THE OCEANUS BEACHFRONT LUXURY VILLA | RNC | GOLD

MOLEK PINE 4 | RNC | PLATINUM

ANGKASA RAYA - TOWER R | RNC | GOLD

PONDEROSA LAKESIDE APARTMENTS | RNC | GOLD

GREEN BEATS

ISSUE NO 1, April 2016

EDITORIAL

GBI SUSTAINABILITY MILESTONE HITS 150 MILLION SQUARE FEET MARK

March 4, Kuala Lumpur – Green Building Index (GBI) announced that it has hit the 150,000,000 sq. ft. mark of GFA in GBI certified buildings. This is a 50% leap from its one hundred million sq. ft. milestone achieved 2 years ago, making it the first and largest gross floor area certified by a single green certification organisation in Malaysia. The achievement is represented by 350 certified projects out 673 registered projects to date.

The announcement was made at the "150 million square feet of Certified Green Buildings" commemoration dinner at KLCC Convention Centre officiated by YBhg. Tan Sri Peter Chin Fah Kui, Chairman of Malaysia Green Technology Corporation (GreenTech Malaysia). Also at the event are Ar. Dr. Mohd Zulhemlee An, President of Pertubuhan Arkitek Malaysia (PAM) and President of GSB Board of Directors, Ar. Sarly Adre Sarkum, President of Malaysia Green Building Confederation (MGBC), Ar. Chan Seong Aun, Chairman of Green Building Index Accreditation Panel (GBIAP), board members of Greenbuildingindex Sdn Bhd (GSB), and Association of Consulting Engineers Malaysia (ACEM), and prominent industry leaders. GB

150 MILLION SQUARE FEET

CERTIFIED GREEN BUILDINGS
SINCE 2009

GUEST OF HONOUR
YBHG TAN SRI PETER CHIN FAH KUI
CHAIRMAN, MALAYSIA GREEN TECHNOLOGY CORPORATION
MARCH 4, 2016

Green Building Index

EDITOR'S NOTE

It is my pleasure to present the first issue of the Green Building Index Newsletter, dedicated to be a valuable tool to communicate with the communities we serve and with our many and varied stakeholders.

GBI is recognised to initiate and steer Malaysia's built industry toward a more environment-friendly buildings. It is intended to promote sustainability in the built environment and raise environmental awareness among developers, designers and builders all the way from design and conceptualisation, as well as during construction. Increasingly, we see ourselves as a driver of sustainability serving a larger network of organisations dedicated to these sectors.

Allow me to call your attention to a celebration of GBI where we thought that the industry's achievement to attain 150 million square feet of Certified Green Building area would be the perfect embodiment of inspiration and thought leadership we honour and honed since our inception.

Our first issue is a look at our lineage – how we got here, who we are, and what pieces of our shared history are the most important now. Registered interest for GBI certification grew at a steady rate year on year and we are confident that the built industry is moving toward a more sustainable environment, inculcating best practices and adherence to the tools which have been developed, unique to Malaysia's tropical climate.

We have also incorporated articles written by our contributing editors comprising professional architects, engineers and commissioning specialists who currently sits on our accreditation panel. We hope you enjoy this issue. You may also like to visit our website at www.greenbuildingindex.org.

I shall leave you with a quote I came across by Frank Lloyd Wright, "The good building is not one that hurts the landscape, but one which makes the landscape more beautiful than it was before the building was built."

Till we meet in the next issue.

Ar. Lee Chor Wah
Editor-in-chief

Driven by the necessity to promote sustainability and empowering stakeholders to increase environmental stewardship and efficiency, the Green Building Index (GBI), Malaysia's First Green Rating Tool was conceived.

Intended to promote sustainability in the built environment and raise environmental awareness among developers, designers and builders all the way from design and conceptualisation, as well as during construction, it also empowers industry leaders to reduce their facilities' environmental footprints that addresses its social responsibility.

The Tool provides 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 impact on the environment.

GBI is developed specifically for the Malaysian-tropical climate, environmental and development context, cultural and social needs and is created to:

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

GREEN ENERGY OFFICE (GEO BUILDING) | NRNC | CERTIFIED (RVA)

GBI Accreditation Panel

GBI accreditation for buildings is separated into three tiers. At the highest level is the GBI Accreditation Panel, the independent regulatory body for GBI accreditation. At the intermediate level are the GBI Certifiers, consisting of experienced professionals that conduct the assessment and accreditation of project submissions. On the front-end level are the GBI Facilitators, professionals who together with clients and design team to enhance their projects to meet or exceed GBI rating system requirements. GB

Feature: Green Cost

GREEN COSTS, GREENER PROFITS

by Mitch Gelber

Green buildings are not just a recent trend in Malaysia. The country has a long history of sustainable building design that dates back to well before independence. From the unique natural ventilation strategies of rural kampong houses and urban shop lots to the modernist concrete office tower brise-soleils of the 1960s, our vernacular building styles have consistently incorporated innovative tropical green concepts. Indeed, for the better part of Malaysian history, green design strategies have been integral to many of our basic building practices.

Recently, as the extent of the global climate crisis intensifies, issues related to green building design have dramatically risen to the forefront of architectural and engineering practices across the country. Our embrace of contemporary green building design strategies and technologies have been both swift and wide-ranging. Since its founding in 2009, Malaysia's internationally recognized green building rating tool, the Green Building Index [GBI], has certified over 700 buildings comprising 150 million square feet of gross floor area. This is roughly equivalent to one new GBI certification every three days. This rapid adoption of more sustainable building practices is testimony to the urgency of the challenge faced by our global community.

Yet, even in the midst of this great movement to design and build healthier and more efficient buildings, persistent misconceptions remain about the cost and benefits of "going green". Foremost amongst these is the lingering perception by some in the industry that green buildings are expensive and cannot be achieved without adding significantly to a project's overall construction costs.

Are Green Buildings Expensive?

The underlying rationale for such sentiments is certainly understandable. The construction industry, perhaps more than most, prizes stability. This propensity for risk aversion, a by-product of the capital intensity of large scale building projects, means that new or innovation solutions are often shunned in favour of the status quo. While long-standing green building practices such as passive solar design, natural ventilation and daylighting strategies may indeed be venerable and well established; for the later half of the twentieth century, issues of environmental sustainability takes a back seat to other priorities. It is therefore not surprising that some stakeholders now look upon green buildings as novelties that carry steep price tags.

So how can we determine whether or not such misgivings are well founded? For many professionals, the confluence of green buildings with excessive and / or unnecessary construction costs simply runs counter to common sense. Passive solar strategies such as a building's orientation, shading and fenestration are largely intrinsic to the design stage and therefore carry little if any, additional cost. Environmentally friendly coatings and building materials that may once fetched premium are quickly rendered commonplace by market forces. Moreover, simple compliance with existing building bylaws, standards and site management practices is sufficient to achieve a significant number of GBI points. When it comes to basic green building principles, the low-hanging fruit is plentiful indeed.

Analysis of Qualifying Green Costs

Until now the evidence to support these views has been largely anecdotal. This is beginning to change. Back in Budget 2010, in order to incentivise the adoption of green design and technology, the Malaysian government introduced tax incentives for GBI certified buildings. Building owners obtaining GBI certificates were given income tax exemptions equivalent to the additional capital expenditure necessary to achieve their green certification. In the three-year period from October 2012 to October 2015, the first twenty GBI certified projects successfully submitted green cost applications to the Ministry of Finance. Costing data from this first batch of projects is now available to give us the actual scenario of the overall costs associated with green buildings. So let's take a look at these facts.

The projects in this initial data set represent a variety of building types, sizes & sustainability targets. They range from double-storey bungalows to large high-rise mixed-use developments. The GBI certifications they have achieved extend from Certified (53%), Silver (16%), Gold (26%) to Platinum (5%) levels. 45% of the projects analysed were certified under the GBI Non-Residential New Construction tool, 35% using the Residential New Construction tool and the remainder certified under existing building and industrial tools. Looking at the amalgamation of these projects' qualifying green costs can now start to raise the veil on the overall cost implications of green buildings.

Average Approved Green Tax Exemption per Project:	
Non-Residential [NRNC Tool]	**Residential [RNC Tool]**
RM 9,933,000	**RM 1,510,000**

Source: Green Cost Submissions to Inland Revenue Board (2012 – 2015)

CONTINUES ON NEXT PAGE

CONTINUES FROM PREVIOUS PAGE

Feature

The incentives awarded have been substantial. The green tax exemptions approved for the commercial projects have averaged about RM 10 million. For residential buildings the qualifying green costs have averaged about RM 1.5 million as developers typically provide fewer mechanical and electrical systems. The smallest approved green cost value (for a bungalow project) is RM 80,000 and the largest single incentive awarded is over RM 22.5 million. To avoid confusion, it should be noted that these amounts represent tax deductions on profits and not straight cash rebates.

It is also important to point out that many items that qualify for green tax exemption status will be included in a project's base construction cost regardless of green building certification targets. As such, the total value of the green cost claims indicated above does not precisely reflect the additional expenditure required for a project to 'go green'. For example, external shading devices intrinsic to a building's façade design are considered qualifying green costs under the incentive scheme but would be built regardless of the project's specific green objectives. For the purposes of the following analysis, these instances of redundancy have been classified as base building costs rather than upgraded green costs.

SANDILANDS | RNC | GOLD

The Cost of Green Buildings

Based on the data, the overall cost threshold to achieve GBI certification is indeed low. Commercial buildings targeting a GBI 'Certified' rating on average have incurred an incremental green cost of between 0 – 2% of the buildings overall construction cost. For residential projects, typically with fewer mechanical systems, the costs are even lower at 0 – 1% of construction cost.

There are several key design strategies that are critical to keeping these green costs in check:

Establish Green Strategy Early – Projects that fail to determine their green planning / objectives until after appointing a main building contractor often incur significant unnecessary costs as compared to those that define green targets from the beginning of a project's design stage.

Coordination of Consultants – Many green building features and technologies can yield impressive returns. To maximize these benefits it is essential that the entire consultant team is communicating effectively with each other and coordinating their efforts around a common set of goals. For example, an additional capital cost required to upgrade glazing performance may be largely offset by the building's subsequent reduced demand for cooling capacity.

Set Realistic Green Targets – Ensure that objectives are suitable for the overall goals of the project. Every project is different. Solutions that are effective for one building may not yield the same results or may incur additional costs when applied to a different site, building type or development model.

Incremental Green Costs for GBI 'Certified':	
Non-Residential [NRNC Tool]	Residential [RNC Tool]
0 - 2 %	0 - 1 %

Source: Green Cost Submissions to Inland Revenue Board (2012 – 2015)

NADAYU 290 PENANG, MULBERRY TOWER | RNC | PLATINUM

While the green cost data shows that even higher ratings can sometimes be achieved without significant cost impacts, generally speaking, the higher a building's rating targets, the greater the costs incurred. As such, it is vital that all stakeholders are aware of both the potential cost impact and benefits of various green initiatives so they can adjust their goals accordingly.

Finally, it bears repeating that a single-minded focus on green costs and capital expenditure can obscure or even detract from the equally important consideration of green profitability. Many green design features and technologies significantly improve a project's operating efficiency and reduce on-going maintenance costs. Energy efficiency initiatives in particular tend to have relatively short payback periods and even small improvements in a building's overall performance can yield impressive dividends over the long term.

Average Incremental Green Cost per GBI Rating:			
Certified	Silver	Gold	Platinum
1.1% (range: 0 - 2%)	**1.8%** (range: 1 - 3%)	**3.8%** (range: 2 - 6%)	**6.1%** (insufficient data)

Source: Green Cost Submissions to Inland Revenue Board (2012 – 2015)

CONTINUES ON NEXT PAGE

CONTINUES FROM PREVIOUS PAGE

Feature

With this in mind it is highly significant that over half - and in the case of NRNC nearly two-thirds - of the total green costs claimed are specifically under the category of Energy Efficiency (EE). This last fact is encouraging as it demonstrates the overwhelming tendency of green buildings to incur majority of their additional costs precisely in the realm of their greatest financial benefit to a project. This is born out by the impressive return on investment figures of from 1 to 4 years for many major energy efficiency initiatives. That said, not all green technologies are cash cows. Some items, photovoltaic panels for example, still require government initiatives to substantiate their basic financial viability. However, the data thus far clearly demonstrate that when strategies employed to achieve a project's green targets are identified early in the design process; are well coordinated amongst the relevant consultants; and are appropriate for the project's overall development objectives, green costs can be limited and green profits realized.

Green Cost Breakdown by GBI Category [NRNC]					
Energy Efficiency (EE)	Indoor Environmental Quality (EQ)	Sustainable Site Planning & Management (SM)	Material & Resources (MR)	Water Efficiency (WE)	Innovation (IN)
63.4%	15.3%	2.6%	1.4%	2.4%	15.0%

Source: Green Cost Submissions to Inland Revenue Board (2012 – 2015)

Green Cost Breakdown by GBI Category [RNC]					
Energy Efficiency (EE)	Indoor Environmental Quality (EQ)	Sustainable Site Planning & Management (SM)	Material & Resources (MR)	Water Efficiency (WE)	Innovation (IN)
44.5%	9.6%	5.6%	12.0%	11.9%	16.4%

Source: Green Cost Submissions to Inland Revenue Board (2012 – 2015)

GB

GREEN SUCCESS STORIES

PLATINUM CERTIFIED

Platinum Rated Perdana Putra catalyst to sustainability

Perdana Putra is one of the most energy-efficient buildings in this country besides being categorised as a High Performance Green Building.

Platinum rating is the highest building performance rating according to GBI Non Residential Existing Building rating tool. This is the first successful large scale upgrading of an existing building on a private finance initiative module undertaken by KFM Holdings Sdn Bhd.

GBI is Malaysia's recognised green rating tool for building to promote sustainability in the built environment and raise awareness among developers, architects, engineers, planners, designers, contractors and the public.

Perdana Putra is now approximately one third more energy-efficient than it was before. The city of Putrajaya aspires to be transformed into a green, smart and connected city that would showcase Malaysia's economic and technological advancement.

GOLD CERTIFIED

Hotel Penaga, Malaysia

Located in the UNESCO heritage zone, Hotel Penaga in Penang has transformed a cluster of 15 rundown terraces and shops into a heritage haven that maintains the character of the area while meeting modern travelers' expectations. Hotel Penaga, which consumes 47 percent less energy than a usual hotel of similar size, has been awarded a Gold rating by the Green Building Index, a first for a heritage building. The hotel is an exemplar of energy efficiency. The project team's effort to protect and enhance the area, while also delivering the highest levels of sustainability, is worthy of applause.

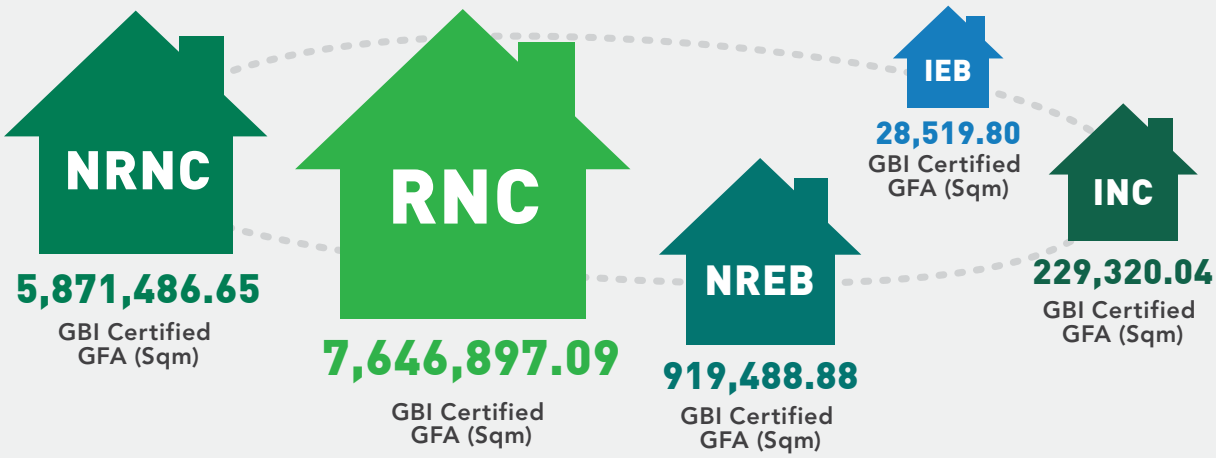
Hotel Penaga was also a Finalist in the World GBC Asia Pacific Leadership in Green Buildings Award 2014.

Executive Summary of GBI Certifications as of 15 March 2016

GBI Certified Projects by Category

Categories of GBI Certification	Applied	Registered	Total Certified	Provisional Certification after DA	Final Certification after CVA	Renewal Certification after RVA
NRNC NON RESIDENTIAL NEW CONSTRUCTION	375	346	175(50%)	146	27	2
RNC RESIDENTIAL NEW CONSTRUCTION	285	270	144 (41%)	127	17	0
INC INDUSTRIAL NEW CONSTRUCTION	20	18	9 (3%)	5	4	0
NREB NON-RESIDENTIAL EXISTING BUILDING	21	19	12 (3%)	8	4	0
IEB INDUSTRIAL EXISTING BUILDING	4	3	3 (1%)	1	2	0
T TOWNSHIP	17	17	7 (2%)	7	0	0
TOTAL AS OF 15 MARCH 2016	722	673	350 (100%)	294	54	2

Gross Floor Area (GFA) of GBI Certified Buildings



TOTAL as of 15 MARCH 2016 : 14,695,712.46sqm (158,183,332.45sqft)

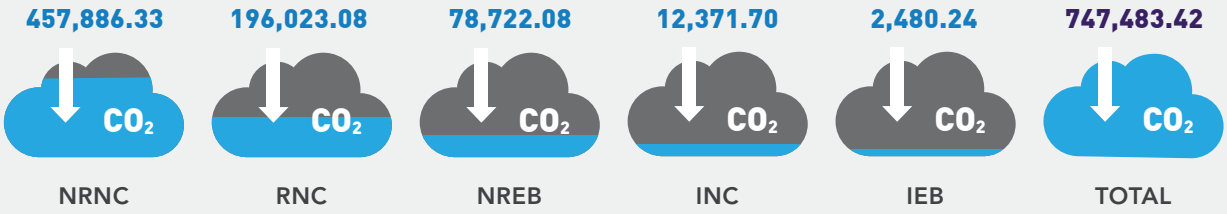
CONTINUES ON NEXT PAGE

Executive Summary of GBI Certifications as of 15 March 2016

GBI Certified Projects by Categories of Rating

NUMBER OF RATING	NRNC	RNC	INC	NREB	IEB	T	TOTAL
PLATINUM 86 POINTS & ABOVE	9	4	-	1	-	1	15 (4%)
GOLD 76 - 85 POINTS	48	28	1	1	1	1	80 (23%)
SILVER 66 - 75 POINTS	19	14	2	2	-	2	39 (12%)
CERTIFIED 50 - 65 POINTS	99	98	6	8	2	3	216 (61%)
TOTAL CERTIFIED	175	144	9	12	3	7	350

The amount of Carbon Dioxide (CO2) Emission Reduced by GBI Certified Buiildings



CO2 Emission Reduction : (tCO2e/annum, based on electricity energy reduction only @ 1kWh = 0.741 kg CO2 - Peninsular / 0.872 kg CO2- Sarawak / 0.546 kg CO2 - Sabah)

NRNC: NON RESIDENTIAL NEW CONSTRUCTION RNC: RESIDENTIAL NEW CONSTRUCTION NREB: NON-RESIDENTIAL EXISTING BUILDING
INC: INDUSTRIAL NEW CONSTRUCTION IEB: INDUSTRIAL EXISTING BUILDING T: TOWNSHIP

Events

INTERNATIONAL URBAN SUSTAINABILITY & GREEN BUILDING CONFERENCE 2016

Better Places for People is a global campaign that aims to create a world in which buildings support healthier and happier lives for those who occupy them.

The campaign, led by the World Green Building Council, aims to raise awareness of how buildings impact upon health and wellbeing, and encourage those who design, build, own, occupy, operate or sell them, to shape buildings for the benefit of people.

Building upon evidence linking office design with health and wellbeing outcomes for employees, the campaign will focus on a range of building types including retail malls, hospitals, offices and residential buildings.

It will also move beyond simply linking design and outcomes. By demonstrating how maximizing health and wellbeing in buildings presents a win-win for both business and the environment, Better Places for People aims to drive real, on-the-ground action and increase the uptake of greener, healthier buildings. GB

GBI Facilitator Course

Event	Date	Professional Organisation
GBI Facilitator Course Batch 31	26-28 February 2016	MGBC
GBI Facilitator Course Examination Batch 31	18 March 2016	MGBC
GBI Facilitator Course Batch 32	6-8 May 2016	MGBC
GBI Facilitator Course Examination Batch 32	28 May 2016	MGBC
GBI Facilitator Course Batch 33	5-7 August 2016	MGBC
GBI Facilitator Course Examination Batch 33	27 August 2016	MGBC
GBI Facilitator Course Batch 34	4-6 November 2016	MGBC
GBI Facilitator Course Examination Batch 34	26 November 2016	MGBC

GBI Professional Series Courses

Event	Date	Professional Organisation
New GBI Incentive Updates and Green Cost Calculation	30 March 2016	RSIM/MGBC
Interior Design Tool	1 June 2016	MGBC
How to Design Green Hotels and Case Studies	28 July 2016	PAM/MAH/MGBC
Integrated Strom Water Solutions	24 August 2016	ILAM/MGBC
Types of Renewable Energy In Malaysia	22 September 2016	SEDA/IEM/MGBC
Sustainable Township and Low Carbon City Framework (LCCF)	11 October 2016	MIP/MGBC

Disclaimer: Event dates and times subject to change.

Notes:
1. RSIM – Royal Institution of Surveyors Malaysia
2. MGBC – Malaysia Green Building Confederation
3. PAM – Persatuan Akitek Malaysia
4. MAH – Malaysian Association of Hotels
5. ILAM – Institute of Landscape Architect Malaysia
6. SEDA – Sustainable Energy Development Authority Malaysia
7. IEM – The Institute of Engineers Malaysia
8. MIP – Malaysia Institute of Planners

Interested applicants may apply at **http://www.mgbc.org.my/**

Readers are invited to send their comments and opinions to:

GREENBUILDINGINDEX SDN BHD
(845666-V)
A-12-13A, Menara UOA Bangsar,
5 Jalan Bangsar Utama 1,
59000 Kuala Lumpur, Malaysia
(T) : 03 - 2283 2566
(F) : 03 - 2284 2566
Email : info@greenbuildingindex.org
Website : www.greenbuildingindex.org