Greening Hotels & the Green Building Index Rating System

1.0 Introduction

The need and urgency of sustainable development for the built industry is beyond the deliberation stage including in Malaysia. Hotels, being at the fore-front of international *(guest)* exposure, are expected to be responsive to this green initiative. After all, with valuable experience gained in the past dealing with previous topical issues such as "Fire Safety Audit", "Addressing harmful Refrigerants and Halon", "Promoting eco practices" and so on, hotels would have the upper hand to implement this effort.

Going green definitely pays for hotels when greening strategies can translate into savings for energy and water *(which will become critical sooner than later with the anticipated utility tariff increases)*; reduction in waste generation *(recycling will boost the hotel image as a responsible outfit and at the same time reduce operating costs)*; better indoor environmental quality *(both for better staff productivity and guest comfort);* and so forth.

Within the global green fraternity, Malaysia is a proud leading nation when it comes to Sustainability – courtesy of the initiative by the Malaysia Institute of Architects and Association of Consulting Engineers Malaysia in developing the Green Building Index *(GBI)* in 2009. Since then, GBI has gone on to assist Indonesia develop and launch her own 'Greenship' rating tool in 2010. Other nations who are seeking GBI's assistance include Brunei, Vietnam, Pakistan and Bangladesh to name a few.

2.0 What is meant by building Green?

A Green or Sustainable building is one which is designed:

- to save energy and resources, recycle materials and minimise the emission of toxic substances throughout its life cycle,
- to harmonise with the local climate, traditions, culture and the surrounding environment, and
- to be able to sustain and improve the quality of human life while maintaining the capacity of the ecosystem at the local and global levels

Building Green in the future is a necessity and not an option as buildings are responsible for 40% of global GHG emissions; consume one-third of planet's resources; generate 40% of the solid waste stream; and result in 5 times more pollutants than outdoor air.

We can all play our part to address Climate Change. We can reduce consumption of energy to decrease GHG *(Green House Gases)*, starting with reducing use of electricity. It pays to know that up to 11% of electricity can be consumed by phantom loads[1] alone – a zero cost energy savings initiative that all hotels can and should benefit from immediately.

3.0 How to build Green?

There is not any one single technique for designing and building a green building, but green buildings often: Preserve natural vegetation; Contain non-toxic or recycled-content building materials; Maintain good indoor air-quality; Use water and energy efficiently; Conserve natural resources; Adopt sustainable purchasing policy; Feature natural lighting; Include recycling facilities throughout; Include access to public transportation; Feature flexible interiors; and Recycle construction and demolition waste.

4.0 Global Green Rating Systems

In 1990, the Building Research Establishment of UK came out with the first Green Building Rating System called BREEAM. This was quickly followed by others, and in the late 2000's, this awareness has finally come ashore to Malaysia. The following table depicts a comparison of selected established assessment methods.

Comparison of Green Rating Assessment Methods/Tools

Tool Nation *Year*	**BREEAM** UK *1990*	**LEED** USA *1996*	**GREEN STAR** Australia *2003*	**GREEN MARK** Singapore *2005*	**GBI** Malaysia *2009*
Assessment Criteria	1. Management 2. Health & Comfort 3. Energy 4. Transportation 5. Water Consumption 6. Materials 7. Land Use 8. Ecology 9. Pollution	1. Sustainable site 2. Water Efficiency 3. Energy & Atmosp 4. Materials & Resources 5. Indoor Environ Quality 6. Innovation & Design / Construction Process	1. Management 2. Transport 3. Ecology 4. Emissions 5. Water 6. Energy 7. Materials 8. Indoor Environmental Quality 9. Innovation	1. Energy Efficiency 2. Water Efficiency 3. Environmental Protection 4. Indoor Environmental Quality 5. Other Green Features	1. Energy Efficiency 2. Indoor Environmental Quality 3. Sustainable Site & Management 4. Materials & Resources 5. Water Efficiency 6. Innovation

External façade shading to reduce solar heat gain and lush greenery to reduce heat island effect

Education dynamic display at hotel reception showing amount of renewable energy generated by solar pv's, daily energy and water intensity use.

5.0 The Green Building Index & Greening Hotels

Obviously, each country would develop her own tool to suit her priority, environmental stresses etcetera and the Green Building Index *(GBI)* is no different. Essentially GBI is developed specifically for the Malaysian-tropical climate, environmental and developmental context, cultural and social needs.

The Green Building Index Rating System *(www.greenbuildingindex.org)* which was launched on 21st May 2009 has since developed ten *(10)* rating tools for residential and non-residential buildings and township development.

5.1 Greening Hotels & Resorts

In terms of green operation, hotels and resorts can be touted to be ahead of the pack since many operators are known to have already implemented the use of eco-friendly amenities ranging from bio-degradable toiletries to rewarding guests for not changing bed linen and towels daily.

Reducing utility bills of hotels and resorts can sometimes be a matter of survival to remain competitive and to this end, those who have embarked on energy efficiency and water efficiency will inevitably be more profitable or at the least more competitive in the long run. Benefits of going green accruing to both the owners and operators are real and discerning guests are or will be ready to show their support. Knowledgeable tour agencies are already known to add green rating pre-requisites to their check lists of fire safety and ISO 14001 compliances.

5.2 Generic GBI Tools

GBI's Non Residential New Construction and Non Residential Existing Building tools were developed as generic tools that are applicable to all Non Residential buildings and since their launch, have been used successfully to rate buildings as diverse as office, warehouse, hotel, hospital, airport, retail, data centre, and so on. These early applications have enabled GBI to receive feedbacks and data to subsequently fine tune and develop bespoke tools for specific types of buildings commencing with Data Centres and Retail Malls.

Similar feedbacks and data have now enabled GBI to come out with bespoke tools for hotels and resorts whose final draft versions were released recently[2] for pilot testing. GBI pilot testing for hotel and resort tools will continue until end December 2013. Interested parties can contact *info@greenbuildingindex.org* for instructions.

6.0 Conclusion

Greening new or existing hotels sets the challenge for passive design and operation to reduce solar heat gain; improve indoor environmental quality through use of materials with low Volatile Organic Compounds, harvest free daylight; reduce heat island effect with greenery; use sustainable materials; practise responsible site planning, waste and construction management and not pollute adjacent land; practise responsible waste storage and recycling; employ environmental sensitive management for housekeeping and facility maintenance; adopt sustainable procurement policy; promote and initiate eco awareness programs both to tenants and guests. It also challenges their active design and operation to reduce energy and water use; ensure proper or retro commissioning and sustainable maintenance; provide means to measure to manage; improve Indoor Environmental Quality through good Indoor Air Quality; harvest and/or recycle water use and adopt cost effective innovative designs or modifications.

Following the tool presentation[2], some hotel operators not surprisingly remarked that they have already implemented many of the criteria requirements as they make good business sense and for these initiatives to be recognized by GBI would make it worthwhile for their hotels to go that small extra distance to be green rated.

To conclude, it is our duty to walk the talk in creating Green Buildings and the Green Building Index Malaysia is but merely a tool to assist us in achieving this goal. This rating system will be a dynamic tool which will need to evolve in tandem with our pace and affordability as we progress into a developed nation. After all, sustainability needs to strike a realistic balance.

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Reference:

1. Phantom loads refer to the energy consumed by appliances that are not in used but are left switched on in standby mode such as computers.

2. At the MAH-Nippon Green Hotel Seminar held on 3rd Oct 2013.