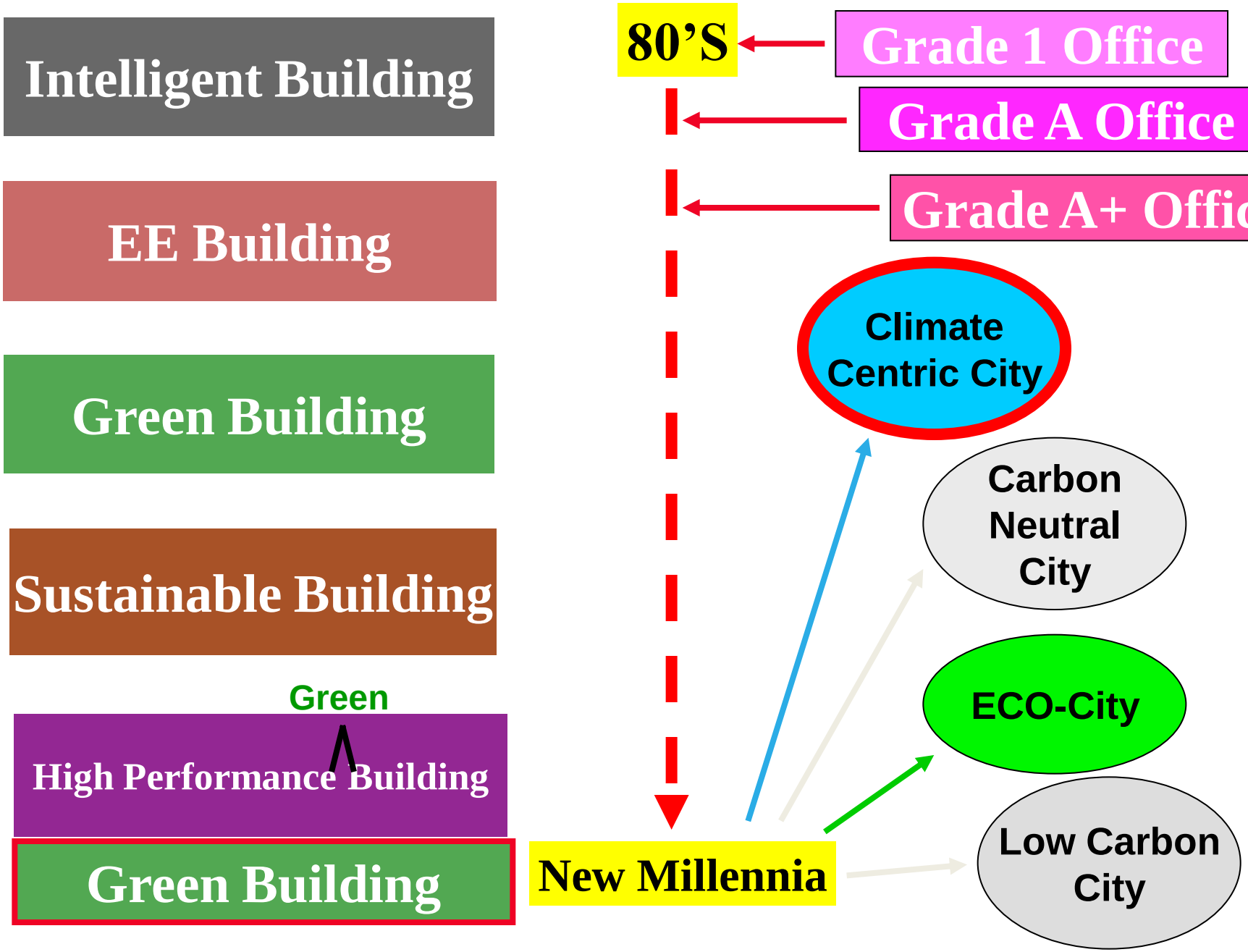
Industrial New Construction INC
Industrial Existing Bldg IEB
Rating Tools

7th June 2011


BREEAM
LEED
tropic of cancer
LEED/
GRIHA
CASBEE
PEARLS
equator
GBI
Green Mark
tropic of capricorn
Green Star
Africa
Green Star

- Australia: Nabers / Green Star
- Brazil: AQUA / LEED Brasil
- Canada: LEED Canada / Green Globes
- China: GBAS
- Finland: PromisE
- France: HQE
- Germany: DGNB / CEPHEUS
- Hong Kong: HKBEAM
- India: GRIHA
- Italy: Protocollo Itaca / Green Building Counsil Italia
- Malaysia: GBI Malaysia
- Mexico: LEED Mexico
- Netherlands: BREEAM Netherlands
- New Zealand: Green Star NZ
- Philippines: BERDE / Philippine Green Building Council
- Portugal: Lider A
- Singapore: Green Mark
- South Africa: Green Star SA
- Spain: VERDE
- Switzerland: Minergie
- United States: LEED / Living Building Challenge / Green Globes / Build it Green / NAHB NGBS
- United Kingdom: BREEAM
- United Arab Emirates: Estidama


Intelligent Building
EE Building
Green Building
Sustainable Building
Green
High Performance Building
Green Building
80'S
Grade 1 Office
Grade A Office
Grade A+ Office
Climate Centric City
Carbon Neutral City
ECO-City
Low Carbon City
New Millennia

NON-RESIDENTIAL BUILDINGS

Rating Tools	Energy Effy	IEQ	Sustainable Site	Materials & Resources	Water Effy	Innovation
BREEAM 2008	19%	*13%	*37%	*17%	5%	*9%
LEED v2.2	25%	22%	20%	19%	7%	7%
Green Mark v3	62%	5%	*20%		9%	4%
Green Star v3	20%	19%	*33%	16%	8%	4%
GBI V1.0	35%	21%	16%	11%	10%	7%
LEED v3	35%	15%	26%	14%	10%	*10%

* Denotes adjusted or amalgamated figures

Major Developments since 21/5/09 launch of GBI

As of 12th Apr 2011:

- Over 1,600 GBI Facilitators trained
- 13 GBIF courses conducted
- 381 GBI Facilitators listed on website
- Over 150 buildings registered
- 13 GBI rated buildings listed on website
- Conducted 'train the trainers' course in Jakarta for GBCI preceding the launch of their own GREENSHIP rating tool (July 2010)

GREEN BUILDING INDEX CLASSIFICATION

POINTS	GBI RATING
86+ points	Platinum
76 to 85 points	Gold
66 to 75 points	Silver
50 to 65 points	Certified

1st GBI rated building
PTM GEO Building
GBI Certified 24.7.09

GREEN BUILDING INDEX CLASSIFICATION

POINTS	GBI RATING
86+ points	Platinum
76 to 85 points	Gold
66 to 75 points	Silver
50 to 65 points	Certified

1st GBI Platinum building
ST Building
27.4.11

Major Developments since 21/5/09 launch of GBI cont'd

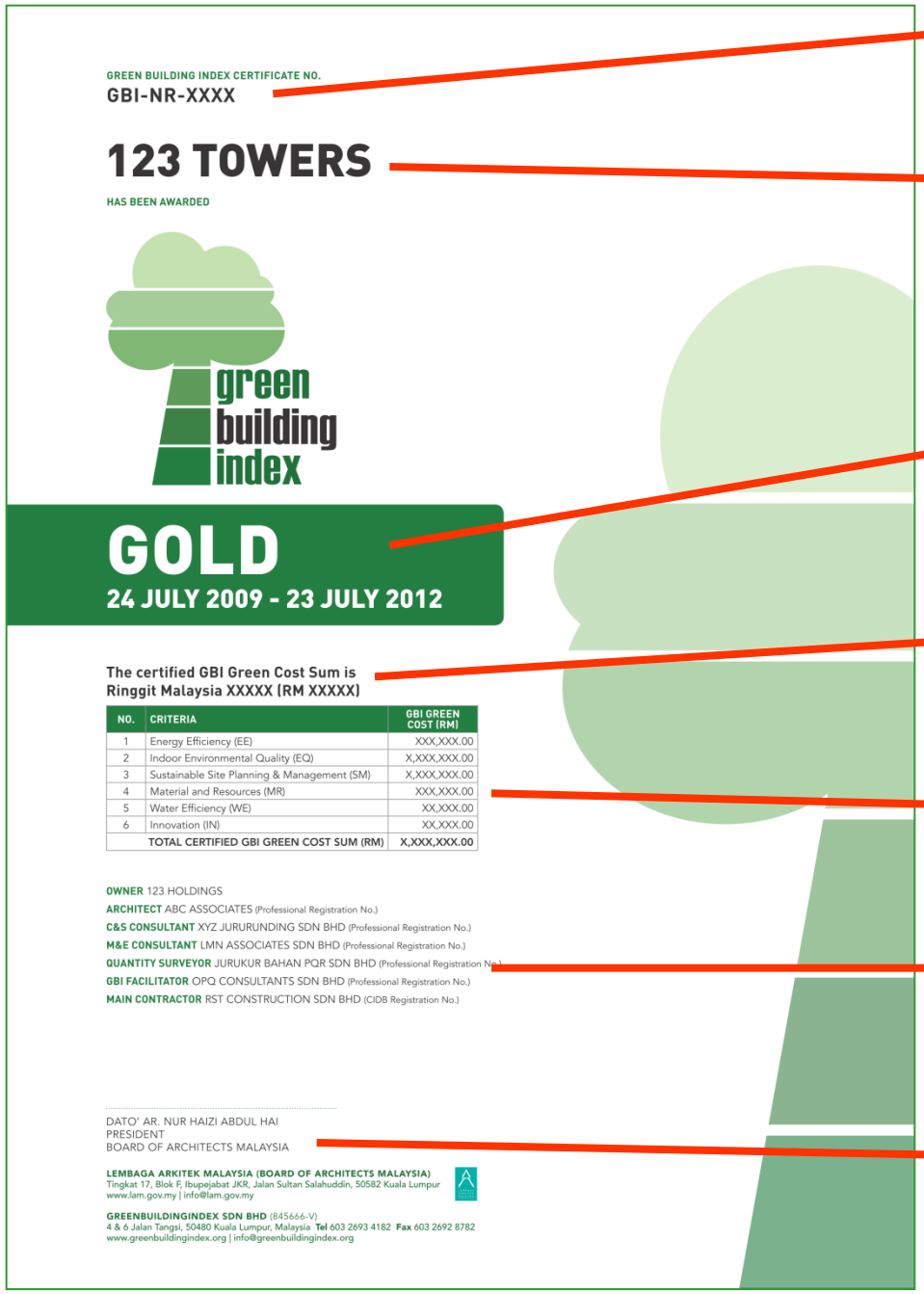
- Guide on GBIF Scope of Works & Fees released
- 2 Commissioning Specialists (CxS) forums conducted
- 10 CxS approved and listed on website
- ACEM completed nationwide roadshows on BEIT software
- Government incentive for GBI announced in Oct 2009 10MP budget
- Tax exemption and Stamp Duty incentive scheme details firmed up

Tax Incentives for Building Awarded GBI Certificate – Tax Exemption

Owners of buildings awarded the Green Building Index (GBI) certificate be given tax exemption equivalent to 100% of the additional capital expenditure incurred to obtain the GBI certificate which can be set-off against 100% of the statutory income for each year of assessment. The incentive is applicable for new buildings and upgrading of existing buildings. The incentive is given only for the first GBI certificate issued in respect of the building.

Major Developments since 21/5/09 launch of GBI cont'd

- GBI Green Cost Certificate issued by Board of Architects, Malaysia for tax rebate
- Green Cost items identified and briefing sessions conducted
- Various incentives for GBI buildings given by DBKL, MBPJ, MPPP ……



Cert No.

Name of Building

GBI Rating Grade & Validity Period

Green Cost in RM

Breakdown Green Cost for each of the 6 Criteria

Owner & Key Consultants

Signed by President, Board of Architects

Major Developments since 21/5/09 launch of GBI cont'd

- NREB rating tool launched (April 2010)
- Reference Design Guides for NRNC and RNC released
- NREB Reference Design Guide released (Jan 2011)
- Township tool launched (29 Mar 2011)
- RNC V2.0 released (29 Mar 2011)

Major Developments since 21/5/09 launch of GBI cont'd

Industrial INC & IEB tools development:

- Dialogue with FMM – 17th May 2010
- Presentation to FMM – 30th Mar 2011
- INC & IEB launch – 7th Jun 2011
- INC Design Reference Guide – 7th Jun 2011
- IEB Design Reference Guide – Q3 2011

Major Developments since 21/5/09 launch of GBI cont'd

In the pipeline (Q3&Q4 2011):

- NRNC Data Centre
- NRNC Retail Mall
- NRNC Health Care
- NRNC Hotel

BRIEF INTRO TO
INC & IEB RATING TOOLS

Industrial Building Stock as of 2010

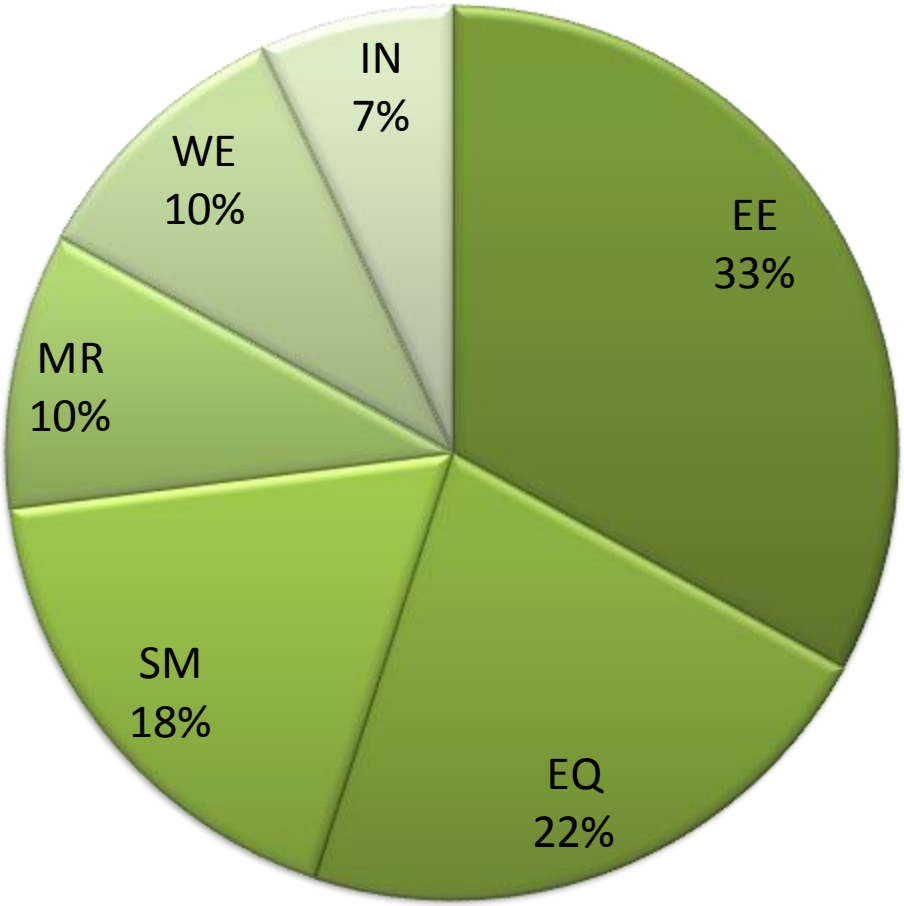
YEAR	Terraced	Semi-Detached	Detached	Flatted Factory	Industrial Complex	Total
2002	51,631	14,981	13,152	1,599	1,558	82,921
2003	54,221	15,636	13,679	1,730	1,239	86,505
2004	52,485	15,663	13,533	1,602	1,395	84,678
2005	52,922	15,829	13,689	1,641	1,416	85,497
2006	53,839	16,443	14,254	1,801	1,495	87,832
2007	54,147	16,761	14,915	1,801	1,536	89,160
2008	54,877	17,013	15,099	1,801	1,557	90,347
2009	55,833	17,722	15,492	1,809	1,580	92,436
2010	56,113	18,054	15,598	1,809	1,565	93,139
2011	56,741	18,487	15,974	1,847	1,596	94,645
2012	57,377	18,931	16,359	1,886	1,627	96,179
2013	58,020	19,385	16,753	1,925	1,658	97,742
2014	58,669	19,851	17,157	1,966	1,691	99,333
2015	59,327	20,327	17,570	2,007	1,724	100,955

Actual

Projected

Ref: Property Stock Report by Pusat Maklumat Harta Tanah Negara (NAPIC) year 2002 to 2010

Industrial New Construction



GBI Rating Tools and Concepts

GBI VERSION 1.0

- **No Pre-requisite / Mandatory criteria**
- **Maximum score 100 points**
- **No bonus points**
- **Validity 3 years**

1) Energy Efficiency 33 points

Design & Performance	
EE1 Minimum EE Performance	1
EE2 Lighting Zoning	3
EE3 Electrical Sub-Metering	1
EE4 Renewable Energy & Onsite Energy Capture	8
EE5 Advanced or Improved EE Performance – BEI and/or EUI	10
Commissioning	
EE6 Enhanced or Re-commissioning	4
EE7 On-going Post Occupancy Commissioning	2
Monitoring, Improvement & Maintenance	
EE8 EE Verification	2
EE9 Sustainable Maintenance	2

1) Energy Efficiency 33 points

Design & Performance	
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EE1 Minimum EE Performance	1

Create EE awareness and promote the use of MS 1525

Establish minimum energy efficiency (EE) performance to reduce energy consumption in buildings, thus reducing CO2 emission to the atmosphere. Meet the following minimum EE requirements as stipulated in MS 1525:2007:	1
1. Submit calculations for OTTV ≤ 50 **and RTTV ≤ 25**. Use of the BEIT software or other GBI approved softwares is permitted, AND 2. Install Energy Management System where Air-Conditioned area ≥ 4000 m2	

EE4 Renewable Energy & Onsite Energy Capture/Recovery	8

Encourage use of Renewable Energy & Onsite Energy Capture/Recovery

Where 0.5% or 5kWp whichever is the greater, of the equivalent total electricity consumption is generated by Renewable Energy (RE) or Onsite Energy Capture/Recovery, OR	1
Where 1.0% or 10kWp, OR	2
Where 1.5% or 20kWp, OR	4
Where 2.0% or 40kWp, OR	6
Where 2.5% or 60kWp.	8

EE5 Advanced or Improved Energy Performance – BEI and/or EUI	10

Exceed Energy Efficiency (EE) performance better than the baseline minimum to reduce energy consumption in the building and/or the industrial plant process.

For the building, improve Building Energy Intensity (BEI) as defined by GBI (use of GBI approved software is permitted).

For industrial plant process, use Energy Use Intensity (EUI) to compare against baseline data for similar plant process (baseline EUI shall be furnished by applicant for GBI acceptance).

Use BEI or EUI if either building or industrial plant process energy use constitutes more than 75% of the total energy use. Otherwise, calculate both BEI and EUI with the lower point score applicable.

EE5 Advanced or Improved Energy Performance – BEI and/or EUI	10

BEI ≤ 180 kWh/m2.yr OR EUI improvement ≥ 10%	1
BEI ≤ 150 kWh/m2.yr OR EUI improvement ≥ 25%	3
BEI ≤ 140 kWh/m2.yr OR EUI improvement ≥ 30%	4
BEI ≤ 130 kWh/m2.yr OR EUI improvement ≥ 35%	5
BEI ≤ 120 kWh/m2.yr OR EUI improvement ≥ 40%	6
BEI ≤ 110 kWh/m2.yr OR EUI improvement ≥ 45%	7
BEI ≤ 100 kWh/m2.yr OR EUI improvement ≥ 50%	8
BEI ≤ 90 kWh/m2.yr OR EUI improvement ≥ 55%	10

EE9 Sustainable Maintenance	2

Ensure the building's energy related systems will continue to perform as intended beyond the 12 months Defects & Liability Period

1. At least 50% of permanent building maintenance team to be on-board one (1) to three (3) months before practical completion and to fully participate (to be specified in contract conditions) in the Testing & Commissioning of all building energy services AND	1
2. Set up a permanent Energy Monitoring Committee (EMC) to ensure that plant energy performance is continuously monitored and improved.	
3. Provide for a designated facility maintenance office that is fully equipped with facilities (including tools and instrumentation) and inventory storage AND	1
4. Provide evidence of documented plan for at least 3-year facility maintenance and preventive maintenance budget (inclusive of staffing and outsourced contracts).	

2) Indoor Environmental Quality 22 pts

Air Quality		
EQ1	Minimum IAQ Performance	1
EQ2	Environmental Tobacco Control	1
EQ3	Carbon Dioxide Monitoring & Control	1
EQ4	Indoor Air Pollutants & Industrial Chemicals	3
EQ5	Mould Prevention	1
Occupant Comfort		
EQ6	Thermal Comfort Control	2
EQ7	Air Change Effectiveness	1
EQ8	Breakout Spaces	1

2) Indoor Environmental Quality 22 pts

Air Quality		
EQ1	Minimum IAQ Performance	1
EQ2	Environmental Tobacco Control	1
EQ3	Carbon Dioxide Monitoring & Control	1
EQ4	Indoor Air Pollutants & Industrial Chemicals	3
EQ5	Mould Prevention	1
Occupant Comfort		
EQ6	Thermal Comfort Control	2
EQ7	Air Change Effectiveness	1
EQ8	Breakout Space	1

EQ4 Indoor Air Pollutants & Industrial Chemical Exposure	3

Reduce detrimental impact on occupant/worker's health from finishes that emit internal air pollutants and exposure to industrial chemicals

Use low VOC paint and coating; low VOC carpet or flooring; low VOC adhesives and sealant throughout the building	**1**
Use products with no added urea formaldehyde	**1**
Minimise air pollutants of industrial plant process by using environmental friendly house keeping chemicals and minimise microbial contamination and NOX emission	**1**

EQ8 Breakout Space	1

Provide breakout space to reduce worker's fatigue for at least 5% of employees per shift	1

Lighting, Visual & Acoustic Comfort	
EQ9 Daylighting	2
EQ10 Daylight Glare Control	1
EQ11 Electric Lighting Levels	1
EQ12 High Frequency Ballasts	1
EQ13 External Views	2
EQ14 Internal Noise Levels	1
Verification	
EQ14 IAQ Before/During Occupancy	2
EQ15 Occupancy Comfort Survey	1

3. Sustainable Site Planning & Management

18 pts

Site Planning	
SM1 Site Selection	1
SM2 Brownfield Redevelopment	1
SM3 Dev Density & Community Connectivity	2
SM4 Environment Management	2
SM5 Noise Pollution	1
Construction Management	
SM6 Earthworks – Pollution Control	1
SM7 QLASSIC	1
SM8 Workers Site Amenities	1

3. Sustainable Site Planning & Management

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Site Planning	
SM1 Site Selection	1
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SM4 Environment Management	2
SM5 Noise Pollution	1
Construction Management	
SM6 Earthworks – Pollution Control	1
SM7 QLASSIC	1
SM8 Workers Site Amenities	1

SM3 Development Density & Community Connectivity	2

Channel development to urban area with existing infrastructure, protect greenfield and preserve habitat and natural resources:-	
A) DEVELOPMENT DENSITY	
Construct a new building or renovate an existing building on a previously developed site AND in a community with a minimum density of 20,300 m2 per hectare net (87,000 ft2 per acre net)	1

Transportation	
SM9 Public Transportation Access and Transportation Plan	1
SM10 Green Vehicle Priority	1
SM11 Parking Capacity	1
SM12 Cargo Delivery Route & Proximity	1
Design	
SM13 Storm Water Design	1
SM14 Greenery & Roof	2
SM15 Building User Manual	1

Transportation	
SM9 Public Transportation Access and Transportation Plan	1
SM10 Green Vehicle Priority	1
SM11 Parking Capacity	1
SM12 Cargo Delivery Route & Proximity	1
Design	
SM13 Storm Water Design	1
SM14 Greenery & Roof	2
SM15 Building User Manual	1

SM12 Cargo Delivery Route & Proximity	1

Proximity to Major Cargo Transport, e.g. airport, seaport, highway, railway:	
Credit point is awarded where the building/plant is within 10km of at least 2 major cargo services: Major cargo services are considered to be the following: (where they contain cargo facilities); – Airport; – Seaport; – Railway Station or Rail Yard; AND Are accessible to Major Freeway entrance/exit (within 5km).	1

4) Materials & Resources 10 pts

Reused & Recycled Materials	
MR1 Material reuse and selection	2
MR2 Recycled Content Materials	2
Sustainable Resources	
MR3 Regional Materials	1
MR4 Sustainable Timber	1
Waste Management	
MR5 Storage, Collection of Recyclables	1
MR6 Waste Management	2
Green Products	
MR7 Refrigerants & Clean Agents	1

4) Materials & Resources 10 pts

Reused & Recycled Materials	
MR1 Material reuse and selection	2
MR2 Recycled Content Materials	2
Sustainable Resources	
MR3 Regional Materials	1
MR4 Sustainable Timber	1
Waste Management	
MR5 Storage, Collection of Recyclables	1
MR6 Waste Management	2
Green Products	
MR7 Refrigerants & Clean Agents	1

MR7 Refrigerants & Clean Agents	1

Demonstrate leadership in accelerating phase-out of all Ozone Depleting Substances.

Use environmentally-friendly Refrigerants and Clean Agents exceeding Malaysia's commitment to the Montreal & Kyoto protocols:-	
Use zero Ozone Depleting Potential (ODP) products: non-CFC and non-HCFC refrigerants AND clean agents	1

5) Water Efficiency — 10 points

Water Harvesting & Recycling	
WE1 Rainwater Harvesting	2
WE2 Water Recycling	2
Increased Efficiency	
WE3 Water Efficient Irrigation/ Landscaping	2
WE4 Water Reduction	2
WE5 Metering and Leak Detection System	2

5) Water Efficiency — 10 points

Water Harvesting & Recycling	
WE1 Rainwater Harvesting	2
WE2 Water Recycling	2
Increased Efficiency	
WE3 Water Efficient Irrigation/ Landscaping	2
WE4 Water Reduction	2
WE5 Metering and Leak Detection System	2

WE5 Metering and Leak Detection System	2

Minimise unnecessary loss of potable water.

Encourage the design of systems that monitors and manages water consumption:-	
Use of sub-meters to monitor and manage major water usage for cooling towers, irrigation, kitchens, tenancy use, and industrial process use	1
Link all water sub-meters to EMS to facilitate early detection of water leakage	1

6) Innovation — 7 points

IN1	Innovation Environmental Initiatives	6
IN2	Green Building Index Facilitator	1

TOTAL	**100**

IN1 Innovation Environment Initiatives	6

Reward innovation and initiatives

Provide design team and project the opportunity to be awarded points for exceptional performance above the requirements set by GBI rating system:-	
1 point for each approved innovation environmental initiative up to a maximum of 6 points, such as;	
Condensate water recovery (accounting for at least 50% of total AHUs/FCUs) for use as cooling tower make-up water etc;	

IN1 Innovation Environment Initiatives	6

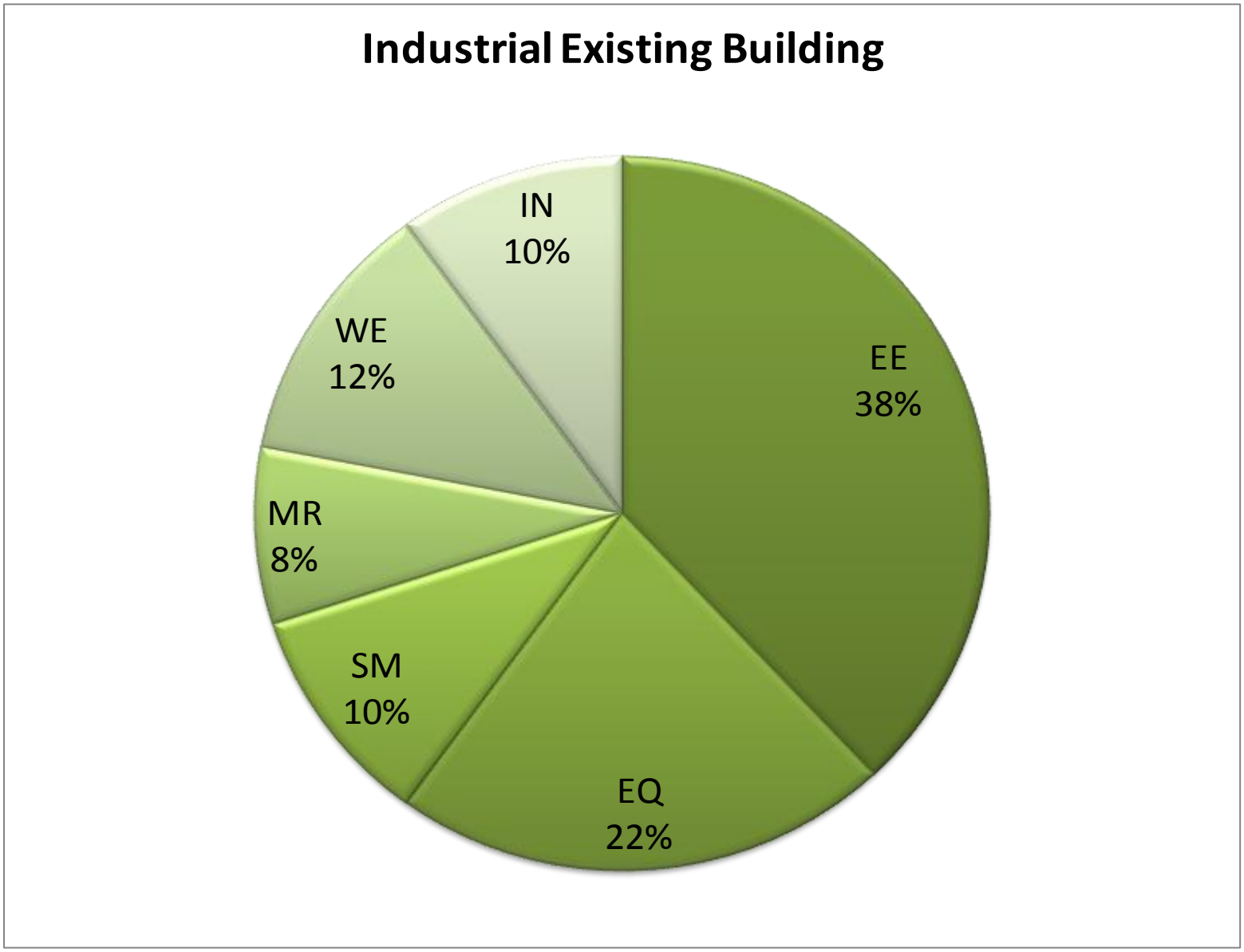
Co-generation / Tri-generation system; Thermal / PCM / Thermal Mass storage system (accounting for at least 25% of total required capacity); Solar Thermal Cooling (generating at least 10% of total required capacity); Heat recovery system (contributing to at least 10% of total required capacity); Heat pipe technology; Light pipes accounting for at least 1% of NLA; Auto-condenser tube cleaning system (fitted to plant equipment serving at least 50% of total capacity);	

IN1 Innovation Environment Initiatives	6

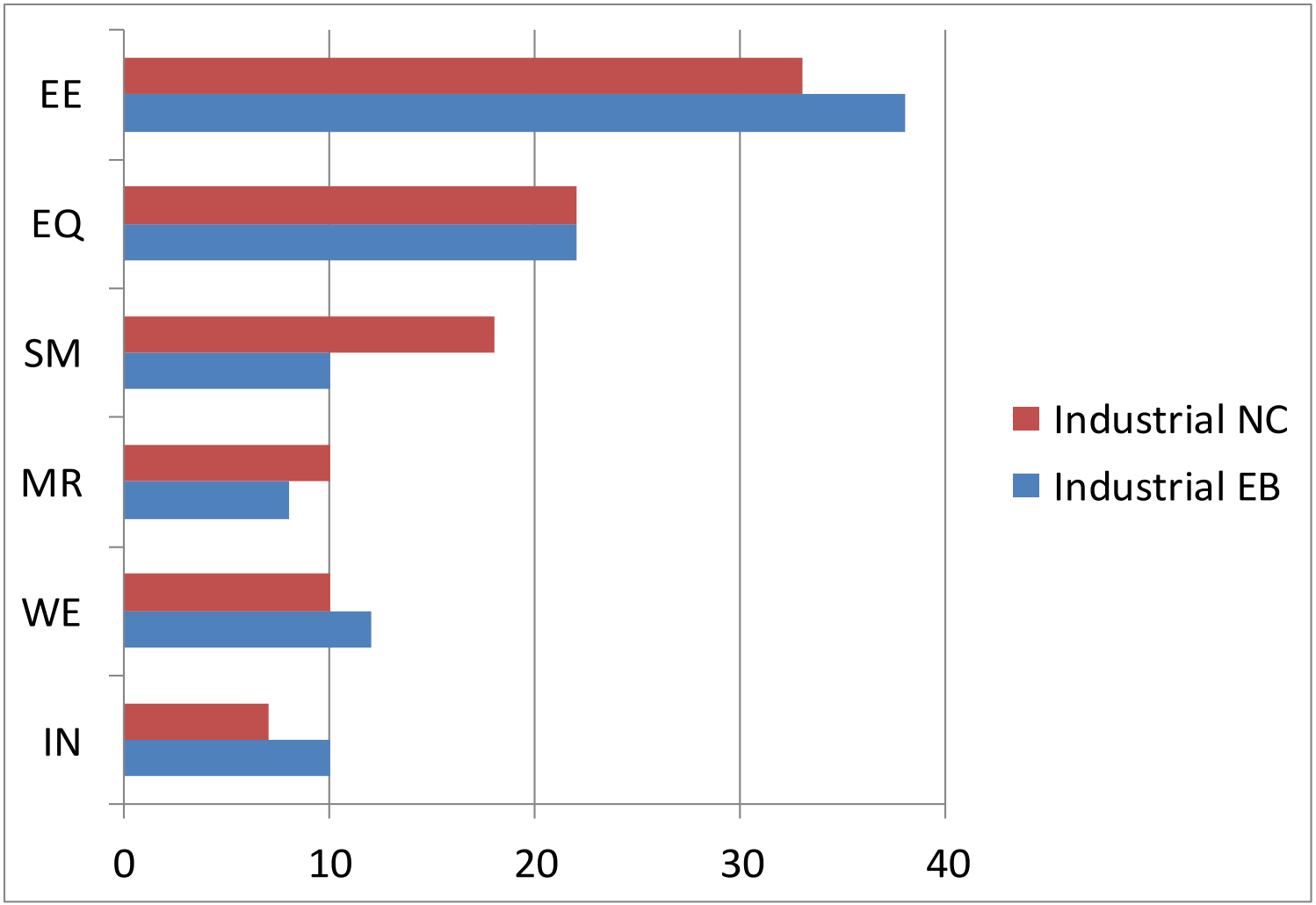
Non-chemical water treatment system for condenser or chilled water circuit (eg. air and dirt separator, vacuum degasser, etc)	
Dynamic balancing control valve system (for entire chilled water system)	
Mixed mode / low energy ventilation system;	
Advanced air filtration technology (serving at least 50% of the GFA);	
Waterless urinals (fitted to all male toilets);	
Central vacuum system (serving at least 50% of NLA);	
Central Pneumatic Waste Collection system;	
Self-cleaning façade;	
Electrochromic glazed façade;	

IN1 Innovation Environment Initiatives	6

Refrigerant leakage detection and recycling facilities; Use non-synthetic (natural) Refrigerants AND Clean Agents with zero ODP and negligible Global Warming Potential; ISO 14000 series certification Recycling of all fire system water during regular testing	6


Industrial Existing Building
IN
10%
WE
12%
EE
38%
MR
8%
SM
10%
EQ
22%

INC vs IEB Score Chart



1) Energy Efficiency 38 points

Design & Performance	
EE1 Minimum EE Performance	2
EE2 Lighting Zoning	3
EE3 Electrical Sub-Metering	2
EE4 Renewable Energy & Onsite Energy Capture	8
EE5 Advanced or Improved EE Performance – BEI and/or EUI	10
Commissioning	
EE6 Enhanced or Re-commissioning or Retro-commissioning	5
EE7 On-going Post Occupancy Commissioning	2
Monitoring, Improvement & Maintenance	
EE8 EE Monitoring & Improvement	2
EE9 Sustainable Maintenance	4

EE4 Renewable Energy & Onsite Energy Capture/Recovery	8

Encourage use of Renewable Energy & Onsite Energy Capture/Recovery

Where 0.25 % or 2 kWp whichever is the greater, of the equivalent total electricity consumption is generated by renewable energy and/or onsite energy capture/recovery, OR	1
Where 0.50% or 5kWp, OR	2
Where 0.75% or 7.5kWp, OR	3
Where 1.00% or 10kWp, OR	4
Where 1.25% or 12.5kWp, OR	5
Where 1.50% or 20kWp, OR	6
Where 2.00% or 40kWp, OR	7
Where 2.50% or 60kWp.	8

EE5 Advanced or Improved Energy Performance – BEI and/or EUI	10

BEI ≤ 180 kWh/m2.yr OR EUI improvement ≥ 10%	1
BEI ≤ 150 kWh/m2.yr OR EUI improvement ≥ 25%	3
BEI ≤ 140 kWh/m2.yr OR EUI improvement ≥ 30%	4
BEI ≤ 130 kWh/m2.yr OR EUI improvement ≥ 35%	5
BEI ≤ 120 kWh/m2.yr OR EUI improvement ≥ 40%	6
BEI ≤ 110 kWh/m2.yr OR EUI improvement ≥ 45%	7
BEI ≤ 100 kWh/m2.yr OR EUI improvement ≥ 50%	8
BEI ≤ 90 kWh/m2.yr OR EUI improvement ≥ 55%, OR	10

EE5 Advanced or Improved Energy Performance – BEI and/or EUI	10

2) Demonstrate Energy savings over the last 3 years from Existing Building/Plant historical BEI/EUI baseline, to improve by:	
BEI ≥ 15% with resultant BEI ≤ 200 or EUI improvement ≥ 10%	1
BEI ≥ 20% with resultant BEI ≤ 190 or EUI improvement ≥ 25%	3
BEI ≥ 25% with resultant BEI ≤ 180 or EUI improvement ≥ 30%	4
BEI ≥ 30% with resultant BEI ≤ 150 or EUI improvement ≥ 35%	5
BEI ≥ 40% with resultant BEI ≤ 140 or EUI improvement ≥ 40%	6
BEI ≥ 50% with resultant BEI ≤ 130 or EUI improvement ≥ 45%	7
BEI ≥ 60% with resultant BEI ≤ 120 or EUI improvement ≥ 50%	8
BEI ≥ 70% with resultant BEI ≤ 110 or EUI improvement ≥ 55%	10

EE8 EE Monitoring & Improvement	2

Ensure the building's energy related systems will continue to perform as intended beyond the 12 months Defects & Liability Period

1. Use Energy Management System to monitor and trend log energy consumption for building and plant process, AND Monitor sub-metering of building system and plant process to track energy consumption of major uses and other end use applications e.g. by categorising into building/plant systems or floors etc.	1
2. Fully commission EMS and activate Maximum Demand Limiting programme, AND Compile, summarise and submit BEI/EUI, Fuel and Water Consumption of building/plant to GBI on an annual basis during the 3-years validity period or earlier whenever requested by GBI.	1

EE9 Sustainable Maintenance	4

Ensure the building's energy related systems will continue to perform as intended beyond the 12 months Defects & Liability Period

1. At least 75% of permanent building maintenance team to be on-board one (1) to three (3) months before practical completion and to fully participate (to be specified in contract conditions) in the Testing & Commissioning of all building energy services	1
2. Set up a permanent Energy Monitoring Committee (EMC) to ensure that plant energy performance is continuously monitored and improved.	1
3. Provide for a designated facility maintenance office that is fully equipped with facilities (including tools and instrumentation) and inventory storage	1
4. Provide evidence of documented plan for at least 3-year facility maintenance and preventive maintenance budget (inclusive of staffing and outsourced contracts) for building & plant process	1

2) Indoor Environmental Quality 22 pts

Air Quality		
EQ1	Minimum IAQ Performance	1
EQ2	Environmental Tobacco Control	1
EQ3	Carbon Dioxide Monitoring & Control	1
EQ4	Indoor Air Pollutants & Industrial Chemicals	3
EQ5	Mould Prevention	1
Occupant Comfort		
EQ6	Thermal Comfort Control	2
EQ7	Air Change Effectiveness	1
EQ8	Breakout Spaces	1

Lighting, Visual & Acoustic Comfort	
EQ9 Daylighting	2
EQ10 Daylight Glare Control	1
EQ11 Electric Lighting Levels	1
EQ12 High Frequency Ballasts	1
EQ13 External Views	2
EQ14 Internal Noise Levels	1
Verification	
EQ14 IAQ Before/During Occupancy	2
EQ15 Occupancy Comfort Survey	1

3. Sustainable Site Planning & Management

10 pts

Facility Management	
SM1 GBI Rated Design & Construction	1
SM2 Building Exterior Management	1
SM3 Integrated Pest Management, Erosion Control & Landscape Management	1
Transportation	
SM4 Green Vehicle Priority	1
SM5 Parking Capacity	1
Reduce Heat Island Effect	
SM6 Greenery & Roof	4
SM7 Building User Manual	1

4) Materials & Resources 10 pts

Reused & Recycled Materials	
MR1 Material reuse and selection	1
MR2 Recycled Content Materials	1
Sustainable Materials & Resources & Policy	
MR3 Sustainable Timber	1
MR4 Sustainable Purchasing Policy	1
Waste Management	
MR5 Storage, Collection & Disposal of Recyclables	3
Green Products	
MR7 Refrigerants & Clean Agents	1

5) Water Efficiency — 12 points

Water Harvesting & Recycling	
WE1 Rainwater Harvesting	3
WE2 Water Recycling	3
Increased Efficiency	
WE3 Water Efficient Irrigation/ Landscaping	2
WE4 Water Efficient Fittings	2
WE5 Metering and Leak Detection System	2

6) Innovation — 10 points

IN1	Innovation & Environmental Initiatives	9
IN2	Green Building Index Facilitator	1

TOTAL	**100**

Other Green Industrial Rating Tools

- LEED – 'NONE': Covered under generic NR tool
- Green Mark – NONE: Covered under generic NR tool
- BREEAM – YES: Common tool for new construction and refurbishment but not to be used for existing industrial. Incorporates CO2 index (including process); No breakout space; No process water reduction; Travel Plan
- Green Star – YES v1: Common tool for new and refurbished industrial building; excludes industrial process.
- IGBC – YES pilot: Combined tool for new and existing factories. Eco-captive power generation; Process energy factored for simulation of total energy only but not included in rating score.

POINTS	GBI RATING	INFERENCE
50 to 65	GBI CERTIFIED	Good Practice
66 to 75	GBI SILVER	Excellent Practice
76 to 85	GBI GOLD	National Excellence
86 +	GBI PLATINUM	Global Excellence

1-EE :

1 WATT SAVED

IS MORE THAN

1 WATT PRODUCED

THANK YOU

green building index

www.greenbuildingindex.org
www.mgbc.org.my