERV 8)

An air filter rating that indicates it can effectively capture particles between 3 and 10 microns, such as airborne dust, mold spores, hair spray and pollen.

BUILDING FACADE

- Reduced window to wall ratio - 0.14
- Insulation of external walls and roof
- Low-E coating glass

An energy-efficient glass with a thin, transparent coating that reflects heat while allowing light to pass through, improving insulation and reducing energy costs.

RENEWABLE ENERGY

- At least 27% Total Building Energy Consumption replacement
- Reduce grid consumption (Reduce Carbon Footprint)

RECYCLING

- Permanent recycling bins and recycling center
- Construction waste management
- Recycling and reuse of waste

WATER EFFICIENT

- Submeters linked to BMS to monitor water consumption
- Cooling tower water treatment system with 8 cycles of concentration
- Use of drought tolerant plants for minimal irrigation

AEON Mall Mean Chey meets GreenRE sustainability standards with energy-efficient features like a water-cooled AC system, LED lighting, and efficient lifts and escalators. It uses a Building Management System (BMS) for water management and has a cooling tower system to reduce water consumption. Rooftop solar panels cut grid energy use and carbon footprint, while low-E coated double glazing and insulated roofs minimize heat gain. The mall also offers a large outdoor park (Komsan Park), edutainment, EV parking, an Energy Management System (EMS), and recycling facilities, showcasing its commitment to sustainability.



GREEN FEATURES

- EV Preferred Parking
- Universal Design
- Sustainable Event
- Use of environmentally products
- Low Concrete Usage Index (CUI) - $0.43\text{m}^3/\text{m}^2$
- Greenspace and Planting with high Green Plot Ratio
- Energy Monitoring System (EMS)

ENERGY EFFICIENCY

- High-efficient Chiller Plant
- $0.68\text{kW}/\text{RT}$ of Overall designed system efficiency
- ASHRAE compliance
- Zero Ozone Depletion Potential (ODP) Refrigerant
- LED lighting as per MS1525
- Energy efficient lift and escalators (ACVVVF and sleep mode)
- Low Building Overall Thermal Transfer Value (OTTV) with $23.29\text{W}/\text{m}^2$
- Usage of Air Handling Units (AHU) with proper Variable Speed Drive (VSD) Control

Efforts were made to reduce energy consumption during the construction and maintenance of the AEON Mean Chey mall. Energy usage was minimized through the selection of energy-efficient materials, installation of solar panels, enhanced insulation, and efficient ventilation systems. These measures reflect AEON MALL Mean Chey's commitment to sustainability, leading to reduced operational costs and environmental impact. Additionally, these improvements enhance the shopping experience and comfort for visitors, better tenant productivity and satisfaction, benefiting both the environment and the community.

“GreenRE awards AEON MALL Mean Chey with Gold certification, signs MOU with Cambodia Green Building Council”



(From left) BSD Consultancy Sdn Bhd Managing Director Kelly Lee, AEON Mall Mean Chey General Manager Kimura Eisuke, AEON MALL (Cambodia) Co., Ltd Managing Director Endo Fumihiko, GreenRE Sdn Bhd Director Datuk Rick Cheng, GreenRE Executive Director Ashwin Thurairajah and AEON MALL Cambodia Co., Ltd. Construction and Development Department General Manager Kansei Sakura.



FEATURED PROJECT.

GreenRE Non-Residential: Platinum
Gross Floor Area: 641,565 sq. ft.
Plot Ratio: 0.46

MENARA KWSP @ KWASA DAMANSARA

Designed With Sustainability In Mind

- Solar panels generate 430MWh/year, equivalent to carbon sequestered by 360 acres of forest.
- Walking distance to two MRT stations (Kwasa Damansara)
- Nine Electric Vehicle Supply Equipment (EVSE) and 60 Bicycle Parking Bays

Author
Mr. Ryan Koay,
BSD Consultancy



Menara KWSP @ Kwas Damansara achieves the maximum GreenRE NRB score at 120 points. The 12-storey building features dynamic stacked cubes with a transparent façade, aligned with the new generation's values and EPF's modern corporate culture.



GREEN-CONSCIOUS AND INTEGRATED DESIGN

This sustainable green building is integrated with an elevated central garden, provides a variety of well-being amenities such as a modern gym and mothers' room, and offices designed to harvest natural daylight. This accompanied with the plethora of green features reflects EPF's sustainable ethos; leading to reduced costs and environmental impact, while improving productivity and quality of work, benefiting both the environment and the organization.

MODELLING SOFTWARES

**Building Information
Modelling (BIM) 6D**

**Energy Modelling IESVE
Simulation Software**

SYSTEMS IN-USE

DOKA System

**District Cooling System
(DCS)**

ENVIRONMENTAL MONITORING AND SUSTAINABLE OPERATIONS

During the construction phase, a comprehensive Environmental Management Plan (EMP) was implemented to track energy, water, and waste consumption on a monthly basis. This initiative identified and addressed any instances of excessive consumption promptly.

These efforts extend into the operational stage with continuous monitoring via the Building Management System (BMS) to analyse and maintain the building's energy efficiency.

Sustainability Features

ENERGY EFFICIENCY

- Efficient lifts and escalators.
- AHU and FCU reducing energy use by 54% and 65%.
- Lighting power consumption, improving energy consumption by half (50%).
- Mixed natural and mechanical car park ventilation with Carbon Monoxide sensors.

WATER EFFICIENCY

- 90% of sanitary fittings are WELS/WEPLS-rated.
- Rainwater harvesting for irrigation.

GREEN STRUCTURE

- Optimal concrete usage index and integration of 30% Pulverized Fly Ash (PFA) to reduce concrete usage.
- Insulated roof to reduce solar heat gain.
- QCLASSIC certification.

OTHER

- MERV 14 air filters for improved air quality.
- Recycling bins in lift lobbies and office space.

Project Team

Developer	: Kwasa Utama Sdn Bhd
Main Contractor	: Malaysian Resources Corporation Berhad
Architect	: RSP Architects Sdn. Bhd.
C&S Engineer	: Jurutera Perunding Meinhardt Sdn. Bhd.
M&E Engineer	: Jurutera Perunding Meinhardt Sdn. Bhd.
Structural Engineer	: Hyundai Engineering Co., Ltd
Landscape Consultant	: Praxcis Design Sdn. Bhd.
ID Consultant	: Canary Design Sdn Bhd
ESD Consultant	: BSD Consultancy Sdn. Bhd.

Community Benefits



Social Impact - Boost local jobs and opportunities, enhancing the standard of living



Infrastructure / Utilities Impact - Nestled near two MRT stations and upgraded with covered walkway



Economic Impact - Boosts local market and land value, attracting F&B retail vendors



Environmental Impact - Rainwater harvesting, solar panels, efficient BMS, and public transport access



Physical Impact - Multi-layered, Transit-Oriented Development of Kwasa Damansara City Centre

FIABCI Malaysia Property Award [2023]: Sustainable Development Category



“Menara KWSP @ Kwasa Damansara, a landmark in the burgeoning township, exemplifies sustainability and modern values, enhancing local infrastructure, and community well-being while promoting environmental mindfulness.”

From Left: Kwasa Utama Sdn Bhd Senior Manager Mr Nordin Muhamad Aris, BSD Consultancy Sdn Bhd ESD Engineer Mr Ryan Koay Teng Loon, Kwasa Utama Sdn Bhd Project Director Mr Zanaim Serju, BSD Consultancy Sdn Bhd Managing Director Ms Kelly Lee Qai Li



BSD Consultancy Sdn Bhd is a multi-discipline consultancy specialising in energy and sustainability design as well as building modelling and simulation.

FEATURED ARTICLE.

UNLOCKING MALAYSIA'S ENERGY EFFICIENCY POTENTIAL

IR ASHWIN THURAIRAJAH
GREENRE SDN BHD

The level of complexity in society is directly correlated to reliable and affordable access to energy. However, the way we access our primary energy needs through combustion of fossil fuels is the leading cause of global warming which threatens our planetary existence. This is the energy trilemma!

In Malaysia, whilst we struggle to transition our electrical grid to lower carbon sources and deal with growing energy demand as a developing country, the imperative to optimize energy use is particularly pressing. Saving one unit of energy in the demand side will save three-four units of primary fuels which cumulatively across the country can defer or negate the need for new power plants. Further, being more energy efficient will result in lower costs and cushion the impact of rising energy prices. It is indeed a low hanging fruit opportunity that needs to gain greater traction.

From a legislative and policy perspective, the Malaysian government is stepping up its efforts to promote energy efficiency. The Energy Efficiency and Conservation Act (EECA) is due for enactment later this year. The EECA aims to institutionalize energy management practices for both thermal and electrical energy covering the industrial, commercial and residential sectors. It mandates energy audits and sets energy performance standards for appliances and equipment. The National Energy Transition Roadmap, released in August 2023, has set a target of 23 percent energy savings for the industrial and commercial sectors and 20 percent for the residential sector by 2050. The policy vision has been set to decouple energy consumption from economic growth.



The National Energy Transition Roadmap, released in August 2023, has set a target of 23 percent energy savings for the industrial and commercial sectors and 20 percent for the residential sector by 2050

Final electricity consumption in the country is distributed fairly evenly across the industrial, commercial and residential segments. The industrial and commercial segment offer the biggest opportunity for savings as electricity consumption is concentrated in a smaller number of buildings. Many businesses and consumers remain unaware of the benefits of energy efficiency or lack the knowledge to implement effective measures. The upfront costs of energy-efficient technologies and infrastructure upgrades can be prohibitive for some small and medium enterprises (SMEs). However, these challenges also present opportunities for innovation and collaboration.

The first step to unlocking the energy efficiency potential in a building is to conduct a detailed energy audit which can take between 2-6 months. This is akin to undertaking a health screening to understand one's health status. The Sustainable Energy Development Authority (SEDA) offers energy audit grants for the full cost of undertaking this exercise. This energy audit must be undertaken by local energy service companies (ESCOs) registered with the Energy Commissions (ST). The audit report will identify areas for improvement with corresponding savings and anticipated return on investment (ROI) for any retrofitting capital expenditure proposed

In the majority of existing buildings analysed thus far, proposed expenditure incurred will have an ROI of between 2-5 years. In a typical commercial building, 80% of energy use is consumed for cooling and illumination. There are a myriad of available options for optimizing energy use, ranging from upgrading legacy systems with newer technology, adjusting temperature setpoints for cooling systems, repurposing spaces and harnessing natural ventilation and daylight. Some solution providers even utilize dynamic energy modelling by creating a digital twin of the building to simulate and fine tune proposed retrofits to ensure achievement of savings.

Implementing the proposed improvement measures is where the greatest hurdle remains as building owners tend to allocate capital to business expansion rather than asset improvement despite the clear business case. To help sweeten the deal, there are tax incentives administered by the Malaysia Green Technology and Climate Change Corporation (MGTC) for any capital expenditure required. Several major banks in the country also offer preferential financing terms. An overlooked alternative is Energy Service Contracting (EPC) whereby no upfront expenditure is required by a building owner and instead the EPC contactor finances, installs, and maintains the energy-saving measures. The savings generated from reduced energy consumption are used to repay the investment through a contracted term which usually ranges from between 5-7 years after which the assets are transferred to the building owner. As-a-service business models for cooling or lighting systems are another iteration of this form of contracting whereby the asset is owned by a service provider in exchange for providing utility at a predefined service level.

Beyond the optimal specification of design and equipment within a building, operation and maintenance is equally important. Much like a fuel-efficient vehicle that needs to be driven right, the users of a building play a crucial role in delivering energy efficiency. Smart technologies such as AI based building management systems which monitor active systems like air-conditioning and lighting and switch them off when not in use can further assist the behavioural changes necessary.

Measurement and verification instrumentation can be used to monitor the efficiency of large air-conditioning systems and guide a suitable predictive and preventive maintenance regimen. Real-time monitoring of energy use through smart meters can provide consumers and utilities with up-to-date information and understand their consumption patterns better.



In a typical commercial building, 80% of energy use is consumed for cooling and illumination.



Real-time monitoring of energy use through smart meters can provide consumers and utilities with up-to-date information

With liberalisation of the energy sector proposed as part of the Malaysian Electricity Supply Industry 2.0 (MESI 2.0), time of use pricing may be made available to a broader segment of consumers, encouraging shifting energy intensive activities to off-peak hours when electricity rates are lower thereby reducing peak energy demand. Once the necessary energy-efficiency enhancements have been deployed, on-site renewable energy solutions such as rooftop solar can be incorporated. It is important to approach this sequentially as it would be a waste of resources to implement on-site renewable energy in an energy inefficient building.

At GreenRE, our energy certification standards set a performance standard for high performance buildings and appropriately benchmark energy efficiency based on local and international best practices. We help kick-start the market by setting standards that in turn elevate the ambition of government building codes and regulation, corporate environment, social and governance strategies, and workforce training. By recognizing and rewarding companies and organizations who operate high-performance buildings, we hope to see a greater pull factor towards energy efficiency.

Through collective action and unwavering commitment, may Malaysia lead by example in the global transition towards a low-carbon and resilient energy system.



The GreenRE Energy Certificate evaluates the energy efficiency of existing non-residential buildings in Malaysia, Buildings that successfully obtain the GreenRE Energy Certificate in Malaysia will be eligible for the Energy Commission's Building Energy Label (BELS).



CLIMATE ASIA

a subsidiary of BSD

ABOUT OUR BUSINESS

Climate Asia, a subsidiary of Building System and Diagnostics (BSD), is a sustainability expert driving the built environment towards net zero carbon. With a strong track record of over 600 ESD projects, they develop practical tools and training to help organizations reduce their carbon footprint. From carbon accounting and reporting to roadmap creation and sustainability reporting, Climate Asia supports businesses in achieving their environmental goals. They actively engage in industry initiatives and knowledge sharing to accelerate the transition to a low-carbon future.

Contact Us:



+603-77329873
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- Singapore Green Building Council (SGBC) Committee Member
- Green Mark Advanced Accredited Professional
- International WELL Building Institute (IWBI), WELL Faculty, WELL Advisor, WELL AP
- SmartScore AP, WiredScore AP
- EarthCheck Independent Assessor and Design Accredited Professional

OUR SERVICES

- Zero Carbon Certification
- Carbon Neutral Event
- Decarbonization Roadmap
- ESG Reporting
- Science Based Targets Initiative
- Corporate Carbon Accounting and Reporting
- Whole Life Carbon Assessment
- Carbon Footprint of Products
- Environmental Product of Declaration



CLIMATE ASIA SDN. BHD.
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Unit 2-3A, Oval Damansara, No 685 Jalan Damansara, TTDI, 60000 Kuala Lumpur W.P.



TECHNICAL UPDATES.

1.0 USE OF TERM BUILDING ENERGY INTENSITY (BEI)

Energy Usage Intensity (EUI) is updated to Building Energy Intensity (BEI) for the following tools:

- Non-Residential Building (NRB v3.2)
- Non-Residential Building (NRB v4.0)
- Existing Non-Residential Building (ENRB v3.3)
- Industrial Facilities (IND v1.1)
- Existing Industrial Facilities (EIND v1.1)
- Healthcare Facilities (HC v1.0)
- Energy Certificate (EC v1.0)

The formula for Building Energy Intensity (BEI) as follows:

$$BEI = [(TBEC - CPEC)] / (GFA \text{ excluding carpark} - GLA * FVR) * (NF/OH)$$

Where:

- TBEC = Total building energy consumption (kWh/year)
- CPEC = Car Park Energy Consumption in (kWh/year)
- GFA = Gross Floor Area (exclude car park area) (m²)
- GLA = Gross Lettable Area (m²)
- FVR = Floor Vacancy Rate (NLA) (m²)
- NF = Normalizing factor based on a typical weekly operating hour that is 52Hrs/week [only for office category]
- OH = Weighted weekly operating hours (hrs/week) [only for office category]

2.0 REVISION ON THE ENERGY USAGE INTENSITY (EUI) FOR RESIDENTIAL COMMON AREA

Energy Usage Intensity Calculation for common area revised using the following equation:

$$EUI = [(TBEC - CPEC) / GFA \text{ (common area excluding carpark)}]$$

Where:

- TBEC = Total building energy consumption for common area(kWh/year)
- CPEC = Car Park Energy Consumption in (kWh/year)
- GFA = Gross Floor Area for common area (exclude car park area) (m²)

3.0 UPDATE ON THE CARBON FACTOR FOR ALL TOOLS

For operational carbon calculation requirements, the carbon emission factor for energy and water to be used in calculation as follow:

Energy : 0.639 kgCO₂e/kWh (Peninsular Malaysia), 0.512 kgCO₂e/kWh (Sabah & Sarawak)

Water : 0.419 kgCO₂e/m³

4.0 VENTILATION AND DAYLIGHTING FOR COMMON AREA STAIRCASES

For the Ventilation and Daylighting requirement at common area to consider the BOMBA staircase.

5.0 REVISION OF WATER CALCULATOR V3.0

All project to use the Water Calculator v3.0. The calculator can be download from GreenRE website.

6.0 EXISTING NON-RESIDENTIAL BUILDING (ENRB) V3.3

For mixed development projects, each type of development needs to comply with BEI by category of the building as specified in the Existing Non-Residential Building Guideline (ENRB v3.3)

7.0 BUILDING USER GUIDE AND SUSTAINABLE OPERATION MANAGEMENT GUIDELINE

Building User Guide (BUG) and Sustainable Operation Management Guideline (SOMG) is a pre-requisite requirement for all GreenRE certification tool.

8.0 ANNOUNCEMENT OF THE GREENRE ENERGY CERTIFICATE

GreenRE are pleased to announce the launch of our newest Certification: GreenRE Energy Certificate. The guideline is available in the GreenRE website

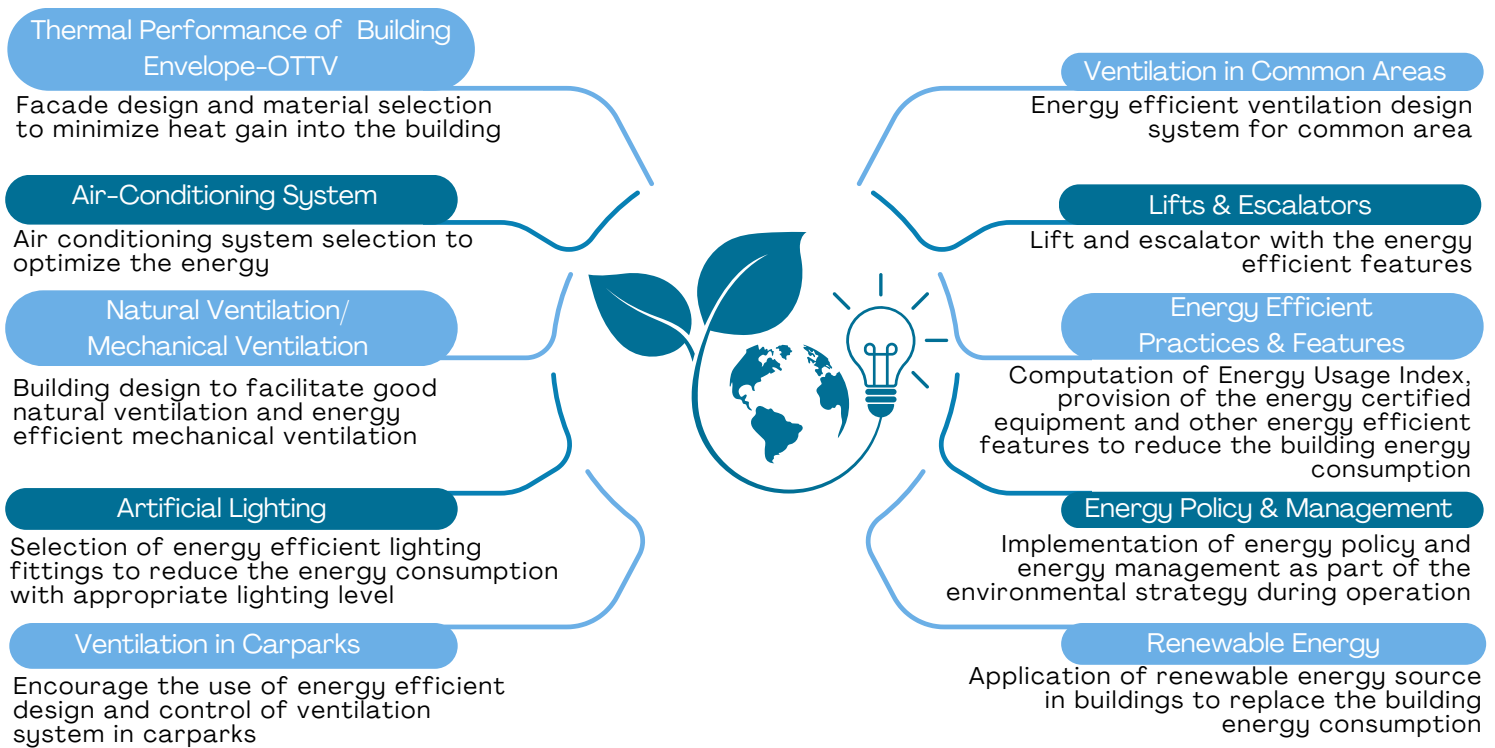


ENERGY CERTIFICATE



The GreenRE Energy Certificate evaluates the energy efficiency of existing non-residential buildings in Malaysia, including offices, hotels, malls, schools, and hospitals. This tropical-centric certification scheme is designed to improve sustainability in the building sector and drive the performance of existing buildings towards super low energy. The scheme benchmarks buildings through two pathways - performance based criteria for active systems and outcome based assessment of actual energy consumption. Buildings that successfully obtain the GreenRE Energy Certificate in Malaysia will be eligible for the Energy Commission's Building Energy Label (BELS).

GREENRE ENERGY CERTIFICATE CRITERIA



GREENRE ENERGY CERTIFICATE RATING TIERS

RATING	70 & Above	65 <= 69	55 <= 64	45 <= 54
SCORE	70 & Above	65 <= 69	55 <= 64	45 <= 54

CALENDAR OF EVENTS.

JULY

11 July 2024

GreenREAPC 35 - Assessment
Wisma REHDA

22 July 2024

Pre-IGBC Green Tour
(in collaboration with REHDA Youth)
Kuala Lumpur

23 July 2024

**4th International Green Build
Conference, IGBC 2024**
Petaling Jaya

AUGUST

20-22 Aug 2024

**GreenRE Accredited Professional's
Course No. 36**
Johor Bahru/Online

SEPTEMBER

20 Sept 2024

GreenREAPC 36 - Assessment
Johor Bahru

OCTOBER

15 - 17 Oct 2024

**GreenRE Accredited Professional's
Course No. 37**
Petaling Jaya / Online

30 - 31 Oct 2024

GreenRE Technical Seminar 03-2024
(Green Data Centre)
Wisma REHDA, Kelana Jaya

NOVEMBER

12-14 Nov 2024

**GreenRE Accredited Professional's
Course No. 38**
Penang/ Online

19 Nov 2024

GRESB Regional Highlights (Malaysia)
Wisma REHDA, Kelana Jaya

23 Nov 2024

GreenREAPC 37 - Assessment
Petaling Jaya

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GreenREAPC 38 - Assessment
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NEWLY CERTIFIED GREENRE PROJECTS.

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
Platinum				
Senibong Cove	Senibong Cove Development Sdn Bhd	TS v1.0	Provisional	17/1/2024
Kwasa Utama Sdn Bhd	Menara KWSP @ Kwasa Damansara	NRB v3.0	Actual	18/1/2024
BBRX Business Park	Sime Darby Property (Bukit Tunku) Sdn Bhd	TS v1.0	Provisional	8/2/2024
Intercontinental Specialty Fats Sdn Bhd Utility Building	International Specialty Fats Sdn Bhd	NRB v3.2	Provisional	9/2/2024
Aetas Seputeh	Ardent Residence Sdn Bhd	RES v3.2	Provisional	9/2/2024
The Lume	Persada Mentari Sdn Bhd	RES v3.2	Provisional	25/4/2024
Spectrum House	TKCA Design Associates	RES v3.2	Actual	8/5/2024
Student and SME Innovation Centre	Tunku Abdul Rahman University College	NRB v3.2	Provisional	10/5/2024



Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
Gold				
118 Mall	PNB Merdeka Ventures Sdn Bhd	NRB v3.1	Provisional	4/1/2024
Sunway Iskandar Sdn Bhd	Sunway GRID Residence	RES v3.1	Actual	10/1/2024
UMW Aerospace	UMW Aerospace Sdn Bhd	EIND v1.0	Provisional	18/1/2024
i-Asrama @ Ayer Keroh Melaka	PDG Asset Sdn Bhd	NRB v3.2	Provisional	24/1/2024
The Waterfront Shoppes & Penang Waterfront Convention Centre (PWCC)	Tumpuan Azam Sdn Bhd	NRB v3.0	Provisional	30/1/2024
UMW Equipment Division Headquarter (Office)	UMW Development Sdn Bhd	ENRB v3.3	Provisional	16/2/2024
Pembinaan Gapadu Sdn Bhd	VSQ II Hostel Building	NRB v3.0	Actual	19/2/2024
Hugoz Suites @ KL City Centre	Armada Istimewa Sdn Bhd	RES v3.2	Provisional	19/2/2024
Colorcon Malaysia	Colorcon Malaysia Sdn Bhd	IND v1.0	Provisional	11/3/2024
SUNWAY VELOCITY 3	Sunway Velocity Three Sdn Bhd	RES v3.2	Provisional	15/3/2024
Aeon Mall (Cambodia) Co.Ltd	Aeon Mall Mean Chey	NRB v3.2	Actual	21/3/2024
PI Data Centre	PI Data Centre Sdn Bhd	DC v1.0	Provisional	18/4/2024
The Scarletz	Suriamas Lumayan Sdn Bhd	NRB v3.0	Actual	23/4/2024
Arte Cheras	Asiamega Capital Sdn Bhd	NRB v3.0	Actual	24/4/2024
Idaman Heights	Kirana Tiara Sdn Bhd	RES v3.2	Provisional	4/6/2024
Aville Residences	MBW Cove Sdn Bhd	RES v3.2	Provisional	12/6/2024
Oaka Residences	Berjaya Hartanah Berhad	RES v3.2	Provisional	24/6/2024
Arena 2	Radium Global Sdn Bhd	RES v3.2	Provisional	26/6/2024
Curvo Residences	Curvo Development Sdn Bhd	RES v3.2	Provisional	28/6/2024

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Silver				
J.Rayon Residences	Multi Access Assets Sdn Bhd	RES v3.2	Provisional	15/1/2024
ISP PBWA (Kapar)	ISP Builder Sdn Bhd	NRB v3.2	Provisional	5/2/2024
Veladaz Residences - Exsim KLWC – Plot 6	Exsim Bukit Jalil City Sdn Bhd	RES v3.2	Provisional	14/2/2024
Pavilion Mont' Kiara Kuala Lumpur	Kekal Kirana Sdn Bhd	RES v3.2	Provisional	19/2/2024
Camtronic Sdn Bhd	Camtronics Sdn Bhd	EIND v1.0	Actual	11/3/2024
Bayu Hills	Johan Anggun Sdn Bhd	RES v3.3	Provisional	15/3/2024
Amaya Residences (Residensi Damansara Avenue 1)	Indo Aman Bina Sdn Bhd (TA Global Bhd)	RES v3.2	Provisional	18/3/2024
ANJA BANGI	USJ One Avenue Sdn Bhd	RES v3.3	Provisional	18/3/2024
Residensi Jernih	Daksina Harta Sdn Bhd	RES v3.1	Provisional	21/3/2024
Manda'Rina Sdn Bhd	Sanctuary Terrace	RES v3.2	Actual	26/3/2024
Skyria	Astana Modal Sdn Bhd	RES v3.3	Provisional	29/3/2024
Ceylonz Suite	Paragon Ceylon Development Sdn Bhd	NRB v3.0	Actual	1/4/2024
Empire Zone 7 (Tower P)	Himpunan Kencana Sdn Bhd	NRB v3.1	Provisional	18/4/2024
Aman @Sieramas	Suria Kapital Development Sdn Bhd	RES v3.2	Provisional	24/4/2024
Sunway Aviana	Sunwya Parkview Sdn Bhd	RES v3.2	Provisional	6/5/2024
J Tower Suites	Lingkaran Nikmat Sdn Bhd	RES V3.2	Provisional	7/5/2024
CIMB Bank IOI City Mall	TKCA Design Associates	INT V2.0	Actual	27/5/2024
IJM Bayuori Sales Gallery	Chen Yu Land Sdn Bhd	NRB v3.2	Provisional	5/6/2024
Rain Tree Residence	Khoo Soon Lee Realty Sdn Bhd	RES v3.2	Provisional	13/6/2024
E- Metro Logistics Park (Metrohub 1)	Sime Darby Property (Industrial Asset 1) Sdn Bhd	IND v1.1	Provisional	14/6/2024
BP New Town 3	Bukit Hitam Development Sdn bhd	NRB v3.2	Provisional	25/6/2024
99 Speedmart Sugai Petani Warehouse	99 Speedmart Sdn Bhd	IND v1.0	Actual	26/6/2024
Exsim Noordin	Exsim Noordin Sdn Bhd	NRB v3.2	Provisional	27/6/2024

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
Bronze				
Exal (Malaysia) Sdn Bhd	Sól Estate Semi D Showunit (Lot 41)	RES v3.2	Actual	18/1/2024
Surau Eco Horizon	Eco Horizon Sdn Bhd	NRB v3.2	Provisional	24/1/2024
Ibarat Duta Sdn Bhd	Residensi Solaris Parq	RES v3.0	Actual	31/1/2024
Residensi Kamelia	Sri Damansara Sdn Bhd	RES v3.2	Provisional	6/2/2024
Aurora Residence (Phase 2 - Tower C & D)	Permodalan Masteron Sdn Bhd	RES v3.2	Provisional	6/2/2024
CLQ Tebrau	Forward Influx Sdn Bhd	NRB v3.2	Provisional	13/2/2024
K - City	Haverse Development Sdn Bhd	NRB v3.2	Provisional	13/2/2024
PANDAN HEIGHTS (RESIDENSI PANDAN 3)	MBW Projects Sdn Bhd	RES v3.2	Provisional	15/2/2024
Empire Park Kulai Phase 1	Landsco Resources Sdn Bhd	IND v1.0	Provisional	19/2/2024
Utama Park Residence Phase 2A & Utama Park Residence Phase 2B	IJM Properties Sdn Bhd	RES v3.2	Provisional	28/2/2024
Metropark Plot 20A Mixed Development - Residential	Tropicana Metropark Sdn Bhd	RES v3.1	Provisional	5/3/2024
Tropicana Metropark PT20A (Southplace 2) - Commercial	Tropicana Metropark Sdn Bhd	NRB v3.1	Provisional	5/3/2024
Avenue Residence (Residensi Puncak Saujana - Fasa 2)	MBW City Sdn Bhd	RES v3.2	Provisional	5/3/2024
Alia @ Mori Park	Mori Park Sdn Bhd	RES v3.3	Provisional	5/3/2024
Sunway Wellesley Serene Villas	Sunway Bintang Sdn Bhd	RES v3.2	Provisional	15/3/2024
16 Lorong Maarof	Cosmic Gate Sdn Bhd	NRB v3.2	Provisional	21/3/2024
The Loop	Glomac al-Batha Sdn Bhd	RES v3.2	Provisional	1/4/2024
Caffe Diem, Jejawi	Encomas Sdn Bhd	RT v1.0	Actual	4/4/2024
Plot 2 - Sri Damansara Club Development	Sri Damansara Sdn Bhd	RES v3.2	Provisional	5/4/2024
Genting Industrial City (GIC)	Genting Property Sdn Bhd	TS v1.0	Provisional	5/4/2024
Robin Cove at Setia Eco Park (Phase 19A & B)	Bandar Eco-Setia Sdn Bhd	RES v3.3	Provisional	5/4/2024
Taman M Senyumia	Oasis Garden Development Sdn Bhd	TS v1.0	Provisional	19/4/2024
Edumetro	HCK Properties Sdn Bhd	NRB v3.1	Actual	20/4/2024
M Terra	Supreme Springs Sdn Bhd	RES v3.2	Provisional	22/4/2024
IJM Rimayu Robin	Bandar Rimayu Sdn Bhd	RES v3.2	Actual	23/4/2024
Ijok Industrial	Damai Jaya Sdn Bhd	IND v1.0	Provisional	24/4/2024
Precinct Arundina at Setia Eco Park	S P Setia Eco - Projects Management Sdn Bhd	TS v1.0	Provisional	29/4/2024
Sunway Medical Centre Phase 4	Sunway Medical Centre Sdn Bhd	HC v1.0	Provisional	4/5/2024
J Satine SOHO	Jayyid Land Sdn Bhd	RES v3.2	Provisional	13/5/2024
Vivo Executive Apartment	Aspen Vision City Sdn Bhd	RES v3.2	Provisional	20/5/2024
Mori Residences 2 Scientex Rawang	Scientex Park (M) Sdn Bhd	RES v3.2	Provisional	21/5/2024
Cycle & Carriage Johor Bharu	Vibrantline Sdn Bhd	ENRB v3.2	Actual	29/5/2024
EM Hub Stratified Industrial Facilities, Kota Damansara	EM HUB Sdn Bhd	IND v1.0	Actual	29/5/2024
UMW HVM Park Precinct 5	UMW Development Sdn Bhd	TS v1.0	Provisional	4/6/2024
Ativo Annexe - Office Tower 1	Indo Aman Bina Sdn Bhd	NRB v3.2	Provisional	5/6/2024
Profit TH Factory @ Sabah	Profit TH Sdn Bhd	IND v1.1	Provisional	5/6/2024
The Wyn Residences (Tri Star- Puchong)	Billion Megastar Sdn Bhd	RES v3.2	Provisional	10/6/2024
Plaza @ Kelana	Glomac Segar Sdn Bhd	NRB v3.0	Actual	18/6/2024
Wisdom Park	Wisdom Park	IND v1.1	Provisional	18/6/2024
Arcuz Kelana Jaya	Mahsuri Kelana Sdn Bhd	RES v3.0	Actual	21/6/2024
M Zenya	Star Residence Sdn Bhd	RES v3.2	Provisional	21/6/2024
Meridin East	Meridin East Sdn Bhd	TS v1.0	Provisional	24/6/2024
SPD Tech Valley Phase 1	SPD Tech Valley Sdn Bhd	IND v1.1	Provisional	25/6/2024

NEWLY CERTIFIED GREENRE ACCREDITED PROFESSIONALS (GREENREAPs)

CERT NO.	NAME	COMPANY
GREENREAP0485	MUHAMMAD FIKRI ISMAIL	TANJUNG PINANG DEVELOPMENT SDN BHD
GREENREAP0486	CLEMENT LEE CHUNG LIP	ETIKA HIJAU SDN BHD
GREENREAP0487	TAY YIN SUAN	ETIKA HIJAU SDN BHD
GREENREAP0488	AHMAD MASYHUR BIN JAHAYA	ALISTIDAMA PRACTICE SDN BHD
GREENREAP0489	MOHAMAD NORFEKRY MD. YACOB	KKTM SRI GADING JOHOR
GREENREAP0490	DAVID LIM JOO YONG	AREA PROPERTIES PLT GROUP
GREENREAP0491	NAIMUDDIN ABDULLAH	KOLEJ KEMAHIRAN TINGGI MARA SRI GADING
GREENREAP0492	LAU YIN HON	VERITAS ARCHITECTS SDN BHD
GREENREAP0493	YIM MUN SIN	ECOWORLD
GREENREAP0494	MOHAMAD WAZIR SHAFIX OSMAN	KOLEJ KEMAHIRAN TINGGI MARA SRI GADING
GREENREAP0495	FATIN AIZAT BINTI ABDUL SAMAT	ECO WORLD DEVELOPMENT SDN. BHD
GREENREAP0496	CHEW QUIN SHEN	MIDWEST GREEN SDN BHD
GREENREAP0497	MOHD FARHAN BIN SAMSUDIN	SIME DARBY PROPERTY BERHAD
GREENREAP0498	LIONEL LIM CHUNG YANG	CHEMSAIN SUSTAINABILITY SDN BHD
GREENREAP0499	PATMAPRIYAN NATHAN	JLL PROJECT AND CONSTRUCTION MANAGEMENT SDN BHD
GREENREAP0500	YEONG JIT MING	SETIA ECOHILL SDN BHD
GREENREAP0501	TS. DR. RAMES SIVADASAN	SP SETIA BERHAD GROUP
GREENREAP0502	WONG WENG LOONG	GAMUDA LAND (KEMUNING) SDN BHD
GREENREAP0503	DANIEL JIAN JIE LEE	LBS BINA HOLDINGS SDN. BHD.
GREENREAP0504	HOI LI WEI	GAMUDA LAND SDN BHD
GREENREAP0505	LIM WEI ING	EUPE CORPORATION BHD. (NORTHERN)
GREENREAP0506	GWEE HIAN KHAI	TRANS RESOURCES CORPORATION
GREENREAP0507	CHANG KAI LIANG	SDN BHD LBS BINA GROUP BERHAD
GREENREAP0508	JASON CHRISTOPHER KANDASAMY	DIGITAL NASIONAL BERHAD
GREENREAP0509	LEE KHEN HSIEN	K EVOLUTION SDN. BHD.
GREENREAP0510	MOHAMAD FATHUL MANSUR BIN MOHAMAD MAHIR	WK & PARTNERS CONSULT SDN BHD
GREENREAP0511	CHRISTOPHER RICHARDSON	GREEN QUARTER SDN BHD
GREENREAP0512	IR. TS. WONG HSUI HAN	PEMBINAAN FEDERAL SDN BHD
GREENREAP0513	MOHAMAD FAIZ BIN PATHURRAHMAN	WK & PARTNERS CONSULT SDN BHD
GREENREAP0514	SITI ZULAIKHA BINTI SAIM	JLL PROJECT AND CONSTRUCTION MANAGEMENT SDN BHD
GREENREAP0515	CHEAH WEI TENG	N/A
GREENREAP0516	KHOO ZONG HANN	ASET KAYAMAS DEVELOPMENT SDN BHD
GREENREAP0517	AR. TS. YAP ZUOO YINN	IJM LAND BERHAD
GREENREAP0518	LOW YAO WEN	CHT INTERNATIONAL SDN BHD
GREENREAP0519	SUBAIHAH FAUZI	ARCHITRA DESIGN CONSULTANT
GREENREAP0520	NURULSHAMIMI BINTI ZAMBRY	EUPE CORPORATION

GREENREAP0521

MOHD 'AIZAM ZUBAIR BIN SHU'AIDI

JLL PROJECT & CONSTRUCTION

GREENREAP0522

BOON WUI KONG

MANAGEMENT SDN BHD

GREENREAP0523

ANG TEIK SHENG

KSK LAND

GREENREAP0524

DOUGLAS RICHARD FYVIE CRICHTON

MASTERON SDN BHD

LOW YAT GROUP



CONGRATULATIONS

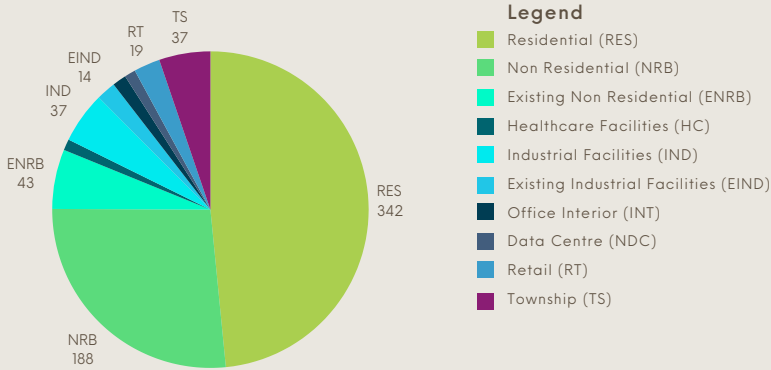
TO ALL & WELCOME ON BOARD

PROJECT STATISTICS.



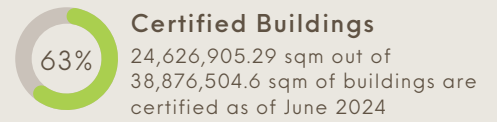
Project Registered

As of June 2024



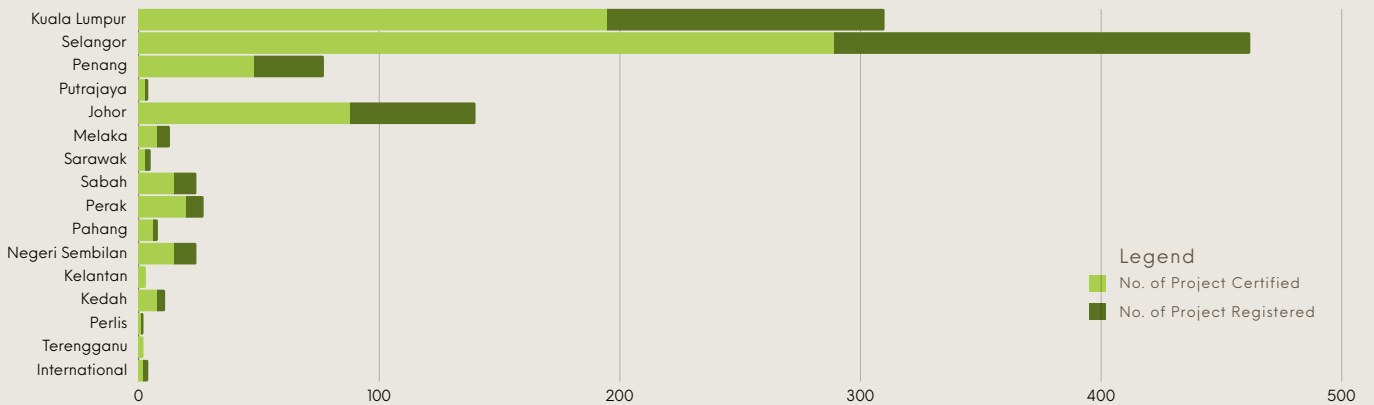
Project Certified

406 out of 707 projects registered are certified as of June 2024

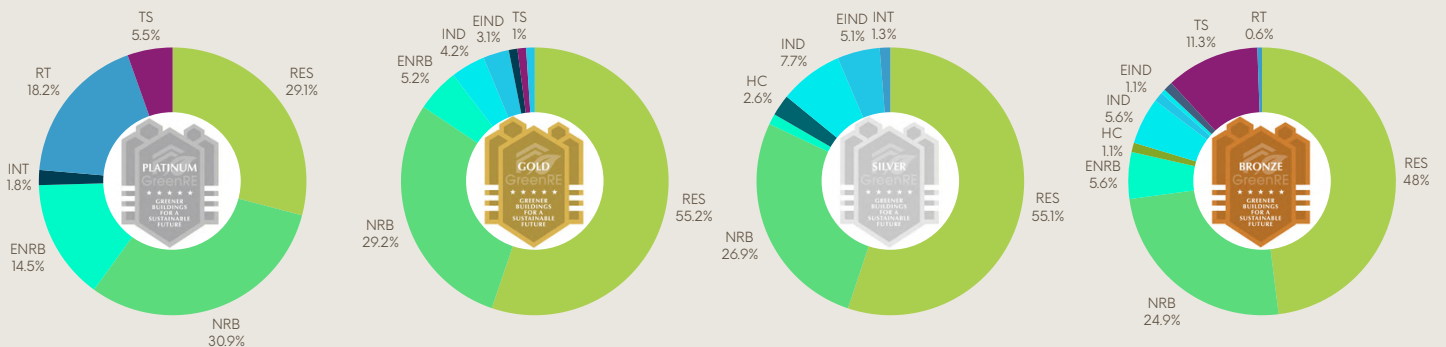


Project Distribution

As of June 2024

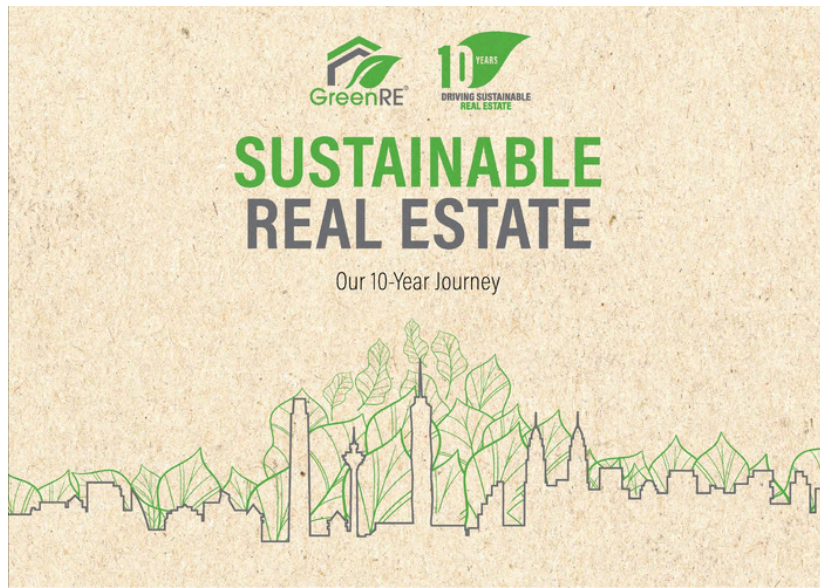


Projects Certified by Rating







Legend

- Residential (RES)
- Non Residential (NRB)
- Existing Non Residential (ENRB)
- Healthcare Facilities (HC)
- Industrial Facilities (IND)
- Existing Industrial Facilities (EIND)
- Office Interior (INT)
- Data Centre (NDC)
- Retail (RT)
- Township (TS)



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