The Green Building Index: Malaysia’s International Green Benchmark

What is a green building?
A green building is an environmentally sustainable building that in its design, construction and operation, reduces the overall impact of the built environment on its surroundings. Green buildings focus on improving the efficiency of the use of resources such as energy, water and material while reducing the impact on human health and the environment throughout its lifecycle. This can be achieved through better siting, design, construction, operation, maintenance and removal.

Why Green Building?
By design, they save energy and resources, reduce waste and minimise emissions of toxic substances.

- They use resources efficiently, have significant operational savings and increase workplace productivity.
- They are in harmony with the local climate and surrounding environment.
- They improve our quality of life whilst sustaining the capacity of the ecosystem at local and global levels.
- They show that a company or organisation is well run, responsible and committed to the future.

What is the Green Building Index?
The Green Building Index (GBI) is Malaysia’s Green Rating Tool for buildings and towns, created to promote sustainability in the built environment and raise awareness of environmental issues among developers, architects, engineers, planners, designers, contractors and the general public, so that we can look forward to a brighter and greener future.

The GBI Rating Tool provides the opportunity for developers and building owners to design and construct green, sustainable buildings that can provide energy and water savings, a healthier indoor environment, better connectivity to public transport and the adoption of recycling and greenery for their projects thus reducing their negative impact on the environment.

The GBI Rating Tool is developed specifically for the Malaysian tropical climate, environmental and development context, and cultural and social needs. It was created to:

- Define green buildings by establishing a common language and standard of measurement.
- Transform the built environment to reduce negative environmental impacts.
- Promote integrated, whole-building designs that provide a better environment for all.
- Ensure new buildings remain relevant in the future and existing buildings are refurbished and upgraded to improve the overall quality of building stock.
- Recognise and reward environmental leadership.

GBI Organisation
GBI certification for buildings and townships is separated into three tiers. At the highest level, is the GBI Accreditation Panel, the independent body for GBI certification. At the intermediate level are the GBI Certifiers, consisting of experienced professionals who conduct the assessment of project submissions. At the front end are the GBI Facilitators: consultancy service providers who work together with clients and design teams on their projects to meet or exceed GBI rating system requirements.

GBI Accreditation Panel (GBIAP)
- Accreditation & Certification
The GBI rating system is accredited by the GBI Accreditation Panel (GBIAP), an independent committee consisting of senior professionals who will certify and award the GBI rating to qualified projects.

The GBIAP comprises leading industry professionals recognised for their contribution in sustainable developments in Malaysia. They are actively involved in the rating system’s development, to ensure that the rating system is fully tested and compliant to both local and international standards and best practices.

GBI Certifiers
- Assessment
GBI Certifiers perform the detailed assessment of projects submitted to the GBI Accreditation Panel for GBI certification.

GBI Facilitators
- Consultancy
GBI Facilitators are accredited consultancy service providers for projects to achieve GBI Accreditation.
Rating Tools

Criteria

Buildings are awarded GBI Certification points according to key criteria.

ENERGY EFFICIENCY (EE)
Improve energy consumption by optimizing building orientation, minimizing solar heat gain through the building envelope, harvesting natural lighting, adopting the best practices in utilizing renewable energy and ensuring proper energy management.

INDOOR ENVIRONMENTAL QUALITY (EQ)
Achieve good indoor environmental performance in indoor air quality, acoustics, visual and thermal comfort. These will involve the use of low volatile organic compound materials, application of quality air filtration, proper control of air temperature, movement and humidity.

SUSTAINABLE SITE PLANNING & MANAGEMENT (SM)
Selecting appropriate sites with planned access to public transportation community services, open spaces and landscaping. Avoiding and conserving environmentally sensitive areas through the development of existing or new sites and proper construction management and stormwater management. Reducing the strain on existing infrastructure capacity.

MATERIALS & RESOURCES (MR)
Promote the use of environmentally friendly materials sourced from sustainable sources and recycling. Implement proper construction and waste management with storage, collection and re-use of recyclables and construction framework and waste.

WATER EFFICIENCY (WE)
Rainwater harvesting, water recycling and water-efficient fittings.

INNOVATION (IN)
Innovative design and initiatives that meet the objectives of the GBI.

POINTS ALLOCATION CHART

RNC: RESIDENTIAL NEW CONSTRUCTION

NRNC: NON-RESIDENTIAL NEW CONSTRUCTION

NREB: NON-RESIDENTIAL EXISTING BUILDING

INC: INDUSTRIAL NEW CONSTRUCTION

NRNC: DATA CENTRE

NREB: DATA CENTRE

NRNC: RETAIL

NREB: RETAIL

NRNC: RESORT

NREB: RESORT

NRNC: HOTEL

NREB: HOTEL

IEB: INDUSTRIAL EXISTING BUILDINGS

ID: INTERIORS

NRNC: HOSPITAL

NREB: HOSPITAL

NREB: HISTORIC BUILDINGS

GBI Classification

Green Building Index

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Building Assessment Process

STAGE 1
APPLICATION & REGISTRATION
Complete and submit the GBI application form including contact details, project information and supporting documents to Greenbuildingindex Sdn Bhd (GBI). The Registration fee is set depending on the size of the project. Upon payment of the fees, a GBI registration number will be given and the GBI Terms and Conditions will be signed between the applicant and GSB. GBIAP assigns GBI Certifier at appropriate time.

*GBS = Greenbuildingindex Sdn Bhd

STAGE 2
DESIGN ASSESSMENT (DA)
Applicant to submit the project for GBI Design Assessment (DA) either directly or through an appointed GBI Facilitator. Submission should be done when all the key criteria of the design are finalised and preferably before the commencement of construction so as to enable the project to be monitored and assessed in its entirety. The GBI Certifier will then undertake the Design Assessment for GSB. This may involve a consultation session by the applicant and their project design team or by the GBI Facilitator. The OBI Certifier will upon completion, table the assessment report to the GBIAP to register and award the certification. The provisional GBI Design Assessment certification will then be issued with the accompanying GBI score sheet to show the scores achieved.

STAGE 3
COMPLETION & VERIFICATION ASSESSMENT (CVA)
Upon completion of the project, applicant submit for the Completion and Verification Assessment (CVA). This is to be done within 12 months of the completion of the building or when the building becomes 50% per cent occupied, whichever is the earlier. The final GBI award will be issued by the GBIAP upon completion of this CVA assessment. Buildings are awarded GBI Platinum, Gold, Silver or Certified ratings depending on the scores achieved. Buildings will have to be re-assessed every three years in order to maintain their GBI rating to ensure that the buildings are well-maintained.

Incentives for Obtaining a GBI Certificate

Tax Incentive for Green Technology Project

- Green Investment Tax Allowance (GITA) of 100% of qualifying capital expenditure incurred on green technology project for three (3) years from the date of first qualifying capital expenditure (CAPEX) incurred.
- The allowance can be offset against 75% of statutory income in the year of assessment. Unutilised allowances can be carried forward until they are fully absorbed.
- Green technology project related to renewable energy, energy efficiency, green building, green data centre, and integrated waste management can qualify for this tax incentive.
- Application received by MIDA from 1 January 2020 until 31 December 2023. The date of first qualifying CAPEX shall not be earlier than the date of application received by MIDA.
- Please refer to the Guideline on Application for Incentives and/or Expatriate Posts for Green Technology (IT1) at www.mida.gov.my for more details on qualifying activities and eligibility criteria.
Sustainable Townships: Building Better Green Communities

What is a sustainable township?
Sustainable townships are defined as liveable places that meet the diverse needs of the community, both now and in the future. These places are well-planned and designed to provide a high quality of life for the people who live, work and play within the township. Sustainable townships also enhance the surrounding environment by being safe and secure.

The concept of a sustainable development is the balanced approach to addressing the environmental, social and economic issues. Sustainable townships are integrated planned habitats that focus on the interior and architectural design of the buildings as well as the living environment. Emphasis is placed at maximising energy and resource savings, use and recycling of natural resources, promoting public health and general welfare of the urban population thus reducing the negative impact on the environment. Sustainable townships are also well landscaped and provide the basic amenities for people, such as parks and playgrounds, which can be used to improve interaction and integration in the community.

Criteria For Sustainable Townships in Malaysia

CLIMATE, ENERGY & WATER (CEW)
Balanced ongoing production and consumption of energy and water
- Aim for zero net carbon emissions – by maximising passive design principles, minimising the impact of heat island effect, minimising energy consumption, adopting onsite energy generation, utilising renewable energy technologies such as co-generation and micro-generation.
- Water neutral – through the reduction of mains water consumption, rainwater harvesting and greywater recycling.

TRANSPORTATION & CONNECTIVITY (TRC)
Well-connected places with a broad range of transportation options
- Excellent accessibility, connectivity and are well linked to surrounding districts.
- Making good use of existing transport links and make priority and provision for future services such as rail, bus and cycling networks.

ECOLOGY & ENVIRONMENT (EEC)
Respect the surrounding environment and native ecological systems
- Sensitive to the needs of the local ecology & biodiversity and aims to preserve and enhance the ecological value of the natural environment.
- Assists in stabilising land – subsidence by reducing the impact of flooding and erosion.

BUILDING & RESOURCES (BDR)
Lower impact on resources by applying the ‘more from less’ principle
- Emphasise the need to minimise the use of highly resource-intensive materials by using a life cycle approach.
- Making effective use of local materials and resources for the construction of new communities.

COMMUNITY PLANNING & DESIGN (CPD)
Planned and designed for the benefit of the community
- Created using an integrated approach to master planning and best practice urban design principles emphasizing people priority and green spaces.
- Such goals help create a strong sense of place for communities – resulting in more livable and diverse neighbourhoods.

BUSINESS & INNOVATION (BSI)
Tailored to respond to local needs in creating business/employment whilst incorporating innovative solutions
- Provide employment opportunities for its residents to work closer to their homes and schools and achieves for businesses to form and flourish.
- Demonstrate best-practices through the implementation of innovative technologies and solutions at many different levels of the township.

Drivers for Sustainable Development
Climate change and the impacts of global warming have forced both the Government and Industry to make substantial changes to the way they operate and function – the old business-as-usual adage is no longer suitable. The Government has taken significant steps as a developing nation to commit to a minimum of 65% reduction of its carbon emissions by 2050 (based on 2021 carbon emission levels). The reduction of carbon emissions serves as part of the solution as there is a clear need for a holistic approach to address sustainability issues – an approach that incorporates both mitigation and adaptation measures.

Countries throughout the globe have adopted various approaches and strategies to address climate change and drive sustainable development. As policies and targets have been set by the government, it is vital that a vehicle for implementation is introduced for effective delivery of projects that support the government’s goals.
**Sustainable Townships Assessment Process**

**Stage 1: Application & Registration**
Complete and submit the GBI Application Form with the Applicants contact details, project information and supporting documents to Greenbuildingindex Sdn Bhd (GBS). The Registration Fee will be set depending on the size of the project. Upon payment of the fees, a GBI registration number will be given and the GBI Terms and Conditions will be signed between the Applicant and GSB. A GBI Certifier will then be appointed at the appropriate time.

Note: Minimum to register shall be 20 acres and 50% of buildings to be GBI Certified.

**Stage 2: Planning Assessment (PA)**
The applicant submit a development for GBI Planning Assessment (PA) either directly or through an appointed GBI Facilitator. Submission should be done when all key sustainable strategies and criteria are finalised. The GBI Certifier will then undertake the Planning Assessment for GSB. This may include a presentation by the Applicant and the Project Team or by the GBI Facilitator.

The GBI Certifier will upon completion, table the assessment report to the GBSAP to register and award the certification. The Provisional GBI Township (PA) certification will then be issued with the accompanying GBI score sheet to show the scores achieved.

*Note the validity of this PA is 5 years.*

**Stage 3: Final Planning Assessment (FPA)**
Submit for Final Planning Assessment once the project has received relevant planning approval from the authorities.

*Note the validity of this FPA is 5 years.*

**Stage 4: Completion & Verification Assessment (CVA)**
Upon completion of all the key sustainable strategies and criteria, submit for Completion and Verification Assessment (CVA). The GBI award will be issued by the GBIA upon completion of the CVA Assessment.

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**GBI Township Registration Fees**

<table>
<thead>
<tr>
<th>Size of Project</th>
<th>Acres (Acres)</th>
<th>Registration Fees (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>251 to 48</td>
<td>15,000.00</td>
</tr>
<tr>
<td>Intermediate</td>
<td>41 to 90</td>
<td>29,000.00</td>
</tr>
<tr>
<td>Medium</td>
<td>101 to 190</td>
<td>40,000.00</td>
</tr>
<tr>
<td>Large</td>
<td>191 to 350</td>
<td>50,000.00</td>
</tr>
<tr>
<td>Extra Large</td>
<td>351 to 500</td>
<td>80,000.00</td>
</tr>
<tr>
<td>Mega Project</td>
<td>501 to 1,050</td>
<td>190,000.00</td>
</tr>
<tr>
<td>Above 1,050</td>
<td></td>
<td>Must be determined on project by project basis</td>
</tr>
</tbody>
</table>

**Application of the Township Framework**

Achieving the Green Building Index certification for a township not only demonstrates the green commitment of a responsible developer, but also enhances the environmental legacy and sustainable care for all future buildings in the township. To this effect, the community is fully committed to the continuous improvement of their building practices. To this end, the following guidelines are adhered to; this framework facilitates discussion around how sustainable townships are planned, designed, built, operated and maintained.

The framework can be used by a broad range of stakeholders, from federal and local Government Agencies, to architects, town planners, urban designers, contractors and developers.

This community framework for delivering sustainable Townships can be applied to all levels of townships creation, management, operation and governance. Following are some areas of application and its impact:

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