

# GreenRE Bulletin

ISSUE

13

JANUARY 2025- JUNE 2025



## FEATURED PROJECTS

- TAR UMT Arena
- The Canopy on Normanby, Melbourne

## EVENT HIGHLIGHTS

- GreenRE Advisory Panel (GREAP) No. 5
- Study Tour Report: REHDA Institute's Green Building & Urban Sustainability Visit to Melbourne
- GreenRE Signs MOU with SHARED & SHEDA

## FEATURED ARTICLES

- Revolutionizing Data Center Sustainability with Immersion Liquid Cooling
- Enhancing Indoor Air Quality (IAQ) for Sustainable and Healthy Buildings
- How Integrated Simulations Drive Sustainable Hotel Performance in Malaysia

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# GreenRE Bulletin

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*Teo Chui Ping*

**Director, GreenRE Sdn Bhd  
Chair, ESG Committee – REHDA  
Malaysia**

Dear Readers,

As we reach the midpoint of 2025, it is an opportune time to reflect on GreenRE's progress. I'm pleased to share that we have surpassed a key milestone, with a portfolio of over 1,000 projects and more than 300 million square feet of certified gross floor area to date. This growth reflects the continued maturity of Malaysia's green building movement and the industry's collective alignment with both national and global sustainability goals.

One notable highlight this period was the certification of The Canopy by Gamuda Land in Melbourne—GreenRE's first project in Australia. With a growing presence in international markets such as Vietnam, Cambodia, and the United Kingdom, this milestone reinforces the increasing regional relevance of our standards and the confidence developers place in our framework.

Locally, we strengthened our partnerships through the signing of MoUs with SHEDA, SHAREDA, and other key industry stakeholders. These collaborations reaffirm our belief that meaningful progress in sustainability can only be achieved through shared expertise and coordinated action. Sustainability is not a solitary pursuit—it must be a collective commitment.

The GreenRE Advisory Panel (GREAP) continues to play a strategic role in guiding our sustainability agenda, ensuring alignment with Malaysia's climate goals. In the first half of the year, we convened the 5th GREAP meeting, bringing together senior representatives from government, industry, academia, and professional bodies to provide insights on market direction, regulatory developments, and stakeholder engagement.

At the technical level, the GreenRE Technical Panel remains central to the development and refinement of our certification tools. In 2025, the panel contributed to updates across existing frameworks and supported the development of new tools for emerging typologies such as hotels and wellness centres—ensuring our standards remain robust, adaptable, and market-relevant.

Capacity-building remains a core pillar of our work. To date, the GreenRE Accredited Professional (GreenRE AP) Course has trained over 1,000 participants, with more than 700 professionals currently accredited. This is complemented by technical seminars, refresher sessions, and focused outreach—efforts that continue to build a skilled, sustainability-literate workforce.

These initiatives come at a pivotal moment, as Malaysia prepares to roll out transformative policy measures, including the Energy Efficiency and Conservation Act (EECA), the Climate Change Act, and the Urban Renewal Act. GreenRE stands ready to support the industry in interpreting and aligning with these frameworks—through robust certification, technical guidance, and ongoing engagement.

As Chair of REHDA Malaysia's ESG Committee, I am encouraged by the growing commitment among developers to adopt Environmental, Social, and Governance (ESG) principles. The establishment of this committee reflects REHDA's long-term vision for responsible, inclusive, and future-focused development practices.

On behalf of GreenRE, I extend our sincere appreciation to all stakeholders—developers, consultants, government agencies, and professional institutions—for your continued support. Your collaboration has been instrumental to our shared progress. We look forward to building on this momentum in the second half of the year, as we continue to work together in delivering measurable sustainability outcomes—advancing GreenRE's role in shaping a low-carbon, climate-resilient built environment in Malaysia and beyond.



5<sup>TH</sup> GREENRE ADVISORY

## PANEL (GREAP)

## MEETING 2025

STRENGTHENING  
SUSTAINABILITY  
THROUGH INDUSTRY  
DIALOGUE

**G**reenRE convened its 5th GreenRE Advisory Panel (GREAP) meeting on 15 May 2025 at One World Hotel, bringing together over 45 high-level representatives—from government agencies, professional institutions, academia, and industry to deliberate on advancing sustainability across Malaysia's built environment.

Chaired by Datuk Seri FD Iskandar, the session opened with a call to action on scaling green building adoption, highlighting that despite GreenRE's rapid growth—with over 500 million sq ft certified across Malaysia and internationally—green penetration remains below 2% of the national property landscape. GREAP serves as a strategic platform to bridge policy and practice in addressing this gap.



Opening remarks delivered by Datuk Seri FD Iskandar, Chairman of GreenRE.



Key updates included GreenRE's ongoing tool development for data centres, infrastructure, and hotels, joint certification efforts with MyCREST, international outreach, and growing uptake of the GreenRE Energy Certificate for existing buildings. Notably, GreenRE now has over 700 certified GreenRE Accredited Professionals (GreenRE APs).

Dialogue sessions covered emerging national policies including the Energy Efficiency and Conservation Act (EECA), Urban Renewal Act, and Planning Guidelines for Data Centres, alongside updates on collaborative R&D with UTM and UiTM on green performance benchmarking and carbon credit aggregation frameworks.

GREAP continues to play a pivotal role in aligning GreenRE's technical direction with Malaysia's climate ambitions, ESG demands, and evolving regulatory landscape. 🌱



JAN  
08

### Malaysia-China Hakka Business Confederation Association Youth Sustainable Building Forum 2025

GreenRE was invited to present at the Malaysia-China Hakka Business Confederation Association Youth (Perak Branch)'s Sustainable Building Forum 2025 on 8 January 2025 in Ipoh. Our Executive Director, Ir. Ashwin Thurairajah, shared insights on the future of sustainable architecture. We thank the organizers for this meaningful event promoting sustainable construction, energy efficiency, and policy development.

### GreenRE was a supporting organisation for REHDA Institute's Annual Property Developers Conference - The CEO Series 2025

GreenRE was a supporting organisation for REHDA Institute's Annual Property Developers Conference - The CEO Series 2025. The event featured keynotes by Deputy Finance Minister YB Puan Lim Hui Ying and Deputy Minister of Investment, Trade, and Industry YB Liew Chin Tong, with valuable insights from industry leaders.

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GreenRE had the honour of welcoming YB Liew Chin Tong, Deputy Minister of Investment, Trade, and Industry, to our booth at the CEO Series 2025.

JAN  
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### Strengthening Partnerships for a Sustainable Future with Malaysian Association of Registered Energy Managers & Energy Auditors (MAREMA)

The discussion, led by GreenRE Executive Director Ir. Ashwin Thurairajah and MAREMA President Mr. Zaini Ahmad, along with committee member Mr. Goh Chee Kuan and secretariat member Mr. Anuar Awang, explored potential collaborations in training programs to benefit members of both organizations and advance the energy efficiency industry.

Both parties also agreed to jointly organize national-level seminars and targeted briefings to raise awareness on EECA 2024 among energy consumers and building stakeholders.

### Inspiring the Next Generation: GreenRE's Sustainability Talk at Sunway International School

GreenRE delivered a sustainability talk at Sunway International School (SIS) Subang Jaya as part of SIS Sustainable Week. The sessions, led by GreenRE Senior Assessor, Ts. Intan Siti Zulaikha and Assessor, Nur Maryam Ismail, covered key green practices, SIS's GreenRE Platinum certification, and the GreenRE rating system. The event also featured textile recycling discussions, a clothing 'SWAP' activity, and a sustainable poster competition. SIS students showed great enthusiasm, highlighting the importance of nurturing future sustainability leaders.

FEB  
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Empowering young minds! GreenRE's Ts. Intan Siti Zulaikha engaged SIS students in an interactive session on the impact of Green Buildings on future cities and sustainable living.





FEB  
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### Malaysia Green Building Council (MGBC), EGM 2025

The Malaysia Green Building Council (MalaysiaGBC, Extraordinary General Meeting (EGM) was held 22 February 2025, where members voted to amend the constitution to support a broader range of green building initiatives. This significant development strengthens industry collaboration in advancing green building practices and driving progress towards carbon neutrality. We look forward to continued engagement in fostering a more sustainable built environment.

### GreenRE at ESG Edition Talk 2025: Advancing Sustainable Innovation

GreenRE was invited to be part of SHEDA: ENCORE – ESG Edition, where industry leaders came together to drive sustainability in Sarawak's built environment. Ts. Nur Fateha Jamaluddin, Senior Manager of GreenRE Sdn Bhd, delivered an insightful session on "Sustainable Innovation: The Intersection of ESG and Green Buildings." The discussion highlighted how ESG principles and green certifications are shaping the future of sustainable developments in Malaysia.

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24



FEB  
24

### GreenRE Supports Sustainable Development at Harta Intan Group's Agreement Signing Ceremony

GreenRE Management Committee Member, Dato' Rick Cheng, and Executive Director, Ir. Ashwin Thuraiarajah attended Harta Intan Group's Agreement Signing Ceremony, celebrating collaborations in sustainability. We presented Certificates of Participation for Livingston Tower and Juru Hills Affordable Housing, both registered under the GreenRE Certification Scheme. The event highlighted Penang's commitment to sustainable development.

Firma Atasan Executive Director Chew Why Hoong and Penang State Housing and Environment Committee Chairman Datuk Seri Sundarajoo Somu, together with GreenRE Datuk Rick Cheng and Ir Ashwin Thuraiarajah

### Design Village by PE Land (Penang) Sdn Bhd: GreenRE's First Platinum Rated Outlet Mall

Design Village Outlet Mall as Malaysia's first fully certified GreenRE Platinum shopping mall, setting a benchmark for sustainable retail developments. The recognition event was graced by YAB Tuan Chow Kon Yeow, Chief Minister of Penang, and YB Goh Choon Aik.

The project features a 29% renewable energy from 3,584 rooftop solar panels, generating 2,868 MWh annually and cutting an estimated 39,037 tons of CO<sub>2</sub> emissions over 10 years. Eco-conscious landscaping covers 82% of green areas with drought-tolerant plants, while additional sustainability initiatives include zero waste composting, an EV charging hub, recycling bins, and digital directories to reduce paper use.

MARCH  
08



YAB Tuan Chow Kon Yeow, Chief Minister of Penang, and YB Goh Choon Aik, alongside GreenRE Management Committee Member, Mr. Ethan Lai Wee





MARCH  
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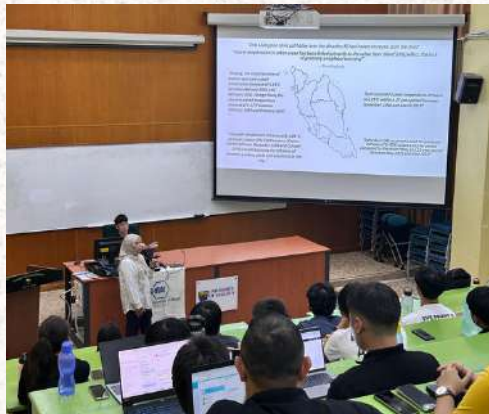
### 1 Utama Tenant Convention 2025: Digitalizing Retail & Celebrating 30 Years of Excellence

GreenRE participated as the Green Leasing Partner at the 1 Utama Tenant Convention 2024, themed "Digitalizing Retail: Tech, AI, and Beyond." The event highlighted AI, digitalization, and sustainability in retail, as 1 Utama celebrates 30 years of innovation. Through our partnership, GreenRE is promoting green leasing to help tenants and landlords adopt sustainable practices for long-term value.

### HVAC Energy Efficiency Seminar by GreenRE, BlueSnow and CamGBC in Phnom Penh, Cambodia

GreenRE, in collaboration with Bluesnow Energy Frontier Technologies, co-organized a technical seminar for the Cambodia Green Building Council (CamGBC) on 4 April 2025 in Phnom Penh. The session focused on ACMV system fundamentals and energy efficiency best practices.

APRIL  
04



APRIL  
09

### GreenRE Knowledge Sharing Session at Universiti Malaya

GreenRE was invited to a knowledge sharing session in support of the AI-Enhanced Refrigeration (Commercial) Systems Competition, organised by the ASHRAE-UM Student Branch and Tungsten Innovation & Solutions Sdn. Bhd.

Our Senior Manager, Ts. Nur Fateha Jamaluddin, delivered a presentation to UM students, highlighting GreenRE's role in advancing sustainable development through green building certification, training, and research. She also shared insights on how energy-efficient systems, such as refrigeration technologies, play a key role in sustainable building performance.

### GreenRE co-hosted REHDA Malaysia's Hari Raya Open House 2025, together with REHDA Selangor and REHDA Wilayah Persekutuan (WPKL).

The festive gathering was a meaningful opportunity to reconnect with industry peers and strengthen professional ties in the spirit of Aidilfitri. We sincerely thank all our guests for their presence and continued support.

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APRIL  
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## GreenRE at MAPEX 2025 Johor: Advancing the Importance of Green Homes

GreenRE was part of MAPEX 2025 at City Square, Johor Bahru, organised by REHDA Johor. GreenRE Executive Director, Ir. Ashwin Thurairajah, shared insights on the "Importance of Green Homes in Malaysia". A big thank you to REHDA Johor, and attendees for making this event a success. We also appreciated the opportunity to connect with industry leaders at the MAPEX Networking Night held at Amari Hotel Johor Bahru.

## Green Homes, Happy Lives: Choosing & Living Sustainably @ MAPEX 2025

GreenRE took part in MAPEX 2025, held at Mid Valley Exhibition Centre on 26 April 2025.

Our Senior Assessor, Ts. Siti Radhiah Md Merzuki, delivered a talk titled "Green Homes, Happy Lives: Choosing & Living Sustainably," where she shared practical tips on how green homes can improve wellbeing, reduce environmental impact, and lower long-term costs.

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APRIL  
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## AEC Malaysia Receives Malaysia's First GreenRE Platinum Certification for Office Interior V2.0

GreenRE proudly confers Platinum Certification to Allied Environmental Consultants Malaysia Sdn Bhd (AEC), marking Malaysia's first Office Interior project to achieve this highest GreenRE rating. AEC's office integrates smart lighting with sensors (lighting power density of 3.28 W/m<sup>2</sup>), real-time energy tracking, low-VOC finishes, green-certified materials, 100% recycled nylon carpet tiles, FSC-certified bamboo panels at the reception, and a dedicated Sick Bay with smart glass for privacy and wellbeing. The office achieved an Energy Efficiency Index (EEI) of 23.33 kWh/m<sup>2</sup>/year with a 67% energy reduction, setting a new benchmark for sustainable office interior design.

## Bukit Kayu Hitam ICD-First Industrial Project in Kedah to Achieve GreenRE Gold Certification

GreenRE is proud to announce that Bukit Kayu Hitam ICD Inland Clearance Depot (ICD) by PKT Logistics Group Sdn Bhd has been awarded the GreenRE Gold Certification under the Industrial category—the first in its kind.

Bukit Kayu Hitam ICD is an Inland port located in the Northern Region State of Kedah, Malaysia. The cross-border transports services has an extensive network connecting Bukit Kayu Hitam ICD to the Northern Region through land transport services. Facilitates to store containers moved by land with high security, efficient port productivity, modern system and innovative.

MAY  
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The award was presented by GreenRE Director Dato Rick Cheng and Datuk Ir Tiah Oon Ling and received by Datuk Seri Dr Michael Tio, Chief Executive and Managing Director of PKT Logistics Group .





MAY  
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**GreenRE at Property Guru's 2024 Property Pulse Check**  
GreenRE took part in the Property Pulse Check and the launch of PropertyGuru Group's 2024 Sustainability Report. Ts. Nurfateha Jamaluddin, GreenRE Senior Manager, contributed to a thought-provoking panel discussion, emphasising the collective responsibility of developers, policymakers, and consumers in driving meaningful change. We extend our congratulations to PropertyGuru Group on the successful launch of its 2024 Sustainability Report and its ongoing commitment to advancing ESG in the built environment.

### GreenRE Team Building 2025 | Langkawi Edition

Our team had an unforgettable time in Langkawi from 12-15 June 2025! From the eco tour at Frangipani Resort to beach games, sunset cruises, and nature walks, it was a fun and meaningful trip that brought us closer as a team. [Read more in page 14](#)

JUNE  
12-15



JUNE  
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### IGBC 2025 Press Preview | Advancing Sustainable Urban Development

GreenRE and REHDA Institute hosted the press preview of the International Green Build Conference (IGBC) 2025, themed Adaptation Through Sustainable Innovation. The conference, chaired by Datuk Seri FD Iskandar and Dato' Jeffrey Ng Tiong Lip, will be held on 19 August 2025 at One World Hotel, Petaling Jaya. IGBC 2025 aims to promote climate-resilient urban development, featuring a green technology exhibition, university collaborations, and sustainability tours, with over 800 delegates expected.

### GreenRE Awards Silver Green Building Certification to Majlis Perbandaran Penampang HQ

GreenRE awarded the GreenRE Certification to Majlis Perbandaran Penampang for its headquarters, recognizing its commitment to sustainable practices. The certificate was presented by GreenRE Executive Director Ir. Ashwin Thurairajah to Deputy President Puan Noemi Dyena Johntren. The presentation was witnessed by YB DSP Dr. Joachim Gunsalam, Deputy Chief Minister II of Sabah and Minister of Local Government and Housing, Sabah. We look forward to continuing our collaboration with local authorities across the country to advance Malaysia's green building agenda.

JUNE  
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GreenRE Executive Director Ir. Ashwin Thurairajah presented the certificate to Deputy President Puan Noemi Dyena Johntren, witnessed by YB DSP Dr. Joachim Gunsalam, Deputy Chief Minister II of Sabah and Minister of Local Government and Housing, Sabah, Datuk Dr. Jamili Nais, YB Datuk Ewon Benedick, and YB Jannie Lasimbang





## STUDY TOUR REPORT: REHDA INSTITUTE'S GREEN BUILDING & URBAN SUSTAINABILITY VISIT TO MELBOURNE

**G**reenRE participated in REHDA Institute's Study visit to Melbourne, Australia, alongside prominent Malaysian developers, government-officials, and sustainability professionals. The visit was designed to explore best practices in urban renewal, sustainable development, affordable housing, and retirement living models.

### Fishermans Bend Urban Renewal Area

Fishermans Bend is Australia's largest and most ambitious urban renewal project, spanning 491 hectares across five precincts in central Melbourne. By 2050, it aims to accommodate 80,000 residents and create 80,000 jobs, transforming a former industrial zone into a vibrant, sustainable, and connected extension of the city centre.



#### Key principles of the Fishermans Bend Framework include:

- **Precinct-wide sustainability strategies**, including low-carbon transport, walkability, and green mobility.
- **Integrated public amenities**, such as schools, parks, affordable housing, and commercial hubs
- **Climate-resilient planning**, prioritising green infrastructure, water-sensitive urban design, and renewable energy use
- **Inclusive growth**, balancing high-density development with community spaces and urban biodiversity

This project exemplifies how master planning, government coordination, and stakeholder engagement can unlock large-scale urban regeneration without sacrificing liveability or sustainability.



Within the Fishermans Bend precinct, **The Canopy on Normanby**—developed by Gamuda Land Australia—became the first Australian project to achieve **GreenRE Gold Certification**. Key sustainability features include:

- **Biophilic design** integrating greenery and wellness into urban architecture
- A commitment to **diverting over 90% of construction waste** from landfill
- Public green spaces including a 2,600 sqm park

This milestone not only showcases the flexibility of the GreenRE certification system internationally, but also reinforces its applicability to urban regeneration projects in tropical and temperate climates alike.

The experience at Fishermans Bend is timely and highly relevant to Malaysia's recently introduced Urban Renewal Act, which aims to revitalise ageing neighbourhoods, underutilised land, and outdated buildings—particularly in urban centres like Kuala Lumpur, Penang, and Johor Bahru.



### Melbourne Square (OSKP & EPF JV)

An AUD 2.8 billion mixed-use development incorporating residential towers, Hilton Hotel, a double-storey Woolworths supermarket, and 6,000+ sqm of green space. Features WELL Platinum elements such as smart-home automation and EV infrastructure.

### Sapphire by The Gardens (S P Setia)

A striking example of Malaysian excellence abroad, this twin-tower project combines high-end residences with a Shangri-La hotel, linked via sky bridge. Notable for its award-winning design and premium sustainability-driven features.



## BANGS STREET SOCIAL HOUSING REDEVELOPMENT – PRAHRAN, MELBOURNE

The Bangs Street redevelopment, led by Community Housing Limited (CHL) in partnership with Homes Victoria, is a flagship project under the Victoria State Government's Big Housing Build initiative. This large-scale redevelopment replaced ageing public housing stock with a modern, mixed-tenure residential community. The project delivers a total of 434 new homes, comprising 228 social housing units and 206 market rental homes, representing a 90% uplift in social housing provision. Importantly, the development also includes Specialist Disability Accommodation (SDA) units, which are fully accessible and designed to meet future care and mobility needs.

The project stands out for proving that affordability and sustainability can go hand in hand. Its green building features include passive design principles such as cross-ventilation, natural lighting, and thermal insulation, all of which reduce energy use and improve indoor comfort. It has achieved a 5-Star Green Star Design & As Built rating from the Green Building Council of Australia and boasts an impressive 7-Star NatHERS average energy rating across all dwellings—well above minimum code requirements. Renewable energy generation is supported through solar photovoltaic systems, while rainwater harvesting and reuse systems help reduce water consumption. The entire development is gas-free and fully electric, reinforcing its commitment to long-term carbon neutrality.

Outdoor and community amenities are central to the project's design. A 1,500-square-metre central park with pedestrian walkways and cycling paths creates a green, active space for residents. Community-building is further supported by a community room, social enterprise spaces, and a neighbourhood café. Landscaping throughout the site enhances biodiversity and urban cooling, contributing to the liveability and environmental performance of the development.

Bangs Street was delivered through Homes Victoria's Ground Lease Model, an innovative public-private partnership approach. Under this model, the land remains publicly owned, while CHL, a not-for-profit housing operator, is granted a 40-year lease. CHL is responsible for development, property management, and delivery of community support programs. This model ensures the long-term public benefit of the housing stock while allowing for professional, efficient management by a dedicated community housing provider.



## BEYOND TRADITION: CAN SENIOR LIVING COMMUNITIES WORK IN ASIA?

As Malaysia prepares for a demographic shift toward an ageing society, the study tour's in-depth visits to Melbourne's purpose-built senior living communities offered valuable insights—particularly in light of Asia's traditionally different cultural approach to ageing.

In many Asian societies, including Malaysia, there is a longstanding cultural norm for elderly parents to live with their children, often in multigenerational homes. Senior care is seen as a family responsibility, and institutional aged care has historically carried a social

stigma. However, rapid urbanisation, rising healthcare demands, smaller family sizes, and shifting lifestyles are prompting a gradual change in mindset.

In this context, the Australian senior living model provides a progressive reference for future planning. The facilities we visited in Melbourne showcase how retirement living can be dignified, community-oriented, and environmentally sustainable, offering independent seniors a high quality of life, even outside the family home.



## KEY MODELS OBSERVED



### Pavilions, Blackburn Lake

Set within natural parklands, this development balances wellness, independence, and sustainability. With smart-home features and 24/7 support systems, it caters to active retirees who still value autonomy but seek security and nature integration.



### St. Clare by VMCH

An ultra-premium model with concierge-style amenities, this project targets affluent seniors seeking lifestyle, luxury, and privacy—offering a glimpse of how retirement living can evolve into an aspirational choice, not just a fallback option.



### Morgan Glen Iris (BASScare)

This facility exemplifies assisted independent living, allowing seniors to age in place while accessing flexible support services.



### Monument Estate (Resi Ventures)

An example of sustainable suburban planning offering modern homes with digital automation, extensive green areas, and planned community amenities.

### Altona Industrial Estate (Stockland)

A master-planned industrial zone targeting 5-Star Green Star industrial warehousing. A model of efficient land use, logistics optimisation, and low-carbon design.

## SUSTAINABLE CAMPUS DESIGN: MONASH UNIVERSITY – CLAYTON CAMPUS

Delegates visited Monash University's Clayton Campus, widely recognised as one of the most sustainable university campuses in the Southern Hemisphere, Monash has committed to achieving net zero emissions by 2030.



Three key facilities were highlighted during the campus tour:

The Woodside Building for Technology and Design at Monash University is one of the largest Passive House-certified educational buildings in the Southern Hemisphere. It achieves net-zero operational carbon with an exceptionally low energy use intensity (EUI),

made possible by features such as mixed-mode ventilation, automated shading, and a highly airtight building envelope. The building is constructed using low embodied carbon materials and advanced digital design tools, and is topped with solar PV panels that support on-site renewable energy generation.

The New Horizons Research Centre reflects world-class sustainability standards, having received a 6-Star Green Star – Design & As Built rating. The building incorporates stormwater harvesting and reuse, along with optimised daylighting and solar orientation to minimise energy use. Construction utilised Building Information Modelling (BIM) and prefabrication methods, reducing both waste and construction time. The centre also features lab ventilation energy recovery and demand-based HVAC controls, blending high-performance design with cutting-edge research capabilities.





The N1 Multi-Level Carpark exemplifies how infrastructure can support sustainable campus ecosystems. It generates over 890,000 kWh of solar energy annually through its rooftop PV system and includes EV charging bays to promote low-carbon transport among students and staff. N1 is also integrated into Monash's Microgrid Energy System, enabling the storage and redistribution of renewable energy across the campus.

Monash University's approach demonstrates how investments in sustainability can elevate institutional reputation, cut long-term costs, and build climate-ready educational environments—a message increasingly relevant to Malaysia's higher education and sustainability agenda.

## REHDA AND GREENRE DELEGATION AFTERNOON TEA WITH LORD MAYOR OF MELBOURNE

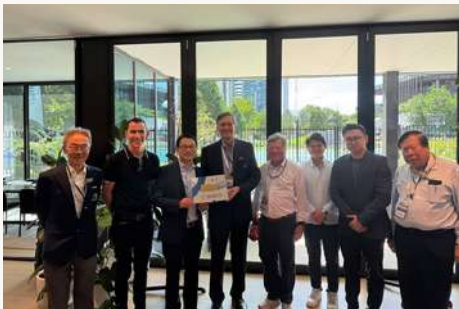


GreenRE was honored to participate in an exclusive Afternoon Tea Session hosted by Lord Mayor Nicholas Reece at Melbourne Town Hall, as part of the REHDA Institute Melbourne Study Tour (10–13 March 2025).

This distinguished gathering provided a valuable platform for Malaysian developers and the Lord Mayor of Melbourne to exchange insights on advancing sustainable urban development, urban resilience, and fostering international collaboration. We extend our sincere appreciation to Lord Mayor Nicholas Reece and team for his gracious hospitality and for facilitating this insightful dialogue, reinforcing our shared commitment to a greener, more sustainable built environment.

## CONCLUSION

The study tour offered valuable exposure to innovative, practical models of sustainable development across a wide range of building types. GreenRE extends its appreciation to REHDA Institute for the opportunity to contribute and learn, and looks forward to applying these insights to further advance green transformation in Malaysia and Southeast Asia.





**G**reenRE remains steadfast in its mission to promote sustainability through professional education and upskilling in the built environment sector. In the first half of 2025, we successfully conducted two intakes of the GreenRE Accredited Professional (AP) Course, bringing together professionals committed to advancing green building practices in Malaysia.

The 39th intake was held from 21 to 23 January 2025 at Wisma REHDA, Kelana Jaya, while the 40th intake took place from 24 to 26 April 2025 at Opero Hotel, Johor Bahru.

## GREENRE AP COURSE NO. 39 (PETALING JAYA/ONLINE)



Across both sessions, we welcomed a total of 66 participants, including professionals from fields such as mechanical and electrical engineering, architecture, quantity surveying, property development, academia, and sustainability consulting. In addition, 20 existing GreenRE Accredited Professionals attended the first day of the Johor Bahru session as part of a Refresher Course.

Participants delved into all key aspects of green building certification—from foundational concepts to best practices and case studies—gaining a comprehensive understanding of GreenRE's certification requirements and tools. The courses also fostered meaningful professional exchange and networking, further strengthening industry capacity.

Participants explored a wide range of topics, including GreenRE rating tools and certification processes, Overall Thermal Transfer Value (OTTV) and Residential Envelope Transmittance Value (RETV), passive design strategies, and the application of natural ventilation. The courses also covered daylighting and artificial lighting design, energy modelling and Computational Fluid Dynamics (CFD), and efficient air-conditioning systems. In line with GreenRE's holistic approach, modules on sustainable construction methods, green materials, water efficiency, rainwater harvesting, Green Plot Ratio (GnPR), and the integration of solar photovoltaic systems for buildings were also included. Led by industry experts from Malaysia and Singapore, both sessions provided engaging, hands-on learning experiences tailored to today's green building challenges.

## GREENRE AP COURSE NO. 40 (JOHOR BAHRU/ONLINE)



The GreenRE AP Course is recognised for Continuing Professional Development (CPD) points by Suruhanjaya Tenaga (ST), the Institution of Engineers Malaysia (IEM), Lembaga Arkitek Malaysia (LAM), Lembaga Penilai, Pentaksir, Ejen Harta Tanah dan Pengurus Harta (LPPEH), the Malaysian Board of Technologists (MBOT), and GreenRE.

With growing demand for sustainable development expertise, the GreenRE AP Course continues to play a pivotal role in equipping professionals with the tools to lead Malaysia's green building transition.





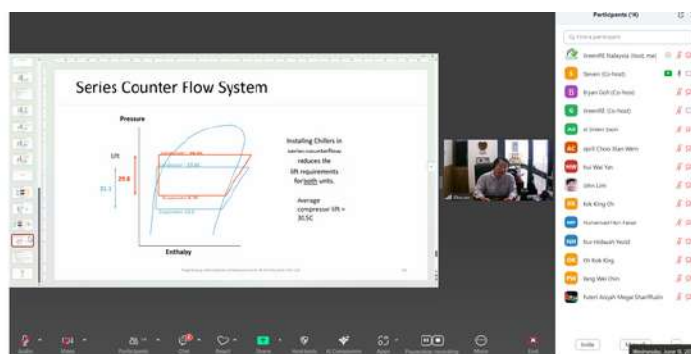
## GREENRE TECHNICAL SEMINAR 01-2025 (GREEN DATA CENTRE) & 03-2025 (EFFICIENT CENTRAL AIR-CONDITIONING DESIGN AND MEASUREMENT & VERIFICATION SYSTEMS)

In addition to our flagship GreenRE Accredited Professional (AP) Course, GreenRE also organised three Technical Seminar sessions in the first half of 2025, aimed at deepening industry expertise in targeted sustainability topics.

The first seminar (01-2025), **"Green Data Centre"**, was held online in February 2025. It introduced participants to the GreenRE New and Existing Data Centre Rating Tools, and provided strategies for optimising, monitoring, and maintaining data centres to achieve peak energy efficiency.

In June 2025, GreenRE held another online session: "Efficient Central Air-Conditioning Design and M&V Systems" (03-2025).

Both technical seminars were conducted by Er. Steven Kang and Ms. Chloe Ng from Measurement & Verification Pte Ltd (Singapore), along with Mr. Bryan Goh, GreenRE's local representative trainer.



## GREEN TECHNICAL SEMINAR 02-2025 (CALCULATING SCOPE 3 EMISSIONS USING GHG PROTOCOL FOR PROPERTY DEVELOPMENT)



In May 2025, GreenRE hosted its first in-person seminar on **"Calculating Scope 3 Emissions Using the GHG Protocol for Property Development"**, held at Wisma REHDA and streamed online. This marked GreenRE's first collaboration with MindShift Consulting, and featured Ir. Gandhi Suppiah, Managing Director of the firm, as the lead trainer. With over 25 years of experience in consulting and contracting, Ir. Gandhi is also a Chartered Engineer, Chair of ICE Malaysia, and Fellow of the Institution of Civil Engineers (UK).

The two-day seminar covered critical topics such as: Climate Change and the Built Environment, GHG Accounting Fundamentals, Scope 3 Categories and Calculation Methods, Data Collection Techniques, Case Studies and Reporting and Emission Reduction Strategies

Designed to be highly interactive, the seminar included breakout discussions and group exercises that encouraged rich dialogue between participants and the trainer—fostering deeper understanding and practical application of the material.



Looking ahead to the second half of the year, GreenRE is planning to conduct three more intakes of the GreenRE AP Course, along with two additional GreenRE Technical Seminars.

Stay tuned for updates and further information on our official website and social media platforms.

Follow us on Facebook, LinkedIn and Instagram to stay updated on upcoming event dates, resources, and industry insights.





# GREENRE TEAM BUILDING 2025: LEARNING FROM NATURE, LEADING WITH PURPOSE

By April Chooi Xian Wern, GreenRE Sdn Bhd

From June 12-15, the GreenRE team traded office chairs for beach towels and site visits for breathtaking views as we embarked on our much-anticipated team building retreat in Langkawi. More than just a break from the office, it was an opportunity to reconnect—with each other, with nature, and with the values that drive our mission in sustainable development.

A key highlight of the trip was a study visit to The Frangipani Langkawi Resort & Spa, hosted by eco-hospitality pioneer, Professor Anthony Wong. The resort's 200+ green initiatives—ranging from natural wastewater filtration to saltwater pools and edible landscaping—offered practical, real-world examples of sustainability in action ([read more at page 15](#)).

We also explored the Kilim Karst Geoforest Park, a UNESCO-recognised ecological gem. Home to ancient limestone formations, thriving mangrove forests, and diverse wildlife, it was a powerful reminder of what's at stake in the fight against climate change. These mangrove systems—critical carbon sinks and biodiversity habitats—mirror the ecosystems we work to safeguard through GreenRE's growing impact across Southeast Asia.

While we each come from different backgrounds, experiences, and physical abilities, this trip reminded us that our strength lies in our diversity—and our ability to work together as one cohesive unit toward a common goal.

Of course, the trip wouldn't be complete without some fun. We took in the island's stunning views from the Langkawi Cable Car, enjoyed a relaxed sunset cruise, fit in a bit of shopping, and stocked up on enough duty-free chocolate to fuel us through the next six months. These shared experiences helped strengthen our bond as a team—reminding us that behind every green milestone are people, relationships, and purpose.

We returned from Langkawi feeling refreshed and recharged, ready to take on the second half of 2025 with even greater clarity and collective drive.





# RETHINKING ECO-TOURISM AT THE FRANGIPANI LANGKAWI RESORT AND SPA

By April Chooi Xian Wern, GreenRE Sdn Bhd

**Y**ou know how some places stay with you, not because of the luxury sheets or the sea view, but because they quietly challenge how you think about the world? That's what happened when we visited The Frangipani Langkawi Resort & Spa. Adjunct Professor Anthony Wong Kim Hooi opened The Frangipani Langkawi Resort & Spa in 2006

with sustainability as its guiding principle. With over 50 years of experience in the tourism industry, he has been a consistent advocate for environmental responsibility in hospitality. As both the owner and Managing Director, Prof. Wong has shaped The Frangipani into a recognised model for eco-conscious tourism. His commitment to sustainable travel earned international recognition when he was invited to speak at the United Nations Rio+20 Earth Summit in 2012—further solidifying his role as a regional leader in the field. Through his work with MATTA, the Asian Ecotourism Network, and various grassroots initiatives, Prof. Wong continues to champion a vision of tourism that works in harmony with the natural world, rather than in opposition to it.



The GreenRE team was privileged to be personally hosted by Prof. Wong for a tour of the resort's environmental initiatives. From the moment he greeted us in his wide-brimmed hat, pointing at a patch of plants and asking, "Do you know what this is good for?"—we knew this wasn't going to be a typical resort tour. His passion for sustainability was evident in every corner of the property—from the landscaping choices to the resort's behind-the-scenes water systems. It was, in every sense, a living case study of what sustainable hospitality can truly look like.

## REAL-WORLD CASE STUDIES FROM MALAYSIAN BUILDINGS

One of the first things you'll notice at Frangipani is the landscape—not just for its beauty, but for its purpose.

Unlike typical ornamental gardens, Frangipani's grounds are designed as an edible landscape. Trees and plants such as neem, tea tree, lemongrass, beach morning glory, mango, and frangipani (of course) are chosen not only for their aesthetic and tropical appeal but also for their ecological function. Neem, for instance, naturally deters pests. Lemongrass offers medicinal value and a distinctive fragrance. Beach morning glory helps prevent coastal erosion—and is even believed to treat jellyfish stings.

Each plant has a role to play, whether it's supporting biodiversity, enhancing guest experience, or reinforcing natural systems. You get the sense that nothing is grown here without thought—and that alone sets a different tone.





Water conservation is a major focus at the resort, and some of its most remarkable innovations are quietly operating out of sight.

The resort has two swimming pools, one of which is a saltwater pool that offers guests a chlorine-free alternative using natural rock salt. But beyond that, it's what's happening with wastewater that really caught our attention.

Frangipani operates a 100% natural wastewater treatment system, where aquatic plants are used to clean both black and grey water through a multi-stage filtering process. The treated water is then reused to irrigate the lush gardens across the property. Adjunct Professor Anthony Wong Kim Hooi developed this remarkable system as part of a broader innovation in bioengineered wetlands—capable of treating even raw sewage and waste cooking oil to drinking water standards within just three to four days, including desalination, and remarkably, all without the use of external energy.

What's more, the resort captures condensation from air conditioning units, repurposing it to water plants—harvesting up to 1,000 litres daily. Meanwhile, solar panels heat water in individual bungalows, further reducing reliance on electricity.

Individually, these may seem like small changes. But collectively, they form a system that's resource-efficient, cost-effective, and deeply aligned with long-term environmental responsibility.

## SUSTAINABILITY BENEATH THE SURFACE



## WHAT MOST TOSS, THIS RESORT TRANSFORMS

One of the most striking things we noticed during our visit was how effortlessly the resort turns waste into something useful—and often beautiful. It's not just about recycling; it's about reimagining the potential of what's already there.

Take the old chlorine buckets, for example. Instead of tossing them out, they've been cleaned up, labelled, and transformed into functional recycling bins that blend right into the resort's natural setting.

Then there are the fallen trees—brought down by storms, but far from discarded. The resort gave them new life as handcrafted wooden tables in the restaurant, each one telling its own story through natural textures and grain patterns.

In the poolside changing facilities, we found walls made from recycled glass bottles. They don't just serve an aesthetic purpose—they allow daylight to filter in while keeping the space private and cool, reducing the need for artificial lighting.

And perhaps most unexpected of all: disused bathtubs repurposed as garden planters. It might sound odd on paper, but in person, it works—and it's a quiet reminder that waste is often just a matter of perspective.

At Frangipani, sustainability isn't treated like a design trend. It's a way of thinking where every repurposed object speaks to a mindset of value creation, even from materials others might see as waste.





## FROM GARDEN TO TABLE—AND BACK TO SOIL



Nestled just behind the beachfront bungalows is a thoughtfully managed organic farm—modest in scale, yet rich in ecological function.

The space is home to chickens, ducks, and stingless bees, all contributing to the resort's integrated approach to food production and waste management. A diverse range of vegetables, fruits, and herbs are cultivated on-site and supplied directly to the resort's restaurant, ensuring freshness while significantly reducing food miles.

Organic waste from both the kitchen and garden is either composted or converted into biochar, which is then used to enrich the soil—completing a regenerative cycle that benefits both the land and the resort's operations.

Beyond its operational benefits, the farm also serves as a platform for environmental education and awareness, offering guests an opportunity to witness sustainable agriculture in practice. It's a rare feature in the hospitality sector—one that demonstrates how circular systems can be meaningfully embedded into resort life.

## ENVIRONMENTAL EDUCATION THROUGH DEMONSTRATION

Throughout the resort, informative signboards and displays highlight Frangipani Langkawi's environmental initiatives, certifications, and longstanding commitment to sustainability. Rather than relying on overt messaging, the resort adopts a subtle yet effective approach—educating guests through lived experience and visible practice.

This approach positions Frangipani as a sustainable hospitality provider, as well as a hub for capacity-building and applied environmental education in the tourism industry.

**Beyond guest engagement, Mr. Anthony Wong and his team have expanded their efforts to include eco-walks, workshops open to the public, educational outreach for school groups, and knowledge-sharing sessions with researchers and professionals in the hospitality sector. The resort has also contributed to the academic community through published studies on its water management systems, reinforcing its role as both a destination and a platform for environmental learning.**

## SUSTAINABILITY THAT'S RECOGNISED, BUT MORE IMPORTANTLY—FELT

The Frangipani Langkawi Resort has earned numerous recognitions, from the ASEAN Green Hotel Award to being listed by CNN as one of Asia's greenest hotels. And those accolades are well-deserved.

Still, what lingers isn't the titles or trophies—it's the feeling of walking through a space that's not pretending to be green, but truly is. You notice the absence of plastic, the thoughtful use of upcycled materials, the presence of wildlife that haven't been driven away by overdevelopment. It's peaceful indeed, yet every detail is intentional.



### FINAL REFLECTIONS

For our team, visiting The Frangipani Langkawi Resort & Spa was more than just a pleasant detour during a team-building retreat, it was a refreshing reminder of what thoughtful design, environmental responsibility, and long-term thinking can look like when done well

Prof. Wong's leadership exemplifies how sustainability goes beyond just ticking boxes or installing solar panels—it's about reimagining systems, behaviours, and values at every level of operation. If more resorts—and businesses—took even half the steps Frangipani has, the impact on our communities and climate would be profound.

GreenRE extends our sincere appreciation to Prof. Anthony Wong and the entire Frangipani team for their warm hospitality and commitment to knowledge-sharing. The experience deepened our understanding of sustainable tourism and left us encouraged to continue championing meaningful change in our own work. It was a privilege to witness a space where sustainability is lived, not just stated—and we look forward to future opportunities for collaboration and learning.







# TAR UMT ARENA

By Ts. Dr. Tan Sie Ting and Aqilah Azlan, Green Quarter Sdn Bhd.



# TAR UMT Arena: A New Benchmark in Green Campus Development



**TAR UMT**  
TUNKU ABDUL RAHMAN  
UNIVERSITY OF  
MANAGEMENT AND TECHNOLOGY

Established in 1969, Tunku Abdul Rahman University of Management and Technology (TARUMT) has long been recognised for academic excellence and a strong excellence and a strong commitment to holistic student development. With its main campus in Setapak, Kuala Lumpur, TARUMT continues to shape Malaysia's educational landscape—this time by leading the way in sustainable campus design.

## A Building with Purpose

At the heart of TARUMT's latest development is a clear vision: to create a vibrant, inclusive, and forward-looking space that supports both student growth and entrepreneurial activity. **TAR UMT Arena**, a six-storey facility currently under construction, is designed as a hub for student engagement, campus life, and industry collaboration. More than just a new building, it reflects the university's evolving mission—to equip students not only academically, but also through experiences that foster innovation, leadership, and environmental responsibility. The centre integrates sustainable design at every level, setting a strong example for future campus developments across the country.

## Green-Certified Innovation

The building's commitment to sustainability is evident in its dual GreenRE-MyCREST Platinum certification, making it the first project in Malaysia to be recognised under the joint certification scheme. The achievement was marked by a formal presentation by Deputy Prime Minister Dato' Seri Haji Fadillah bin Haji Yusof, highlighting the national significance of the project.

With a total gross floor area of 67,653 m<sup>2</sup>, the centre is slated for completion in the first half of 2025.



## A Campus-Centred, Climate-Responsive Design

Rooted in tropical architectural principles, the building's form and layout maximise natural ventilation and daylight. A central atrium connects all floors visually and thermally, bringing light and airflow into the heart of the building. Open corridors, perimeter planting, and naturally ventilated areas help reduce reliance on artificial cooling and lighting.

The design minimises heat gain through a combination of **North-South orientation**, **12mm tempered heat-soaked glazing**, and external shading on the main façades. With a **window-to-wall ratio of just 0.31**, the building achieves an **Overall Thermal Transfer Value (OTTV) of 39.75 W/m<sup>2</sup>**—a 23% improvement over national benchmarks.

A large overhanging roof canopy provides additional shade and houses **344 kWp of solar PV panels**, which are estimated to offset **6.7% of the building's total energy consumption**.

## Supporting Student Life and Innovation

The TAR UMT Arena is designed to bring together a wide range of academic, recreational, and collaborative functions under one roof. Facilities include multipurpose halls, student activity rooms, dance studios, a gymnasium, and a large auditorium.



One of its standout features is a **FIFA-certified full-size football field, complete with an 8-lane, 400-meter running track, covered viewing grandstand, and multi-purpose indoor sports courts**—all designed to promote health, teamwork, and community.



Circulation spaces promote hands-on innovation and collaboration between students and SMEs



FIFA-certified full-size football field and running track at the TAR UMT Arena

Complementing the student zones is a dedicated SME space that includes administrative offices, co-working areas, a pitching hall, exhibition space, and meeting rooms. The aim is to create a dynamic ecosystem that connects academic learning with industry engagement, helping students develop practical skills and entrepreneurial thinking.

## Energy and Water Efficiency



Façade openings allow natural daylight to penetrate deep into the building, reducing reliance on artificial lighting

The building is equipped with a high-performance Air Conditioning and Mechanical Ventilation (ACMV) system that combines Constant Volume Air Handling Units (AHUs) and Fan Coil Units (FCUs). It operates at **0.612 kW/ton**, surpassing the GreenRE Platinum benchmark of 0.65 kW/ton. Its air distribution system improves energy efficiency by 39%, reflecting careful engineering and system design.

Interior lighting incorporates **LED technology, zoned controls, and photocell sensors**, resulting in a **59% reduction** from standard lighting energy usage. These strategies ensure that energy is used only where and when it's needed.

A **Building Management System (BMS)** monitors and controls ACMV, lighting, and small power systems in real-time, improving operational efficiency and indoor comfort. The project achieves a **Building Energy Intensity (BEI) of 93.61 kWh/m<sup>2</sup>/year**, outperforming the GreenRE Platinum benchmark by 6.4%.

For water conservation, the building will use high-efficiency water fixtures that **reduce potable water usage by 27%**, and a rainwater harvesting system supports irrigation for planted areas.

## Sustainable Landscaping and Materials

Green landscaping surrounds the building, with tropical, low-water-use plants such as Bougainvillea, Pandan, Yellow Iris, and Mexican Petunia. These species thrive in Malaysia's climate while reducing irrigation needs. Hardscape areas use materials with a high Solar Reflective Index, helping lower surrounding temperatures. Efforts to reduce embodied carbon include using **20% green cement**, which cuts emissions by 40–80% compared to conventional mixes. The **Concrete Usage Index (CUI) is 0.34 m<sup>3</sup>/m<sup>2</sup>**, reflecting material efficiency in structural design.

In total, the building is estimated to produce 4,046.79 tonnes of CO<sub>2</sub> annually from energy use, with an additional 22.10 tonnes from water consumption. When accounting for construction materials like steel, brick, and concrete, the total carbon footprint reaches 27,788.34 tonnes—highlighting the importance of holistic carbon reduction strategies.



Installation of 344 kWp solar PV on the roof of the futsal and grandstand area, covering 1,874 m<sup>2</sup>





## PROJECT INFORMATION

### LOCATION

Setapak, Kuala Lumpur

### GROSS FLOOR AREA

67,653 m<sup>2</sup>

### STORIES

Six-storey Building

- **ESD CONSULTANT**  
Green Quarter Sdn. Bhd.
- **ARCHITECT**  
DRTAN LM Architect
- **M&E ENGINEER**  
KWA Consult Sdn. Bhd.
- **STRUCTURAL ENGINEER**  
Perunding ZKR Sdn. Bhd.
- **LANDSCAPE CONSULTANT**  
Aminuddin Badawi Landscape Consultant

## Sustainability in Practice

Green Quarter Sdn. Bhd. played a pivotal role in bringing the project's sustainability ambitions to life. Their involvement in this project reflects and aligns with their statement of purpose which is to create environment that enhances lives. This is by integrating green infrastructure, promoting energy efficiency and advocating low-carbon design in this project. In addition to guiding the certification process, they worked hands-on with the project team to translate green design principles into practical solutions that worked within real site constraints and timelines. Their technical input shaped key decisions—such as passive design strategies, energy modelling, and materials selection—that directly influenced the building's impressive energy performance and low-carbon footprint.

By embedding sustainability into both the design intent and execution, Green Quarter helped elevate the project from a conventional campus development to a national benchmark in green building for education. Their ability to bridge high-level goals with on-the-ground implementation ensured that the centre's environmental credentials were not just aspirational, but deeply integrated into its architecture and operations.

## Closing Thoughts

The TAR UMT Arena represents a meaningful step forward for sustainable campus infrastructure in Malaysia. By combining thoughtful design, measurable performance, and a clear purpose, it offers a model for how educational institutions can support both student development and climate responsibility.

As a national first in dual certification under GreenRE and MyCREST, this project demonstrates what's possible when environmental goals and educational values work hand-in-hand.



# DESIGNING WITH PURPOSE: GAMUDA LAND'S GREEN COMMITMENT THE CANOPY ON NORMANBY (MELBOURNE)

By Gamuda (Australia) Pty Ltd







**A**t Gamuda Land, we believe creating places that truly matter begins with respecting nature, the environment and the communities we serve. From thoughtfully designed townships to city-shaping developments, our commitment to sustainability guides everything we do. **The Canopy on Normanby** reflects this philosophy. Located in South Melbourne, it is a landmark residential address that embraces future-ready, sustainable living. In February 2025, The Canopy was awarded the **GreenRE Gold certification** in recognition of its exceptional environmental performance, making it the first development in Melbourne to receive this certification.

Set on a **2,609 square metre site**, the project draws inspiration from the treetop canopy of the new 3,000 square metre park being delivered next door on Johnson Street. Designed as a low-carbon community that prioritises health, livability and lifestyle, The Canopy integrates sustainable and biophilic features throughout and is targeting both a 5 Star Green Star rating and an average 8.3-star under the NatHERS scheme.



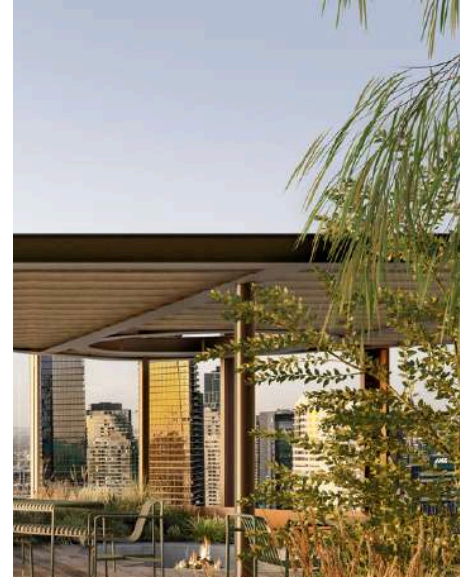
### Energy Efficiency Designed for a Carbon-Free Future

Water conservation is a core part of The Canopy's sustainable design. All plumbing fixtures meet the Australian Water Efficiency Labelling and Standards benchmark and deliver at least a 45 percent reduction in potable water use.

A 70 cubic metre rainwater tank captures runoff for use in landscape irrigation, toilet flushing and cleaning of common areas. The irrigation system is equipped with smart sensors and automatic shut-off controls to prevent overwatering during rainfall. In support of a long-term circular water strategy, each apartment is also pre-plumbed for future connection to a recycled water supply – reinforcing the building's commitment to sustainable water management.

### Minimising Impact Maximising Green

The Canopy demonstrates a strong commitment in reducing environmental impact not just through its design but also via its construction practices and long-term urban integration. With a low concrete usage index of 0.355, the building significantly reduces embodied carbon emissions and contributes to a more sustainable built environment. Its Green Plot Ratio (GPR) of 4.5 reflects an abundance of greenery throughout the site, including the meticulous selection of dense, mature trees that enhance urban biodiversity and reduce urban heat island effects.



Sustainability is embedded in the construction of The Canopy, led by main contractor Crema, known for their implementation of green construction practices and involvement in multiple Green Star-rated projects. The implementation of a comprehensive waste and recycling program further minimises landfill contribution throughout construction and operation. Exemplary performance in construction waste diversion is achieved as 90% of construction and demolition waste is targeted to be diverted from landfill.



### Sustainable Mobility and a Walkable Life

This South Melbourne address benefits from a location that supports low-emission transport and active lifestyles, with a bus stop located directly at the entrance, and an on-site e-mobility hub offering shared electric vehicles, bikes, and scooters. In addition, EV chargers are installed for 5% of all parking spaces, with infrastructure in place to support expansion to 25% of parking spaces.

Future residents of The Canopy also reap the benefits of being in a walkable community – the well-established South Melbourne neighbourhood, where restaurants, supermarkets, pharmacies, schools, post office and other basic amenities are all within pedestrian reach. All in all, The Canopy promotes low-impact commuting options, reduces dependency on private vehicles and stronger connection to community amenities.





## Healthier Indoor Living

The Canopy's care extends to its residents' health and comfort through thoughtful acoustic and material design. A local acoustic specialist was engaged to design for superior ambient internal noise level, providing residents with a peaceful and acoustically comfortable living environment, an essential for urban dwellers.

In addition, The Canopy features careful selection of sustainable and environmentally friendly materials throughout. Low volatile organic compound (VOC) paints, low environmental impact roof insulation, eco-conscious laminates and sealants are all used to support better indoor air quality and overall wellbeing of residents. These choices not only reduce environmental impact but also create healthier, more comfortable homes for long-term living.

## Prepared for a Resilient Future

The Canopy demonstrates a deep commitment to long-term environmental stewardship and social sustainability through proactive planning, inclusive design, and responsible construction. A local ecology specialist consultant was engaged in the development and implementation of a Long-Term Biodiversity Management Plan, ensuring the protection and enhancement of local ecosystems beyond the construction phase.

To future-proof the development, a Climate Change Risk and Adaptation Assessment was prepared in accordance with the IPCC Fifth Assessment Report Representative Concentration Pathway (RCP) 8.5 scenario, addressing the potential climate vulnerabilities and informing resilient design strategies. Additionally, a Community Resilience Plan was prepared to identify and mitigate the development's potential shocks and stresses on the surrounding community, fostering cohesion and adaptability.

On-site, Crema adopted health-conscious construction practices that prioritise both physical and mental wellbeing of workers. Beyond standard accessibility design requirements, The Canopy incorporates inclusive features that specifically support the Person with Disabilities (PWD) and elderly demographic, promoting dignity, safety, and independence of all users of the space. 🌱

The Canopy on Normanby reflects Gamuda Land's commitment to creating sustainable places that are not only better for the planet but better for people. Through thoughtful design, responsible construction, and future-ready infrastructure, it forms part of our broader mission to pave the way forward for more sustainable developments across our portfolio.



For more information on The Canopy on Normanby, do visit [gamudaland.com.my/developments/township/the-canopy-on-normanby](https://gamudaland.com.my/developments/township/the-canopy-on-normanby)



# Building a Greener Future: IBEW Expert Series 2025

According to the World Green Building Council's Bringing Embodied Carbon Upfront report, the building and construction industry is responsible for up to 39% of global carbon emissions. As sustainability becomes increasingly critical, the built environment is pivotal to reducing our carbon footprint.



**3 - 5 September 2025**  
Marina Bay Sands, Singapore

An anchor exhibition of IBEW



**3 - 5 September 2025**  
Marina Bay Sands, Singapore

## Join the Conversation at IBEW Expert Series 2025

Step into the forefront of sustainable transformation at the International Built Environment Week (IBEW) Expert Series 2025. This premier event gathers top industry leaders, innovators, and decision-makers to explore practical approaches, share expert insights, and unveil breakthroughs that are shaping a sustainable future.

### Sessions on Sustainability

- BCA's Mandatory Energy Improvement (MEI) Regime
- "Scope 1–3" emissions calculations in construction
- Green Mark 2026 Broad Concept
- Success Stories from the Green Building Innovation Cluster
- Exploring Novel Materials for a Carbon Friendly Built Environment
- The Future Sustainable Data Centres

## Stay Ahead of the Curve at BEX Asia

Discover cutting-edge solutions and breakthrough technologies at the anchor exhibition of IBEW, BEX Asia. Explore market-ready innovations—from energy efficiency management systems to smart building solutions to robotics, AI, VR, and mixed reality applications. Be at the forefront of sustainable construction with advances in decarbonising concrete and other eco-friendly materials.

Elevate your projects and drive sustainable growth. Join us and transform the future of the built environment.



**Get your Early Bird tickets now at [www.ibew.sg](http://www.ibew.sg)**

IBEW is spearheaded by BCA International, a wholly owned subsidiary of the Building and Construction Authority, in partnership with RX Singapore.



# REVOLUTIONIZING DATA CENTER SUSTAINABILITY WITH IMMERSION LIQUID COOLING



-Bryan Goh -Chloe Ng -John Lim

Measurement & Verification Sdn Bhd

**A**s digitalization accelerates, data centers are consuming more energy than ever. Conventional air- and chiller-based cooling systems are increasingly unable to keep up with the thermal demands of modern high-density computing. Enter **Immersion Liquid Cooling (ILC)**—a cutting-edge technology that not only meets the thermal challenges of today's data centers but does so with remarkable efficiency, scalability, and environmental benefits.



## WHAT IS IMMERSION LIQUID COOLING?

Immersion Liquid Cooling involves submerging servers directly into a non-conductive coolant. Unlike traditional air or chilled-water systems, ILC eliminates the need for fans, CRAC units, and raised floor infrastructure. Heat generated by servers is transferred directly to the fluid, which is then circulated to a dry coil heat exchanger to dissipate the heat outdoors.

## UNMATCHED ENERGY EFFICIENCY AND REDUCED PUE

One of the most compelling benefits of ILC is its dramatic impact on energy efficiency:

- **Up to 95% reduction** in cooling energy consumption
- Achievable **PUE of <1.05**, compared to the industry average of 1.65
- **Cooling system Coefficient of Performance (COP) of 70**, compared to 5 for conventional systems

This results in a **total energy reduction of up to 51%** for the entire data center—a game changer for both

## CAPEX AND OPEX SAVINGS

ILC systems significantly reduce capital and operational expenditures:

- **80% CapEx savings** on cooling infrastructure
- **Virtually zero maintenance** over a typical 5-year server lifecycle
- Smaller physical footprint enables higher server density and future scalability

## CLIMATE IMPACT AND SUSTAINABILITY

Environmental sustainability is a core advantage:

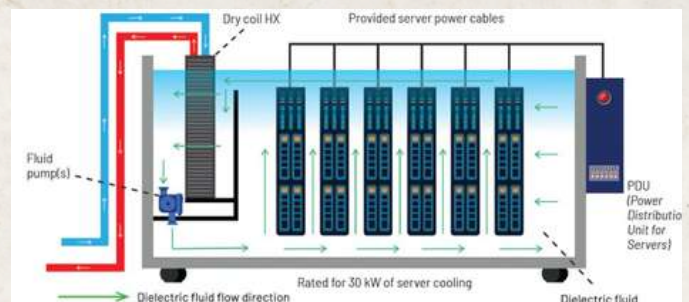
- **80% reduction in carbon emissions**
- Elimination of harmful refrigerants (no ozone-depleting substances)
- No consumables like filters or chilled water chemicals
- Lower ambient noise (<51 dB[A]) and no hot aisles, improving worker safety

Every deployment of ILC can translate into thousands of tonnes of CO<sub>2</sub> savings. For example, saving **5,000 tonnes** of CO<sub>2</sub> is equivalent to taking **1,000 cars off the road annually**.

## A FUTURE-PROOF SOLUTION

ILC systems are designed to support current and next-gen high-density CPUs and GPUs. They are compatible with leading OEM servers and can be modularly expanded to support hyperscale deployments of over 20 MW. A complete ILC system typically includes all essential components for seamless operation and integration. This comprises server power cables, Power Distribution Units (PDUs), dry coil heat exchangers, and fluid pumps. Each tank is rated to support up to 30 kW of server cooling capacity, ensuring efficient thermal management for high-density computing environments.

Combined with outdoor heat rejection units, a fully integrated ILC system delivers turnkey cooling for the most demanding environments—ensuring long-term reliability, regulatory compliance, and environmental stewardship. 🌱



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- Baltimore Aircoil Company. (2023). Sustainable Cooling Solutions for Data Centers. Retrieved from <https://www.baltimoreaircoil.com>

## ATTRIBUTION

- Prepared by Measurement & Verification Pte Ltd / Measurement & Verification Sdn Bhd
- Information abstracted from Baltimore Aircoil Company.





Ts. Syida Nazri | Head of  
Department of Airscan  
Sdn Bhd

## ENHANCING INDOOR AIR QUALITY (IAQ) FOR SUSTAINABLE AND HEALTHY BUILDINGS: LESSONS FROM MALAYSIAN HEALTHCARE AND INSTITUTIONAL CASE STUDIES

### The Invisible Threat: Why Indoor Air Quality is Key to True Sustainability

**W**e spend a staggering 90% of our lives indoors—often unaware that the air we breathe in our homes, offices, and schools may be silently compromising our health.

Globally, indoor air pollution is a serious concern, linked to an alarming one in nine deaths worldwide. In Malaysia, the issue is becoming increasingly urgent, particularly in environments such as healthcare facilities and educational institutions, where our most vulnerable populations spend much of their time.

As an assessor for both Indoor Air Quality (IAQ) and Green Building certifications, and having been involved in the Ministry of Health's sustainability program since its pioneering days in 2016, I have witnessed a critical disconnect firsthand. While green building efforts rightly emphasize areas such as energy efficiency, waste management, water conservation, and carbon reduction, the vital aspect of occupant health—specifically IAQ—is often overlooked. After all, what is the point of achieving a net-zero energy building if the people inside are exposed to hazardous pollutants?

In my work, I have assessed over 1,000 IAQ sampling points, and the results are sobering: fewer than 10% met satisfactory IAQ standards. This reality has deepened my commitment to advocating for the integration of IAQ as a central pillar in the sustainability and green building agenda. Prioritizing healthier and more comfortable indoor environments delivers a dual benefit: it safeguards occupant well-being and significantly enhances productivity. This directly supports the core goals of sustainability and green building—creating spaces that are not only environmentally sound but also human-centric and economically viable.

This article, grounded in real-world Malaysian case studies, will examine common IAQ challenges across various building types and present proven, practical solutions that fulfill both regulatory requirements and broader sustainability benchmarks.



Figure 3. Sustainable Framework for Government Hospital  
(Rahman, N.M.A.2019 )

### Malaysian Regulations: The Foundation for IAQ Management

**M**alaysia has a robust legal framework governing Indoor Air Quality (IAQ). The Occupational Safety and Health Act 1994 (Act 514) mandates that employers provide a safe and healthy working environment, which includes maintaining acceptable indoor air conditions. This is further supported by the Industry Code of Practice on Indoor Air Quality (ICOP 2010), which outlines clear standards for key IAQ parameters.

Both the Act and the Code are applicable to all enclosed spaces served by mechanical ventilation and air-conditioning (MVAC) systems where people are working—this includes office buildings, ships, offshore platforms, and other similar workplaces.

Table: ICOP 2010 Acceptable Ranges for Key IAQ Parameters

Parameter	Acceptable Range
Temperature	23–26°C
Relative Humidity (RH)	40–70%
Air Movement (AM)	0.15–0.5 m/s
Carbon Dioxide (CO <sub>2</sub> )	≤ 1000 ppm
Total Volatile Organic Compound (TVOC)	≤ 3 ppm
Carbon Monoxide (CO)	≤ 10 ppm
Formaldehyde (HCHO)	≤ 0.01 ppm
Total Fungal Count	≤ 1000 cfu/m <sup>3</sup>
Total Bacteria Count	≤ 500 cfu/m <sup>3</sup>

Each regulated parameter presents a distinct risk mechanism that can adversely affect human health, and exposure is often a daily reality for many occupants.

Despite the existence of these regulations, field assessments frequently reveal significant non-compliance, particularly in critical environments like healthcare facilities. These deviations can result in widespread health issues such as Sick Building Syndrome (SBS)—a condition characterized by persistent symptoms like headaches, fatigue, and eye irritation that improve upon leaving the building. In more serious cases, Building-Related Illnesses (BRI) may occur, involving clinically diagnosed diseases linked directly to building-related exposures. Prolonged exposure to indoor air pollutants may even lead to chronic illnesses and cancer, earning indoor air pollution its grim nickname: the silent killer.



# REAL-WORLD CASE STUDIES FROM MALAYSIAN BUILDINGS

From my experience assessing various Malaysian facilities, IAQ challenges are recurring, but targeted interventions can make a significant difference. It is important to recognise that every building is unique, and the sources of indoor air pollutants are highly variable. This makes comprehensive and systematic assessments essential to accurately diagnose issues and implement long-term, effective solutions.

This article, drawing from real-world Malaysian case studies, will highlight common IAQ issues across building types and present proven strategies that align with both regulatory standards and broader sustainability goals.

## Case 1: Fungal Contamination and Decontamination Success

One of the most alarming and consistent issues I have encountered is fungal growth, which is particularly problematic in Malaysia and other tropical countries. With high ambient relative humidity (RH) and year-round hot, humid weather, fungi thrive on building surfaces. This reinforces the importance of a well-designed MVAC system, specifically engineered to dehumidify indoor air effectively. Without this, the risk of fungal outbreaks—and the associated health and structural consequences—remains high.



Figure 1: Fungal Issues Found During IAQ Assessment

Fungal growth was a pervasive issue in many of the locations I assessed, including neurosurgery rooms, anaesthetic clinics, and public health units. Initial Colony-Forming Unit (CFU) counts often far exceeded the acceptable limit of 1,000 CFU/m<sup>3</sup>, as outlined in the Industry Code of Practice on Indoor Air Quality (ICOP 2010). These issues were frequently linked to persistently high humidity levels and poor air circulation.

Table: Fungal Decontamination Effectiveness

Location	Fungal Count Before (CFU)	Fungal Count After (CFU)	Percentage of Effectiveness
Neurosurgery Room	5000	NG (<10)	100%
Klinik Anestetik	160,000	20	99.99%
SOPD	240,000	60	99.95%

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Crucially, I have observed that most buildings affected by surface fungal contamination do not follow proper decontamination protocols. In many cases, the response is limited to repainting the affected areas with antifungal paint—an approach that merely conceals the problem rather than resolving it. Fungi are incredibly resilient and difficult to eradicate, and superficial solutions often result in recurrence.

To effectively manage fungal outbreaks, it is essential to implement comprehensive decontamination procedures, such as those developed by the Ministry of Health (MOH). These protocols are designed to eliminate the root cause of fungal growth, not just its symptoms—ensuring a lasting, health-protective solution for building occupants.

Baseline risk	Operational risk
<ul style="list-style-type: none"> <li>Continuous dehumidification: dew point not more 15°C</li> <li>Filtration of PM2.5</li> <li>Service access opening for ACMV component</li> <li>Installation of ACMV equipment control</li> <li>Clean, dry, well drained cooling coil</li> <li>Room by room AC system</li> </ul>	<ul style="list-style-type: none"> <li>Keeping air dry and surfaces warm</li> <li>Educate staff</li> <li>Measuring dew point over time 15°C</li> <li>Measuring moisture content on cool surface</li> <li>Monitoring Temperature and RH</li> <li>Taking action when early fungus growth</li> </ul>

Table 1: Difference between baseline and operational risk by guidance of fungal avoidance by Ministry of Health (MOH) Malaysia, 2017

The proper fungal decontamination process begins with scraping and removing all visible fungal growth from affected surfaces. This is followed by a thorough decontamination procedure using antifungal chemicals, including both fogging and surface disinfection. Only after the area is fully decontaminated should the surface be treated with antifungal paint or nano-coating to help prevent recurrence. These steps, as outlined in the MOH protocols, are critical in ensuring a complete and lasting solution, rather than merely masking the problem.



Figure 2: Steps of fungal decontamination procedure





## ENGINEERING CONTROLS AND IAQ STRATEGIES FOR SUSTAINABILITY IN MALAYSIA

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### Conclusion: IAQ as an Integral Part of Green, Healthy Buildings

Sustainable development is fundamentally incomplete without robust Indoor Air Quality (IAQ) management. The Malaysian healthcare and institutional case studies discussed here clearly demonstrate IAQ improvements are not only vital for occupant well-being and productivity—they are also essential for meeting national green building standards such as MyCREST and GreenRE.

Proactive IAQ management—through continuous monitoring, diligent HVAC maintenance, and the strategic application of engineering controls—is key to creating resilient, healthy, and future-ready indoor environments.

**Remember, IAQ is a silent killer, and we are exposed to it every single day.** Prioritizing clean, healthy air is not merely good practice—it is a public health imperative and a cornerstone of truly sustainable living.

**Thank you for reading, and stay tuned for our next article where we will delve deeper into the specific harmful mechanisms of these indoor pollutants! If you have concerns about the air quality in your building, please feel free to reach out. 🌱**

- Effectively managing Indoor Air Quality (IAQ) in Malaysia requires adherence to the Department of Occupational Safety and Health (DOSH)'s Hierarchy of Controls, which emphasizes the most effective interventions for improving indoor environments:
- Source Control: Prevent pollutants at their origin. This includes selecting low-emission building materials, such as formaldehyde-free furniture and low-VOC paints, ideally opting for green-certified products.
- Ventilation Enhancement: Make sure your building's air conditioning (MVAC) system delivers sufficient fresh outdoor air. Regularly check, maintain and calibrate these systems to ensure proper airflow, including the use of CO<sub>2</sub> monitors to dynamically control ventilation rates—optimizing both air quality and energy efficiency.
- Air Cleaning Technologies: Use advanced air cleaners in high-risk or high-occupancy zones. This includes HEPA filters for particles, UVC lights within ductwork to neutralise microbes, and plasma ionisers to reduce airborne contaminants. These technologies offer an extra layer of protection, particularly in healthcare and education facilities..
- Fungal Prevention: Develop a long term plan to control humidity and moisture from the design stage through ongoing maintenance. Good building design and effective HVAC systems are essential to control indoor humidity. In healthcare facilities, dew point temperatures should be maintained below 15°C to effectively inhibit mold growth.
- Filtration Maintenance: Regularly inspect and replace HVAC filters (preferably rated MERV 7 or higher). Additionally, steam cleaning of cooling coils helps prevent microbial build-up and restores system efficiency.

Together, these are essential engineering controls that must be part of a comprehensive IAQ management plan.



# DESIGNING FOR WHAT MATTERS

## HOW INTEGRATED SIMULATIONS DRIVE SUSTAINABLE HOTEL PERFORMANCE IN MALAYSIA

### Introduction: Defining Sustainable Hospitality Through Simulation

**S**ustainable hospitality is not just an ethical aspiration; it is a technological challenge. According to the United Nations World Tourism Organization (UNWTO), sustainable tourism requires managing hotels and resorts in ways that serve both guests and local communities, while safeguarding the future<sup>13</sup>. This includes reducing resource consumption, protecting the local environment, supporting economic development, and ensuring safe, high-quality visitor experiences<sup>14</sup>.

In today's competitive and fast-evolving hospitality sector, especially in regions like Malaysia, delivering on these goals demands more than compliance checklists or green marketing. It requires better buildings, designed through advanced simulation technologies that allow owners and developers to predict, measure, and optimise building performance from the outset.

At **NEAPOLI**, we approach sustainability as a technical and financial opportunity. Through energy modelling, daylighting analysis, wind and thermal comfort studies, and indoor air quality simulations, we help hospitality projects meet their design intent, not only in terms of energy use and carbon emissions, but in occupant comfort, safety, and long-term operational efficiency.

From Desaru Coast in Johor and TRX in Kuala Lumpur to projects across Greece, Saudi Arabia, and the UAE, we've seen firsthand how simulation-led design elevates a hotel from merely certified to truly high-performing, lowering operating costs, enhancing guest satisfaction, and maximising long-term asset value.



### The Competitive Advantage: Beyond Compliance

In Malaysia's competitive hospitality market, simulation-driven sustainable design provides clear advantages:

- **Market Differentiation:** 87% of travellers want sustainable options, with 66% willing to pay at least 5% more for environmentally responsible hotels<sup>7</sup>. In Asia-Pacific specifically, 65% of travellers feel better about staying at accommodations with sustainability certification<sup>2</sup>
- **Corporate Preference:** Major corporations increasingly mandate sustainability certifications for their travel programs, with Singapore, a key source market for **Malaysian hotels**, leading this trend<sup>2</sup>
- **Operational Excellence:** Reduced utility costs directly improve GOP margins, with certified hotels achieving 30-50% lower operating costs<sup>3 4</sup>
- **Risk Mitigation:** Future-proofing against energy price volatility and regulatory changes, particularly important as Malaysia strengthens its green building requirements
- **Brand Value:** Enhanced reputation leading to improved online review scores and guest loyalty, with studies showing certified hotels achieve higher customer retention rates<sup>9</sup>

### The Business Case: Why Green Hotels Win in Malaysia

The financial benefits of sustainable hotel design are compelling. Cornell University research shows that certified-sustainable hotels command room rates approximately 5-6% higher than non-certified competitors without compromising occupancy<sup>1</sup>. In the Asia-Pacific region, corporate travel and MICE clients increasingly favour certified-sustainable hotels, with many multinationals requiring third-party verified sustainability accreditation in RFPs<sup>2</sup>. Hotels without internationally recognised green certification risk exclusion from lucrative corporate travel programs and operators.

Most sustainable design investments see returns within 3-7 years<sup>5</sup>, with the International Finance Corporation reporting that new green hotels often achieve payback in less than one year through utility savings alone<sup>5</sup>.

### Operational savings are equally impressive. Certified green hotels typically achieve:

- 20-50% reduction in energy consumption
- 30-60% reduction in water usage
- Annual utility savings often exceeding USD 100,000

### Specific examples demonstrate these returns:

- Westin Resort, Desaru saves ~40% in utilities<sup>3</sup>
- TRX Hotel, Kuala Lumpur saves ~30% in utilities
- Hard Rock in Desaru saves ~35% in utilities
- Hilton Worldwide saved over USD 1 billion cumulatively (2008-2018) through efficiency initiatives<sup>10</sup>



## Integrated Simulation as the Foundation

True sustainability must be measurable and verifiable. Rigorous simulation tools can be used to quantify and optimize key environmental and operational outcomes, ensuring projects meet Malaysian national and international certification standards while maximising return on investment.

### Energy Performance Modelling (EnergyPlus)

In Malaysia's tropical climate, where cooling loads often account for 50–60% of a hotel's total energy consumption, precision matters. Energy simulation should not be treated merely as a proof-of-concept exercise or a formality for certification submission, but rather as a strategic design tool.

By integrating EnergyPlus-based simulations early in the design process, project teams are able to:

- Test and compare multiple ACMV system configurations
- Evaluate façade options and envelope performance
- Analyse the impact of different operational schedules and control strategies
- Quantify energy-saving measures in terms of capital cost, lifecycle savings, and ROI

Real hotel operating conditions are simulated, accounting for variable occupancy, guest behaviour, thermal zoning, kitchen and laundry loads, and system part-load performance. This allows developers and design teams to make data-driven decisions, prioritising strategies that maximise energy efficiency without compromising comfort.

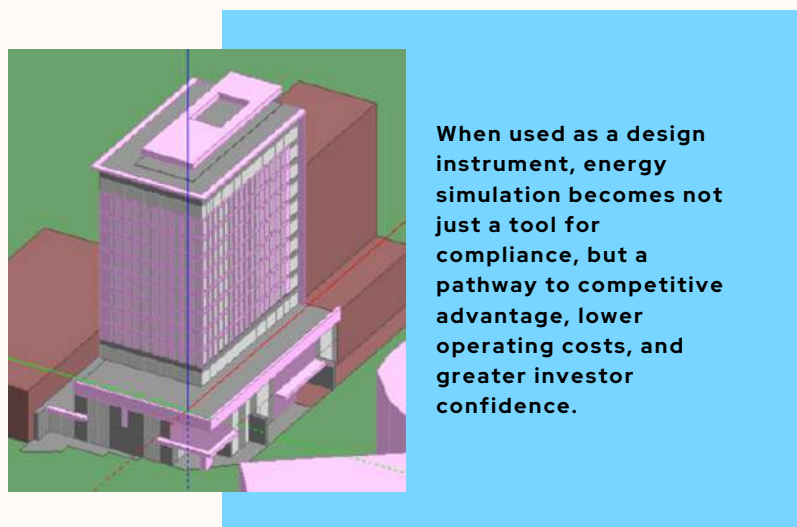


Figure 1. Example of a 3D Energy Simulation Model using DesignBuilder and EnergyPLUS

### Daylight Optimisation: Beyond Illuminance

Malaysian hotels face the paradox of abundant sunlight, a valuable resource that can also cause glare and overheating. Daylight simulations using Radiance software analyse not just light levels but also:

- Glare probability indices for guest comfort
- Solar heat gain coefficients affecting cooling loads
- Circadian lighting impacts on guest well-being

*Impact: Hotels implementing our daylight strategies report 40% reduction in artificial lighting energy and significantly higher guest satisfaction scores for room comfort.*

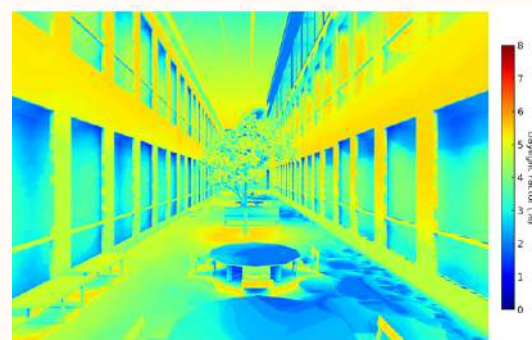


Figure 2. Simulated Daylight Factor (%) – Atrium Space

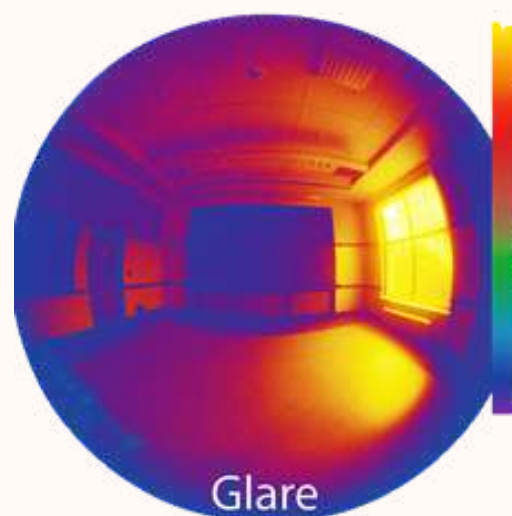


Figure 3. Fisheye visualisation of daylight glare potential using false-colour luminance distribution ( $\text{cd/m}^2$ )

### Thermal Comfort Beyond Air Temperature (UTCI)

The Universal Thermal Climate Index provides crucial insights for tropical hospitality design. By incorporating humidity, air movement, and radiant temperature effects, UTCI simulations revolutionize outdoor and semi-outdoor space design, critical for Malaysian hotels where these spaces define the guest experience.

#### Measurable Results at a Resort in Malaysia:

- 5°C reduction in perceived temperature in outdoor dining areas
- 60% increase in usable hours for poolside and terrace spaces
- Enhanced guest satisfaction ratings for outdoor amenities



### ***Designing Smarter Ventilation for Tropical Conditions***

Despite Malaysia's humid climate, strategic ventilation design can significantly reduce energy use, especially when informed by Computational Fluid Dynamics (CFD) simulations. CFD can be used not only to explore opportunities for hybrid or natural ventilation, but also to optimise the performance of active mechanical systems under real-world operating conditions.

CFD Simulations can:

- Assess air distribution efficiency in large-volume spaces like lobbies and atria
- Improve thermal comfort in corridors, transitional zones, and lift lobbies
- Identify opportunities for hybrid operation during early morning or evening hours
- Simulate pressure zones and control unwanted air leakage or re-entrainment

Critically, CFD is also a powerful tool for validating and enhancing the performance of advanced ACMV strategies, including:

- Displacement ventilation, where proper diffuser placement and airflow stratification are essential
- Active Chilled Beam (ACB) systems, which require stable thermal layering and precise humidity control
- Underfloor air distribution (UFAD) and low-level supply systems, where buoyancy-driven flow needs fine-tuning
- Atrium stack-effect optimisation for passive assistance to mechanical systems



CFD simulations are used to evaluate temperature distribution, airflow patterns, and diffuser performance. This helps optimise systems such as active chilled beams, displacement ventilation, and other low-energy HVAC strategies—improving comfort, preventing overcooling, and enhancing air quality while reducing fan energy use.

In short, CFD transforms ACMV design from rule-of-thumb sizing to performance-verified engineering, making it indispensable in modern tropical hospitality projects.

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### ***Wind-Driven Rain (WDR): Managing Moisture Intrusion in Tropical Hospitality Design***



Figure 4. Wind-Driven Rain Simulation – Penang International Airport Expansion

In tropical climates, wind-driven rain (WDR) presents a major design challenge for hospitality environments, where guest comfort, façade durability, and operational resilience are paramount. Using advanced computational tools, WDR patterns are simulated under site-specific conditions, factoring wind speed, rainfall intensity, and prevailing storm directions.

For resorts and beachfront hotels, WDR analysis enables:

- Optimised canopy and roof overhang design to reduce wind-blown water infiltration
- Improved guest circulation comfort and safety during heavy tropical downpours
- Enhanced façade protection to avoid water streaking, staining, and material degradation
- Reduced maintenance and downtime in high-traffic arrival/drop-off zones

By proactively simulating these rain impacts, developers and operators can achieve weather-resilient design, supporting both guest satisfaction and asset longevity in the tropics.



### Preventing Risks Before They Surface

In hospitality settings, pools are not just amenities, they are high-liability zones. Computational Fluid Dynamics (CFD) plays a critical role not only in ensuring thermal comfort but also in identifying and eliminating hidden safety hazards often overlooked in conventional pool design. CFD simulations of pool circulation help:

- Trapped swimmer zones eliminated near drains and corners
- Improved flow uniformity for better water clarity and disinfection
- Minimised stagnation to prevent hygiene blind spots
- Full compliance with global aquatic safety standards

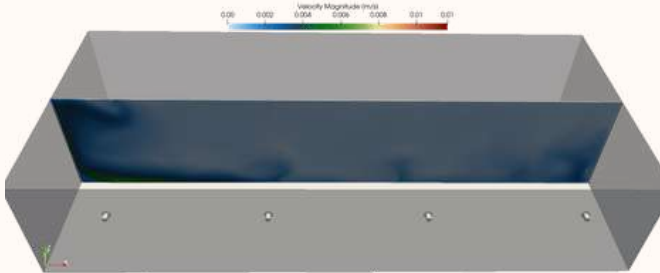


Figure 5: CFD analysis of a pool design in the UAE revealed a hazardous suction loop near return inlets, an issue overlooked in the original layout. This simulation-driven redesign resolved the flaw, mitigating a serious safety risk and protecting both guest well-being and operator liability.

This underscores how simulation contributes not just to sustainability, but to life safety and operational assurance.

### Looking Forward: The Future of Sustainable Hotels in Malaysia

As Malaysia positions itself as a sustainable tourism destination, emerging trends we're implementing include:

- Digital Twins: Real-time simulation models connected to BMS for continuous optimization
- Climate Resilience: Modelling performance under future climate scenarios
- Wellness Integration: Quantifying biophilic design benefits through advanced IEQ metrics
- Net-Zero Pathways: Simulation-based roadmaps to carbon neutrality

### Conclusion: Simulation as Competitive Necessity

The path to truly sustainable hotels in Malaysia requires more than checklist compliance, it demands deep understanding of building performance achievable only through integrated simulation. This approach directly addresses UNWTO's sustainability principles: minimising resource consumption through precise energy-

modelling, protecting environments through optimized design, enhancing visitor experiences through comfort simulations, and ensuring safety through CFD analysis.

When environmental and economic benefits align so clearly, with proven ROIs under 7 years, operational savings in the hundreds of thousands annually, and premium room rates of 5-10%, the question isn't whether to invest in simulation-driven sustainable design, but how quickly it can be implemented.

As the data shows, in today's market, sustainable hotels don't just perform better environmentally; they perform better economically. Through precise measurement, simulation, and ethical design discipline, we deliver hospitality projects that are economically viable, environmentally responsible, and socially beneficial, ensuring hotels can thrive sustainably for generations to come. 🌱

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FEB  
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## SUNWAY ISKANDAR CITY

GreenRE and Sunway Iskandar Sdn Bhd have signed a Memorandum of Collaboration to promote sustainable building practices. The partnership focuses on implementing green strategies in Sunway Iskandar's projects and certifying them under GreenRE's rating system to enhance sustainability and building performance.



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24

## SARAWAK HOUSING AND REAL ESTATE DEVELOPERS' ASSOCIATION (SHEDA)

GreenRE and SHEDA have signed a MoU to advance green building and sustainability efforts in Sarawak. The collaboration focuses on awareness, certification support, training, and advocacy to promote sustainable development across the state.



FEB  
26

## EXAL MALAYSIA SARAWAK

GreenRE and Exal Malaysia have formalised a strategic partnership to drive sustainable property development in Sarawak. Exal Malaysia, the first developer in Sarawak to achieve GreenRE certification, is integrating solar PV systems, EV charging stations, and green building practices into its projects—setting a new benchmark for environmentally responsible housing in the region.



APR  
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## PARAGON GLOBE BERHAD

GreenRE has signed a Memorandum of Understanding (MoU) with Paragon Globe Berhad (PGB) to strengthen sustainability practices in Malaysia's built environment. The collaboration focuses on promoting green building principles, improving energy efficiency, and reducing carbon emissions in future developments.







## SABAH HOUSING AND REAL ESTATE DEVELOPERS' ASSOCIATION (SHARED A)

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This collaboration underscores our shared commitment to empowering Sabah's property sector with green building solutions tailored to local needs. Key initiatives include awareness and education platforms for sustainable development, technical guidance and discounted certification fees for SHARED A members, as well as, customized support to drive energy efficiency, reduce carbon footprints, and enhance livability.

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## DORMS CENTRAL LIVING SDN BHD

GreenRE and DORMS Central Living Sdn Bhd formalised an MoU to advance sustainable, climate-responsive workers' accommodations across Malaysia. The Subang Jaya facility features smart metering and a resident app to promote energy-conscious living. Its design also supports comfort and privacy for semi-professional shift workers.



## BEAM SOCIETY LIMITED

JUNE  
26

GreenRE and BEAM Society Limited (BSL) formalised an MoU to strengthen regional collaboration in advancing sustainable development. The partnership focuses on knowledge sharing, joint training, and cross-adoption of green innovations between Malaysia and Hong Kong.





# GREEN LEASE PARTNERSHIP:

## PAVING THE WAY FOR SUSTAINABLE RETAIL IN MALAYSIA

# A COLLABORATION BETWEEN GREENRE AND 1 UTAMA SHOPPING CENTRE

NUR MARYAM ISMAIL, GREENRE

**K**uala Lumpur, Malaysia – In a significant stride towards environmental stewardship and sustainable development, GreenRE, Malaysia's leading Green Building Certification Body, has joined forces with 1 Utama Shopping Centre to launch the pioneering Green Lease Partnership programme. This collaboration marks a pivotal moment for the retail industry, fostering a sustainable mall ecosystem for future generations and aligning with Malaysia's ambitious goals of reducing its carbon footprint by 45% by 2030 and achieving net-zero carbon by 2050.

### 1 Utama's Green Lease: A Partnership for Progress

The 1 Utama Green Lease is an innovative partnership that integrates sustainable practices and eco-friendly solutions throughout the mall's retail spaces. This initiative encourages landlord-tenant synergistic efforts, empowering mall-wide retailers to actively work towards achieving the prestigious GreenRE Retail Certification and gain recognition as "Sustainability-Certified Retailers". It's all about building a collective commitment to Environmental, Social, and Governance (ESG) aspirations.

### 1 Utama: A Platinum-Rated Pioneer

Leading by example, 1 Utama Shopping Centre has achieved the highest accolade in green building—the GreenRE Platinum Certification in 2023. This commendable achievement makes 1 Utama the first Platinum-rated mall in Malaysia. This commitment is evident in 1 Utama's array of green features, including:

- The distinction of being the 1st Green Mall in Malaysia.
- The first mall to implement an ice and chilled water storage system.
- Availability of EV charging stations and a Green Transport Hub.
- A Waste Management System (W.I.S.E. with Food).
- The interactive "ForestONE" mobile tree planting game.
- Utilization of Solar PV & BIPV panels and rainwater harvesting.
- A dedicated 1RECYCLING CENTRE.
- Green attractions such as The Secret Garden, Rainforest, Central Park, and Arboretum.



## BENEFITS FOR SUSTAINABILITY-CERTIFIED RETAILERS

Participation in the 1 Utama Green Lease program offers a multitude of benefits for retailers:

- **Achieve GreenRE Retail Certification:** Participating tenants are awarded at least a GreenRE Bronze Certification upon meeting fast-tracked compliance requirements, with encouragement to pursue higher ratings.
- **Long-Term Lower Operating Costs:** GreenRE certified retail stores consume less energy and water, directly leading to reduced utility bills.
- **Reduced Carbon Footprint:** By adopting sustainable practices and using recycled materials, retailers can significantly reduce waste and greenhouse gas emissions.
- **Improved Brand Reputation:** Becoming a sustainability-certified retailer positions your brand as a leader in environmental responsibility, enhancing its appeal to an increasingly eco-conscious consumer base.
- **Tax Incentives:** Certified building owners and potentially tenants may be eligible for tax incentives and investment tax allowances from the Federal Government.





## BUILDING CAPACITY: THE GREENRE BRIEFING SESSIONS

A cornerstone of this partnership is the proactive engagement with retailers through dedicated GreenRE Certification Briefing sessions. Recently held at the 1 Utama Centre Management Office (CMO), these interactive sessions GreenRE assessors providing invaluable insights and practical guidance to participating tenants.

During these briefings, retailers gained a comprehensive understanding of:

- The GreenRE Retail Certification process: From initial registration to final certification, ensuring clarity every step of the way.
- Incorporating sustainable practices within retail outlets: Practical tips and best practices for energy efficiency, water conservation, waste management, and the use of eco-friendly materials were shared, empowering tenants to green their operations effectively.
- Maximizing the benefits of certification: Highlighting how sustainable operations can lead to lower long-term costs, enhanced brand reputation, and eligibility for potential tax incentives.

These briefing sessions underscore 1 Utama's commitment to not just encouraging, but actively enabling its tenants to embark on their sustainability journey. By providing direct access to GreenRE experts, 1 Utama ensures that its retailers are well-equipped with the knowledge and tools needed to achieve their sustainability goals and contribute to a greener retail landscape.

## 1 UTAMA TENANT CONVENTION 2025: DIGITALIZING RETAIL & CELEBRATING 30 YEARS OF EXCELLENCE

GreenRE was honored to participate as the Green Leasing Partner at the 1 Utama Tenant Convention 2024, themed "Digitalizing Retail: Tech, AI, and Beyond". Held on 19 March 2025 at PJPAC, 1 Utama, this year's convention was even more special as 1 Utama celebrates its remarkable 30-year journey as a retail powerhouse. From pioneering sustainability to embracing digital transformation, 1 Utama continues to redefine the retail experience.

Key discussions focused on AI-driven retail, digitalization strategies, and sustainability in commercial spaces. As businesses navigate the evolving landscape, integrating technology and green solutions is key to driving efficiency, enhancing customer experiences, and ensuring long-term success.

As sustainability takes centre stage in the retail sector, GreenRE is driving the conversation on green leasing, and through our partnership with One Utama, we aim to empower tenants and landlords with the tools to adopt environmentally responsible leasing practices, reducing carbon footprints and operational costs while enhancing long-term value.





# UPCOMING EVENT

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United Kingdom



**Keren Liu**  
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# GREENRE TECHNICAL & TRAINING PANEL MEETING HIGHLIGHTS – H1 2025

The GreenRE Technical and Training Panels serve as key platforms for expert input, policy alignment, and continuous improvement of GreenRE's certification tools and capacity-building initiatives.

## Technical Panel Meetings – 14 February & 23 May 2025

Held twice in the first half of the year, the Technical Panel brought together professionals from engineering, architecture, and academia to review and strengthen the technical direction of GreenRE's frameworks. Key topics discussed included:



- Initiated the development of specialized assessment tools tailored for the Existing Hotel and Wellness sectors, focusing on sector-relevant sustainability metrics and operational benchmarks.
- Reviewed and proposed updates across the tool framework, with emphasis on the standardization of the Building Energy Intensity (BEI) methodology to ensure consistency in energy performance evaluation.
- A comprehensive technical review of the current Indoor Air Quality (IAQ) pre-requisite requirements was conducted. A revised framework was proposed to introduce conditional relaxation as a prerequisite, accompanied by a discussion on the corresponding point scoring mechanism within the assessment tool.
- Discussed the interpretation and eligibility criteria for non-residential shop lots, including refinements to the point scoring mechanism to better reflect diverse occupancy and usage profiles.
- Feedback on the GreenRE Energy Certificate (EC) for existing buildings.
- Proposed the standardization of Measurement & Verification guideline, including detailed requirements for data collection, reporting intervals, and acceptable verification methodologies to enhance credibility and comparability.

## TRAINING PANEL MEETING – 23 MAY 2025



The Training Panel meeting focused on enhancing outreach, professional development, and the standardisation of GreenRE training materials. Highlights included:

- Proposed updates to the GreenRE Accredited Professional (GreenRE AP) syllabus
- Review of industry training demand trends and professional development pathways
- Expansion of the GreenRE Online Learning Platform
- Upcoming plans CPD-accredited workshops

The panel also provided input on content alignment with new policy directions and green financing frameworks to ensure training remains relevant and impactful.



***Both panels continue to play an essential role in supporting GreenRE's growth and credibility. Their input is key to ensuring GreenRE's tools and training evolve in step with Malaysia's green transition and ESG goals.***



## UPDATE ON INDOOR ENVIRONMENTAL QUALITY PRE-REQUISITE REQUIREMENT FOR GREENRE CERTIFICATION

### ▶ UPDATE TO PREREQUISITE REQUIREMENT: FROM IAQ AUDIT TO IMPLEMENTATION OF AN IAQ MANAGEMENT PLAN

#### Indoor Air Quality (IAQ) Management Plan

A formal IAQ management plan must be established and implemented to ensure a healthy indoor environment for all occupants. The policy should outline procedures for maintaining acceptable indoor air quality, including ventilation, pollutant source control, and regular maintenance of HVAC systems. The policy should contain at least the following:

#### ▶ **Ventilation Management**

Ensure adequate ventilation rates in accordance with recognised standards (e.g., ASHRAE 62.1 or relevant local equivalents) to effectively dilute indoor pollutants and maintain a consistent supply of fresh air.

#### ▶ **Pollutant Source Control**

Identify and minimise sources of indoor air contaminants such as volatile organic compounds (VOCs), particulate matter, and biological pollutants. This includes specifying the use of low-emission materials and ensuring proper storage of chemicals and cleaning agents.

#### ▶ **HVAC System Maintenance**

Establish a routine schedule for inspection and maintenance of HVAC systems to ensure optimal performance, cleanliness, and efficiency. This includes regular filter replacement, cleaning of air ducts, and general servicing of mechanical ventilation systems.

#### ▶ **Monitoring and Response**

Implement procedures for periodic IAQ monitoring and establish a clear response protocol for occupant complaints or incidents related to poor indoor air quality.

#### ▶ **Occupant Awareness**

Promote awareness among building occupants through education and engagement. Encourage practices that support IAQ, such as cleanliness, prompt reporting of issues, and understanding the impact of everyday activities on indoor air conditions.

## SCOPE OF APPLICATION

This amended pre-requisite applied to ENRB, EIND, HC and Renewal of GreenRE certification. The interpretation of this requirement applied to IAQ management related credits across GreenRE's portfolio of tools.

## POINTS SCORING

Points scoring will remain as per current rating tools (i.e 1 point for IAQ Management Plan and 4 points for comprehensive IAQ audit)



## DATE OF IMPLEMENTATION

The revised Indoor Air Quality (IAQ) requirements shall be implemented 1st July 2025 and applied to all ongoing (optional) and upcoming projects.

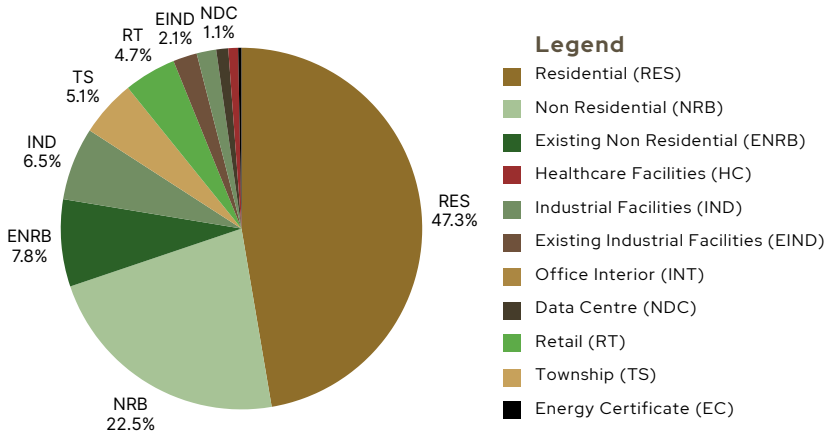
## MULTI-PHASE PROJECT ASSESSMENT REQUIREMENTS

- ▶ Applicable to **New Development Projects Only**.
- ▶ All phases of the project must be assessed under the same GreenRE tool category (e.g., Residential, Non-Residential, Industrial).
- ▶ Project phases must be completed more than one (1) year apart from each other.
- ▶ One (1) Actual Assessment (AA) submission with multiple Site Verification Assessment (SVA) submissions. (depending on number of phases)
- ▶ Complete design documentation for all phases must be submitted during the AA stage. Partial or phase-specific documentation will not be accepted.
- ▶ Each phase will be treated individually for the purpose of point scoring and pre-requisite compliance.
- ▶ Credit sharing for common areas (e.g., shared infrastructure, amenities) will be subject to the discretion of the appointed assessor, based on supporting documentation and project context.
- ▶ A Pre-Assessment (PA) is compulsory and must be conducted prior to AA submission to:
  - Confirm project phasing strategy
  - Validate documentation readiness
  - Identify and confirm shared credits for common areas



## Project Registered

As of June 2025

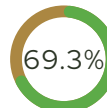


### Legend

- 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)
- Energy Certificate (EC)

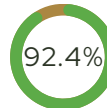
## Project Certified

618 out of 1027 projects registered are certified as of June 2025



### Certified Buildings

35,863,098 sqm out of 51,766,965.79 sqm of buildings are certified as of June 2025

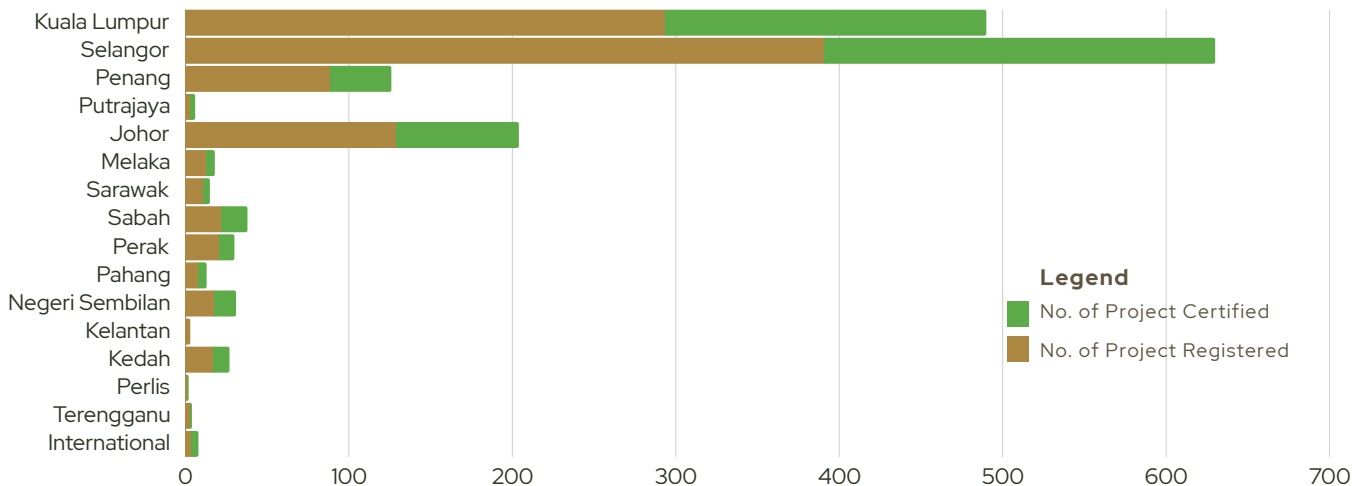


### Certified Township

18,417.88 acres out of 19,935.18 acres of townships are certified as of June 2025

## Project Distribution

As of June 2025

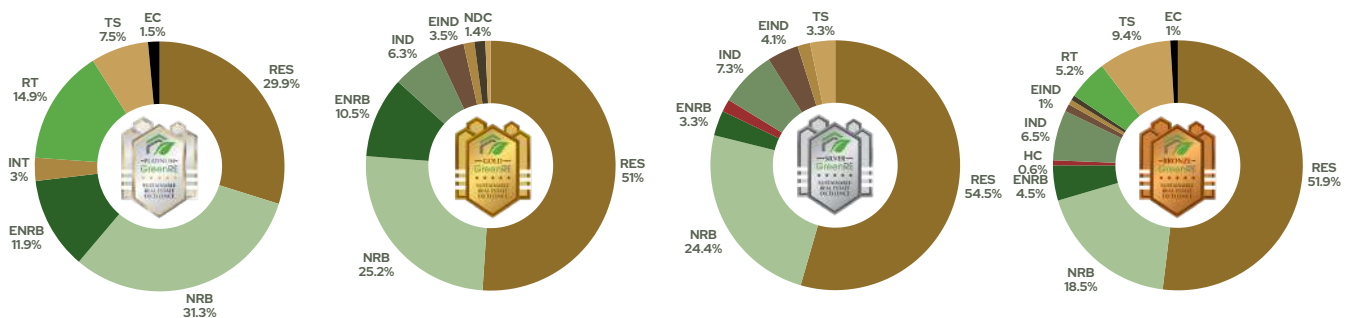


### Legend

- No. of Project Certified
- No. of Project Registered

## Projects Certified by Rating

As of June 2025



### 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)



# PLATINUM

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
AEC Malaysia Office	Allied Environmental Consultants Malaysia Sdn Bhd	INT v1.1	Actual	18/2/2025
Sunway College Campus – North & South Building	Sunway REIT Management Sdn Bhd	ENRB v3.2	Actual	2/7/2025
Sunway Velocity Two Office Tower	Sunway Velocity Two Sdn Bhd	NRB v3.0	Actual	10/7/2025
Thompson Prestige	HDA Development Sdn Bhd	RES v3.3	Provisional	14/2/2025
Aria	Eupe Corporation Berhad	NRB v3.2	Provisional	27/5/2025
The Kews	Kews Senibong Sdn Bhd	RES v3.2	Provisional	30/5/2025
5 Bungalow	Persada Mentari Sdn Bhd	RES v3.3	Provisional	4/6/2025
City of Elmina – Phase 1	Sime Darby Property Bhd	TS v1.0	Provisional	11/6/2025
City of Elmina – Phase 2	Sime Darby Property Bhd	TS v1.0	Provisional	11/6/2025
City of Elmina – Phase 3	Sime Darby Property Bhd	TS v1.0	Provisional	11/6/2025

# GOLD

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
D'Block Warehouse	M/S Syarikat Petikemas Sdn Bhd	IND v1.1	Actual	14/2/2025
D'Machan Warehouse	M/S Syarikat Petikemas Sdn Bhd	IND v1.1	Actual	4/3/2025
UMW Equipment Division Serendah Campus (Factories)	UMW Development Sdn Bhd	EIND v1.0	Actual	8/5/2025
Impiana Hotel Senai	KCC Hotel (Senai) Sdn Bhd	ENRB v3.3	Actual	16/5/2025
Sunway Velocity Two (Serviced Apartment Tower A & B)	Sunway Velocity Two Sdn Bhd	RES v3.0	Actual	27/5/2025
Branniganz Suites @ Bukit Bintang	Lembaran Beruntung Sdn Bhd	RES v3.3	Provisional	22/1/2025
L16- L 38 Tower B @ Duo Tower	Dynasty Portfolio Sdn Bhd	NRB v3.2	Provisional	24/1/2025
GF, L3 – L15 Tower B @ Duo Tower	Full Marks Property Sdn Bhd	NRB v3.2	Provisional	24/1/2025
SJCC East Phase 1	Sime Darby Property (Subang) Sdn Bhd	RES v3.2	Provisional	24/1/2025
Dawn KKLCC	Dawn Land Sdn Bhd	RES v3.3	Provisional	27/1/2025
Sheraton Hotel	SKS Premium Sdn Bhd	NRB v3.2	Provisional	17/2/2025
The Canopy Normanby	Gamuda (Australia) Pty Ltd	RES v3.3	Provisional	6/3/2025
Bukit Kayu Hitam ICD	Bukit Kayu Hitam ICD Sdn Bhd	IND v1.1	Provisional	12/3/2025
The Aldenz	Mightyprop Sdn Bhd	RES v3.3	Provisional	14/3/2025
Hanaz Suites @ KI City Centre	Sunrise Charm Sdn Bhd	RES v3.3	Provisional	22/4/2025
Lighwater Residences	Jaringan Simfoni Sdn Bhd	RES v3.0	Provisional	20/5/2025
Equalbase Sunway 103 Warehouse 3	Equalbase Sunway 103 Sdn Bhd	IND v1.1	Provisional	27/5/2025
Equalbase Sunway 103 Warehouse 3 1 2	Equalbase Sunway 103 Sdn Bhd	IND v1.1	Provisional	27/5/2025
Sunway Bayu	Sunway City (Ipoh) Sdn Bhd	RES v3.2	Provisional	10/6/2025
Enlace Suite	Amona Development Sdn Bhd	RES v3.3	Provisional	10/6/2025
Infinaxis Data Centre	Infinaxis Data Centre Sdn Bhd	NDC v1.0	Provisional	11/6/2025
Austin 3G	Austin Senibong Development Sdn Bhd	RES v3.3	Provisional	24/6/2025



# SILVER

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
JFTech New Building	JF Microtechnology Sdn Bhd	IND v1.0	Actual	27/1/2025
Valencia Residence	Aman Setia Group Sdn Bhd	RES v3.0	Actual	6/3/2025
IJM Bayouri Sales Gallery	Chen Yu Land Sdn Bhd	NRB v3.2	Actual	7/4/2025
FMC Warehouse	Goldcoin Starhill Sdn Bhd	EIND v1.1	Actual	15/4/2025
ISP Harvest Warehouse	Goldcoin Harvest Sdn Bhd	EIND v1.1	Actual	5/5/2025
Unisem Gopeng Campus	Unisem (M) Berhad	IND v1.0	Actual	29/5/2025
Majlis Perbandaran Penampang	Majlis Daerah Penampang	ENRB v3.3	Actual	19/6/2025
NCT Innosphere (NIS) - Phase 1	Bumi Binaria Sdn Bhd	TS v2.0	Provisional	14/2/2025
NCT Innosphere (NIS) - Phase 2	Bumi Binaria Sdn Bhd	TS v2.0	Provisional	14/2/2025
TKCA Architects Office	TKCA Architects Sdn Bhd	INT v2.0	Provisional	18/2/2025
Gen Rise	Majestic Land Sdn Bhd	RES v3.3	Provisional	24/2/2025
Tuan Heritag3	TNJ Development Sdn Bhd	RES v3.3	Provisional	6/3/2025
Phase 3A - Residensi Veridian	Perumahan Masteron Sdn Bhd	RES v3.2	Provisional	12/3/2025
Avalon @ Cybersouth	Ecolake Residence Sdn Bhd	RES v3.3	Provisional	12/3/2025
Petron Mambau Northbound, Negeri Sembilan	Petron Malaysia Refining & Marketing Bhd	NRB v3.2	Provisional	13/3/2025
AA Dormitory Worker's Apartment	AA Dormitory (Sg Pinang) Sdn Bhd	NRB v3.2	Provisional	20/3/2025
Sunway Bukit Lenang, Fasa 6	Sunway City (JB) Sdn Bhd	RES v3.3	Provisional	7/4/2025
Papyrus North Kiara (Residensi Papyrus Yakin)	Yakin Land Sdn Bhd	RES v3.1	Provisional	6/5/2025
e.Sentral SmartCity	HCK Bestari Sdn Bhd	RES v3.3	Provisional	6/5/2025
Gamuda Cove, The Clove (Taman Cengkih)	Gamuda Land (T12) Sdn Bhd	RES v3.3	Provisional	6/5/2025
M Aspira	Mah Sing Proeprties Sdn Bhd	RES v3.3	Provisional	20/5/2025
PT52005 - Shop Offices	Eastern Oriental Express Sdn Bhd	NRB v3.2	Provisional	30/5/2025
M Aurora	Major Land Development Sdn bhd	RES v3.3	Provisional	9/6/2025
Residensi Cove Sentrum	Gamuda Land (T12) Sdn Bhd	RES v3.2	Provisional	23/6/2025

# BRONZE

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
Southpoint Residences	Mid Valley City Southpoint Sdn Bhd	RES v3.3	Actual	28/1/2025
Tropicana Miyu (Residensi Tropicana Harapan)	Tropicana Temokin Sdn Bhd	RES v3.0	Actual	5/2/2025
Degem	Degem Diamond Collection Sdn Bhd	RT v2.0	Actual	10/2/2025
KSKIN Management Sdn Bhd	Vismade Sdn Bhd	RT v2.0	Actual	18/2/2025
Ante Renovation	Fountainscape Sdn Bhd	ENRB v3.3	Actual	4/3/2025
Residensi 121	FDM Development Sdn Bhd	RES v3.0	Actual	13/3/2025
KENS	VSID Concept Sdn Bhd	RT v1.0	Actual	13/3/2025
Running Lab	Running Lab	RT v1.2	Actual	13/3/2025
Menara Ambank	AmREIT Managers Sdn Bhd	ENRB v3.3	Actual	13/3/2025
New Store Renovation	Ecco Malaysia Sdn Bhd	RT v2.0	Actual	13/3/2025
Ms Read, One Utama	Ms Read (M) Sdn Bhd	RT v1.0	Actual	13/3/2025
Vincci	Vincci Ladies Specialities Centre Sdn Bhd	RT v1.0	Actual	14/3/2025
Residensi Riana Dutamas 2	368 Segambut Sdn Bhd	RES v3.1	Actual	19/3/2025
Bangunan Ambank Group	Bangunan Ambank Group	ENRB v3.3	Actual	19/3/2025
Sunway Big Box Retail Park	Sunway Marketplace Sdn Bhd	NRB v3.2	Actual	27/3/2028
Love, Bonito	Lovebonito Malaysia Sdn Bhd	rt v1.1	Actual	27/3/2028



# BRONZE

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
Little Palette	Little Ggum Sdn Bhd	RT v2.0	Actual	6/5/2025
NXP Malaysia Technology Hub 1	NXP Malaysia Sdn Bhd	INT v1.0	Actual	8/5/2025
Vivo Executive Apartment Phase 1 @ Plot 21	Aspen Vision City Sdn Bhd	RES v3.2	Actual	30/5/2025
Integrated Oncology Center (Kuala Lumpur) Sdn Bhd	Integrated Oncology Center (Kuala Lumpur) Sdn Bhd	HC v1.0	Actual	5/6/2025
Thung Hing Industrial Trading Sdn Bhd	Thung Hing Industrial Trading Sdn Bhd	IND v1.0	Actual	9/6/2025
Dahlia Bukit Puchong	Bukit Hitam Development Sdn Bhd	RES v3.2	Actual	11/6/2025
MOG	MOG Group	RT v1.0	Actual	11/6/2025
Majlis Perbandaran Langkawi	Majlis Perbandaran Langkawi Bandaraya Pelancongan	EC v1.0	Actual	12/6/2025
UMW hvm Park Precinct 2 Guardhouse	UMW Developmment Sdn Bhd	NRB v3.2	Actual	23/6/2025
Gamuda Gardens Park - Phase 1 (Astor)	Gamuda Land (Botanic) Sdn Bhd	RES v3.2	Provisional	13/1/2025
Ascent Park	Far East Nusajaya Sdn Bhd	TS v1.0	Provisional	13/1/2025
Perodua Sales Sdn Bhd	Perodua Sales Sdn Bhd	IND v1.1	Provisional	13/1/2025
IOI Industrial Park @ Banting - Phase 1	Fortune Growers Sdn Bhd	TS v1.0	Provisional	16/1/2025
IOI Industrial Park @ Banting - Phase 2	Fortune Growers Sdn Bhd	TS v1.0	Provisional	16/1/2025
IJM Rimbayu Anthea	Bandar Rimbayu Sdn Bhd	RES v3.2	Provisional	22/1/2025
Quad+	Prominent Estate	NRB v3.2	Provisional	22/1/2025
ION Estuary Park (IEP) Ayer Keroh Country	NCT Green City Sdn Bhd	RES v3.3	Provisional	22/1/2025
Wawasan Industrial Park @ Jalan Lipis	Wawasan Properties Development (M) Sdn Bhd	IND v1.1	Provisional	24/1/2025
Andalan Rumawip Bukit Jalil	BKSP Autoworld Sdn Bhd	RES v3.3	Provisional	28/1/2025
GRIP Kota Puteri - Phase 1	Perbadanan Kemajuan Negeri selangor (PKNS)	TS v1.0	Provisional	5/2/2025
GRIP Kota Puteri - Phase 2	Perbadanan Kemajuan Negeri selangor (PKNS)	TS v1.0	Provisional	5/2/2025
GRIP Kota Puteri - Phase 3	Perbadanan Kemajuan Negeri selangor (PKNS)	TS v1.0	Provisional	5/2/2025
GRIP Kota Puteri - Phase 4	Perbadanan Kemajuan Negeri selangor (PKNS)	TS v1.0	Provisional	5/2/2025
Ayanna Resort Residences	BKSP Autoworld Sdn Bhd	RES v3.3	Provisional	5/2/2025
THI Hardware Trading Sdn Bhd	THI Hardware Trading Sdn Bhd	IND v1.1	Provisional	5/2/2025
Renovation and Fitting Out Works for Bangsar Branch	OCBC Bank (Malaysia) Bhd	INT v1.1	Provisional	5/2/2025
Menara OCBC	OCBC Bank	ENRB v3.3	Provisional	5/2/2025
Ceria & Ceria Square @ Eco Horizon	Eco Horizon Sdn Bhd	RES v3.2	Provisional	14/2/2025
Paragon Gateway	Paragon Premium Sdn Bhd	RES v3.3	Provisional	17/2/2025
Sejati Sentral Sandakan	Sejati Sentral (Sandakan) Sdn Bhd	NRB v3.2	Provisional	17/2/2025
Residensi Setia Alam	Armani KPF2 Development Sdn Bhd	RES v3.3	Provisional	17/2/2025
Residensi Armani Setia 2	Armani KPF2 Development Sdn Bhd	RES v3.3	Provisional	17/2/2025
Sejati Sentral Sandakan (Hotel)	Sejati Sentral (Sandakan) Sdn Bhd	NRB v3.2	Provisional	17/2/2025
Exal Phase 2	Exal (Malaysia) Sdn Bhd	ENRB v3.3	Provisional	18/2/2025
PSSB Kota Kinabalu 3S (Service Centre)	Perodua Sales Sdn Bhd	IND v1.1	Provisional	18/2/2025
Serai Harmoni Sdn Bhd	Serai Harmoni Sdn Bhd	IND v1.2	Provisional	24/2/2025
Resdensi Ara Puchong (Puchong Horizon)	Bison Holdings Sdn Bhd	RES v3.3	Provisional	24/2/2025
Taman Austin Duta Phase 12A	IJM Properties Sdn Bhd	RES v3.3	Provisional	25/2/2025
Face Bar 1Utama	Face Bar 1Utama Sdn Bhd	RT v1.0	Provisional	4/3/2025
Ikon Residences @ Seremban 2	RB Land Sdn Bhd	RES v3.3	Provisional	6/3/2025



# BRONZE

Project Name & Location	Company	Design Ref	Type of Cert	Date of Cert
D'Templer	OCR Templer Sdn Bhd	RES v3.3	Provisional	6/3/2025
Menara Armani Prestij	Armani Development Sdn Bhd	RES v3.3	Provisional	12/3/2025
Qubaz Suites @ Kuala Terengganu	Exsim Kg (Tiong(Kt) Sdn Bhd	RES v3.3	Provisional	12/3/2025
Tenun @ S2 Heights Aman	Seremban Two Holdings Sdn Bhd	RES v3.3	Provisional	13/3/2025
Nexus @ Seremban 2 Heights	Seremban Two Holdings Sdn Bhd	NRB v3.2	Provisional	20/3/2025
Northern Tech Valley @ BKE	Suling Hill Development Sdn Bhd (Northern TechValley)	IND v1.1	Provisional	20/3/2025
Seiring Block A	NPO Builder Sdn Bhd	RES v3.3	Provisional	21/3/2025
Pavilion Square Corporate Suites	Armani Hartajaya Sdn Bhd	NRB v4.0	Provisional	7/4/2025
Parkland Suites & Avenue Residence	Parkland Avenue Sdn Bhd	RES v3.2	Provisional	16/4/2025
Oakwood Cameron Highlands	Metro Garden Cameron Sdn Bhd	RES v3.3	Provisional	16/4/2025
Sunway Flora 2	Sunway Flora Sdn Bhd	RES v3.3	Provisional	16/4/2025
Pusat Komersian Armani	Armani KPF2 Sdn Bhd	IND v1.1	Provisional	16/4/2025
Northern TechValley @ BKE	Suling Hill Development Sdn Bhd (Northern TechValley)	TS v2.0	Provisional	22/4/2025
Pangsapuri Perkhidmatan Seiras	Paramount Property (PW) Sdn Bhd	RES v3.3	Provisional	5/5/2025
Greenlan Parcel F1-A	MB World Properties Sdn Bhd	RES v3.3	Provisional	5/5/2025
Greenland Parcel F1-A	MB World Properties Sdn Bhd	RES v3.3	Provisional	5/5/2025
SkyAwani Prima	Aspirasi Cekap Sdn. Bhd.	RES v3.3	Provisional	8/5/2025
Suria Hill Phase 4A &4B Type F 184 Units	Shah Alam 2 Sdn Bhd	RES v3.3	Provisional	28/5/2025
Residensi Riana Dutamas 3	368 Segambut Sdn Bhd	Res v3.3	Provisional	30/5/2025
Levane Residences (Phase 3B)	Gamuda Land (Kemuning) Sdn Bhd	RES v3.3	Provisional	4/6/2025
Residensi Khaya	Bayu Mantap Sdn Bhd	RES v3.3	Provisional	4/6/2025
Ambang Suria - Phase 1B	Shah Alam 2 Sdn Bhd	RES v3.3	Provisional	9/6/2025
Residensi Mutiara Tasik	Interpile (M) Sdn Bhd	RES v3.3	Provisional	10/6/2025
Mil Toast House	Set Mil Sdn Bhd	RT v2.0	Provisional	10/6/2025
Taman Lestari Permai (Camellia)	Nature Century Development Sdn Bhd	RES v3.3	Provisional	10/6/2025
Seiring Block C	NPO Builder Sdn Bhd	RES v3.3	Provisional	11/6/2025
Seiring Block B	NPO Builder Sdn Bhd	RES v3.3	Provisional	11/6/2025
Seiring Block D	NPO Builder Sdn Bhd	RES v3.3	Provisional	11/6/2025
The Ria @ KL Sentral	Riveria City Sdn Bhd	RES v3.3	Provisional	11/6/2025
Greenland Parcel F1-B	MB World Properties Sdn Bhd	RES v3.3	Provisional	17/6/2025
Eco Horizon - Commercial Borealis	Eco Horizon Sdn Bhd	NRB v3.2	Provisional	23/6/2025
Solitaire Suites	Solitaire Suites Sdn Bhd	RES v3.3	Provisional	1/7/2025
Pusat Komersial Lumina	BCB Berhad	NRB v3.2	Provisional	10/7/2025



CERTIFICATE NO	NAME	COMPANY
GREENREAP0612	NURUL SYAQINA MAZELAN	VERITAS ARCHITECTS SDN BHD KL, MALAYSIA
GREENREAP0613	EDMUND TAN EE LOON	UNI ENROL SDN. BHD
GREENREAP0614	GOH KOK KUN	G ENERGY INTEGRATED SERVICES SDN BHD
GREENREAP0615	KOAY HAI SIU	MEP ALPHA SOLUTIONS (M) SDN. BHD.
GREENREAP0616	TAN KOK KWAN	B GREEN ASSOCIATES SDN BHD
GREENREAP0617	CHNG CHEE LAM	PERUNDING YULI SDN BHD
GREENREAP0618	LOOK CHUN TAT	WEZMART INTERNATIONAL BERHAD
GREENREAP0619	TOH JUNE LI	JSK ARCHITECTS
GREENREAP0620	AHMAD RIDHWAN BIN AHMAD	VERITAS ARCHITECTS
GREENREAP0621	IR. TS. HAFIZA BINTI MOHD RAZALI	TENAGA NASIONAL BERHAD (TNB)
GREENREAP0622	IR. TS. MOHD FATHI KAMAL MOHD RIDZUAN	REV PERAI SDN. BHD.
GREENREAP0623	NUR SHAHIMAN BIN MAHAMUDIN	IGB PROPERTY MANAGEMENT SDN BHD
GREENREAP0624	LIM CHIA YIEN	TUNKU ABDUL RAHMAN UNIVERSITY OF MANAGEMENT AND TECHNOLOGY, MALAYSIA
GREENREAP0625	YAN HONG LEE	CHINA CONSTRUCTION YANGTZE RIVER (M) SDN. BHD.
GREENREAP0626	UMI NOR FAIZATULAKMA BINTI HARIZ JOSEPH	CYBERVIEW SDN BHD
GREENREAP0627	LIM WEI HONG	O&A CONSULT SDN. BHD.
GREENREAP0628	KAHAR BIN KADU	TENAGA NASIONAL BERHAD (TNB)
GREENREAP0629	MOHD AHNAFRUDIN BIN JALALUDIN	VERITAS ARCHITECTS SDN BHD KL, MALAYSIA
GREENREAP0630	IR. HJ. MOHAMAD ABDUL RAHMAN BIN MUZMAR	TENAGA NASIONAL BERHAD (TNB)
GREENREAP0631	SOON CHU YONG	AVALAND BERHAD
GREENREAP0632	NURUL NADHIRAH BINTI MOHD IKMAL HISHAM	CIMB GROUP
GREENREAP0633	ONG FOO HOWE	VERITAS ARCHITECTS SDN BHD KL, MALAYSIA
GREENREAP0634	NOR NADIA BAN	KPJ RAWANG SPECIALIST HOSPITAL
GREENREAP0635	TIMOTHY PANG TZE CHIN	LSH BEST BUILDERS SDN BHD
GREENREAP0636	NUR ATHIRAH BINTI MOHAMAD RASHID	TNB ENERGY SERVICES SDN. BHD.
GREENREAP0637	MUHAMMAD ZAFRI BIN RUSLI	TNB ENERGY SERVICES SDN. BHD.
GREENREAP0638	SHEE HON MAN	BINASTRA CONSTRUCTION (M) SDN BHD
GREENREAP0639	CHRISTINE CHOW SUET MUN	B GREEN ASSOCIATES SDN BHD
GREENREAP0640	LEE WAI YIN	LEADWAY ENGINEERING SDN BHD
GREENREAP0641	AQILAH NUR ARISYA BINTI AZLAN	GREEN QUARTER SDN BHD
GREENREAP0642	LEONG WEI DONG	GBI INNOVATION SDN BHD
GREENREAP0643	MUHAMMAD AFIF BIN ROZLAN	TENAGA NASIONAL BERHAD (TNB)
GREENREAP0644	LOO YEE MEI	GAMUDA LAND SDN BHD



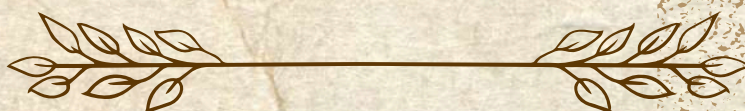
CERTIFICATE NO	NAME	COMPANY
GREENREAP0645	RAJA MOHD ZULHILMI BIN RAJA AZHAR	ARAS STRATEGIC CONSULTANCY PLT
GREENREAP0646	WONG KOK HOE	BINASTRA CONSTRUCTION (M) SDN BHD
GREENREAP0647	OH KOK KING	ASCEND ENGINEERS CONSULTING
GREENREAP0648	NUR SHUHADA BADROL HISHAM	TENAGA NASIONAL BERHAD
GREENREAP0649	NUR IZATILRAHIMA MAT RAHIM	N/A
GREENREAP0650	SHARIFAH NUR AMIRAH SYED MUHAMMAD RADHI	VERITAS ARCHITECTS SDN BHD
GREENREAP0651	LIM LI CHI	LI ARCHITECT
GREENREAP0652	WONG SHIN LING	EVEREST PIONEER SDN BHD
GREENREAP0653	IR. KHAW YAO SHUN	BRIDGE DATA CENTRES MALAYSIA SDN BHD
GREENREAP0654	ZARITH SUFIA BINTI AZLAN	UNIVERSITI MALAYSIA PAHANG AL-SULTAN ABDULLAH
GREENREAP0655	YEONG KOK FOO	KITACON SDN BHD
GREENREAP0656	AR. LEE WOON POO	LEE WOON POO ARCHITECT
GREENREAP0657	ONG PANG WEI	ONG ENGINEERING CONSULTANCY
GREENREAP0658	TS. DR. HJ. MOHAMAD NASRAN BIN NASEHIR KHAN	MAJLIS BANDARAYA SEBERANG PERAI
GREENREAP0659	KHAW KWANGWU	CHLT CONSULTANCY SDN BHD
GREENREAP0660	LEE CHOO YONG	CHLT CONSULTANCY SDN BHD
GREENREAP0661	ONG YEOW CHUNG	BINASTRA BUILDERS SDN BHD
GREENREAP0662	CHOO LAY GUAT	HAN YANG CONSULTANCY SDN BHD
GREENREAP0663	ADLINA HAYANI HAMZAIDI	AIRSCAN SDN. BHD.
GREENREAP0664	IR. CHAN WAH CHEONG	CHLT CONSULTANCY SDN BHD
GREENREAP0665	LIM CHONG HU	CHLT CONSULTANCY SDN BHD
GREENREAP0666	MUHAMMAD TAUFIQ HIDAYAT BIN EMRAN	SUNWAY SOUTHERN MANAGEMENT SDN BHD
GREENREAP0667	EDWARD TEU CHIA HOW	ISKANDAR DEVELOPMENT MANAGEMENT SERVICES SB
GREENREAP0668	HANIF BIN IBRAHIM	G ENERGY INTEGRATED SERVICES SDN BHD
GREENREAP0669	MOHAMMAD SAIFULLAH BIN NORIZAN	BURHAND ENGINEERING SDN BHD
GREENREAP0670	TAN PEI HUI	AME DEVELOPMENT SDN BHD
GREENREAP0671	TINA LU TING CHIH	ARKITEK TAN & TAN SDN BHD
GREENREAP0672	YOUSIF ABDALLA ABAKAR SULIMAN	UNIVERSITY OF NOTTINGHAM MALAYSIA
GREENREAP0673	IR. TS. DR. CHARLES RAYMOND A/L SARIMUTHU	MONASH UNIVERSITY MALAYSIA
GREENREAP0674	NG CHEN KIAT	GRANDEUR ENGINEERING & SOLUTIONS
GREENREAP0675	CYNTHIA CHIN	G ENERGY INTEGRATED SERVICES SDN BHD
GREENREAP0676	JOYCELYN CAROLINA BUNSUAN	SARAWAK INCORPORATED SDN BHD
GREENREAP0677	MUHAMMAD NURHANUDIN BIN BAHARUDIN	KNIGHT FRANK PROPERTY MANAGEMENT SDN BHD
GREENREAP0678	MOHAMAD ZHAIRUL IQUMAL BIN JUMARI	ISKANDAR DEVELOPMENT MANAGEMENT SERVICES SB
GREENREAP0679	CHIA GIN JIAH	EXSIM DEVELOPMENT SDN BHD
GREENREAP0680	HEW KEAN HOONG	BINASTRA BUILDERS SDN BHD



CERTIFICATE NO	NAME	COMPANY
GREENREAP0681	TS. MUHAMAD FIKRI BIN FAISAL	KNIGHT FRANK PROPERTY MANAGEMENT SDN BHD
GREENREAP0682	CHIN WEE KIN	AME DEVELOPMENT SDN BHD
GREENREAP0683	ZULAIKHA BINTI ZULBAHARI	S P SETIA BERHAD
GREENREAP0684	WONG JUN HOU	BINASTRA BUILDERS SDN BHD
GREENREAP0685	NAREN REDZUAN BIN ANWAR NAGARAJA	OMEGATECH GROUP
GREENREAP0686	MOHD BURHANUDDIN MOHAMAD	BURHAND ENGINEERING SDN BHD
GREENREAP0687	FATIN MOHAMAD MUHIDDIN	GAMUDA LAND
GREENREAP0688	TEY MING REN	LI-ZAINAL SDN BHD
GREENREAP0689	NUR SABRINA AQILAH BINTI ZAINOR DIN	ESD GREENTECH SDN BHD
GREENREAP0690	MUHAMMAD FARIS BIN NORDIN	SUNWAY MARKETPLACE SDN BHD
GREENREAP0691	MOHD SANI BIN SHAHROM	SUNWAY SUSTAINABILITY SOLUTIONS SDN BHD
GREENREAP0692	MOHD SYAZRIL AMRI BIN MOHD BAKRI	SUNWAY PROPERTY SDN BHD
GREENREAP0693	HAFIZZUL HAZZIM SHAH BIN JELANI	SEDIABENA BUILDERS SDN BHD
GREENREAP0694	TEH HWEE CHOO	SUNWAY SOUTHERN MANAGEMENT SDN BHD
GREENREAP0695	DIAN KHAIRUNNISA BINTI MUHAMMAD AMIN	SUNWAY PROPERTY

# CONGRATULATIONS

## GREENRE AP MEMBERS



## WELCOME ON BOARD



## CALENDAR OF EVENTS

## JAN

21-23 GreenRE Accredited Professional's Course No. 39 (Petaling Jaya/Online)

## FEB

18-19 GreenRE Technical Seminar 01-2025 on Green Data Centre

22 GreenREAPC No. 39 - Assessment Day (Petaling Jaya)

## MAR

23 GRE Technical Panel Meeting (2025-01) (Wisma REHDA)

## APR

15-17 GreenRE Accredited Professional's Course No. 40 (Johor Bahru/Online)

## MAY

15 GreenRE Advisory Panel Meeting

16 GreenRE Accredited Professional's Course No. 40 (Johor Bahru/Online)

20-21 GreenRE Technical Seminar 02-2025

23 Training & Technical Panel Meeting

## JUNE

18-19 GreenRE Technical Seminar 03-2025 on ACMV

## JULY

15-17 GreenRE Accredited Professional's Course No. 41 (Petaling Jaya/Online)

## AUG

05 GreenRE Refresher Course 2025

15 GreenRE APC41 - Assessment Day (Petaling Jaya)

19 5th International Green Build Conference, IGBC 2025

20 IGBC 2025 Green Tour

## SEP

23-25 GreenRE Accredited Professional's Course No. 42 (Penang/Online)

## OCT

08 GreenRE Technical Seminar 04-2025

11 GreenRE APC42 - Assessment Day (Penang)

14 GreenRE Refresher Course 2025

## NOV

14 Sustainable Design Awards (SDA) 2025 in conjunction with REHDA Annual Dinner

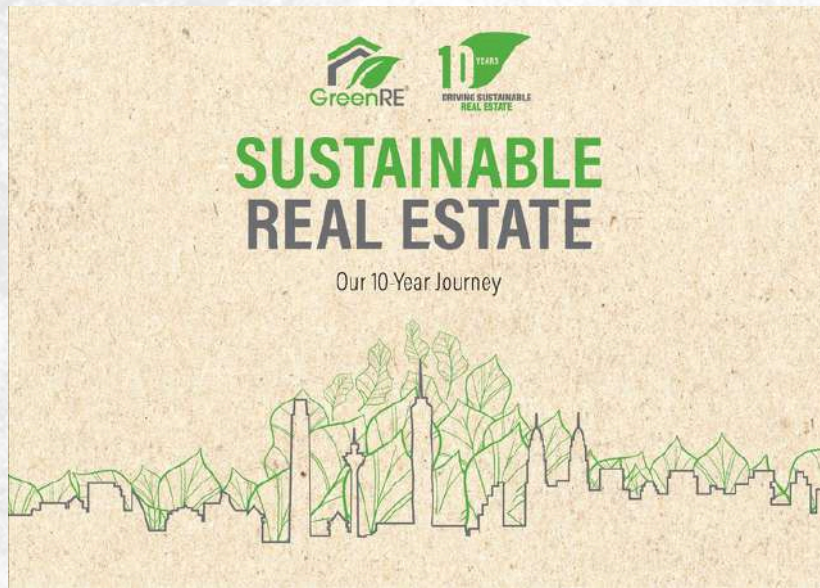
4-6 GreenRE Accredited Professional's Course No. 43 (Petaling Jaya/Online)

18 GRESB Regional Highlights (Malaysia) In collaboration with GreenRE & Zerin Habitat

## DEC

05 GreenRE APC43 - Assessment Day (Petaling Jaya)





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