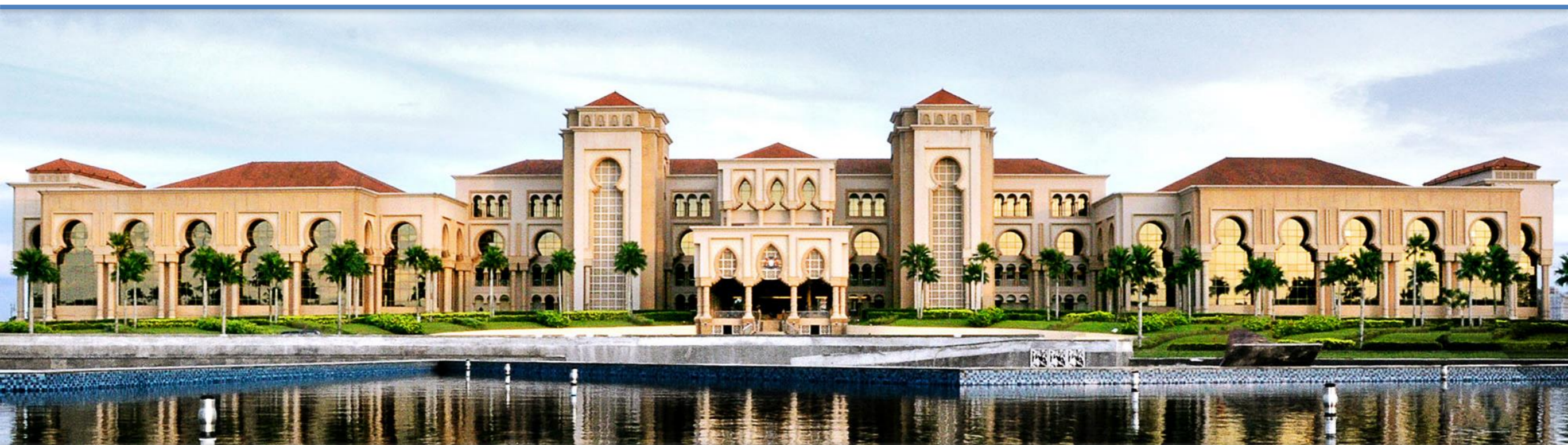




PRIME MINISTER'S DEPARTMENT



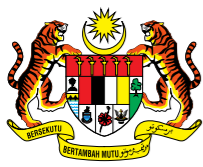
KERTAS CADANGAN MENGGUNAPAKAI SISTEM PENARAFAN ANTARABANGSA- CASBEE ISKANDAR UNTUK MAJLIS BANDARAYA JOHOR BAHRU (MBJB)

**KAMISAH MOHD GHAZALI
LEAD, RESILIENT ENVIRONMENT
ISKANDAR REGIONAL DEVELOPMENT AUTHORITY (IRDA)**



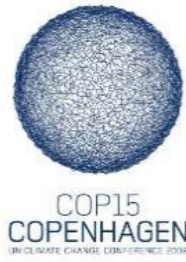
Agenda

1. Pengenalan LCS & CASBEE Iskandar
2. Halatuju Negeri Johor dalam Promosi Bangunan Hijau
3. Perkembangan dan Pencapaian CASBEE Iskandar
4. Unik dan Tawaran Nilai CASBEE Iskandar
5. Langkah Seterusnya



PRIME MINISTER'S DEPARTMENT

Agenda Masyarakat Rendah Karbon

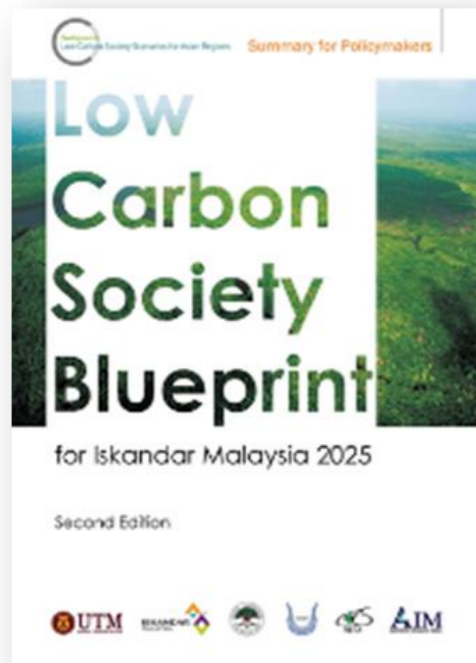


On 17 Dec 2009, Malaysian 6th Prime Minister committed to a voluntary reduction of up-to-40% in terms of emission intensity of GDP by the year 2020 compared to 2005 levels.

At COP 19 Doha – Iskandar Malaysia launched Low Carbon Society Blueprint for Iskandar Malaysia 2025. The Blueprint was subsequently endorsed by the Prime Minister of Malaysia in December 2012

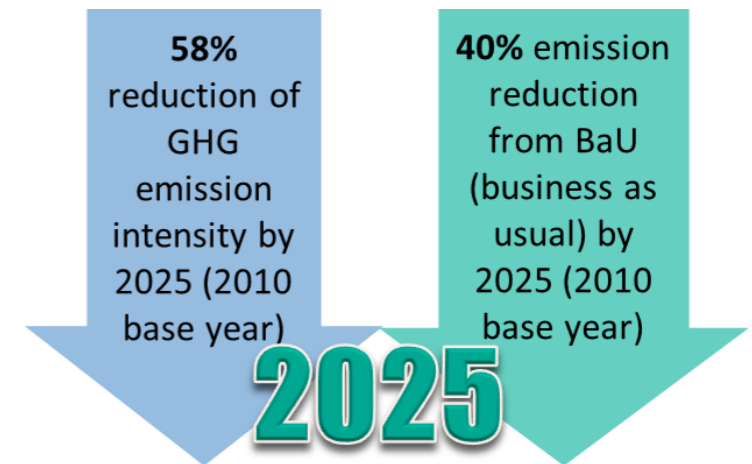
At COP 21 Paris – The commitment is renewed to a reduction of up to 45% in terms of emission intensity of GDP by 2030 compared to 2005 levels.

27 Sep 2021-Malaysia continues to fulfil its commitments to reduce the GHG intensity of by 45% unconditionally by 2030, and Malaysia is committed to its target of becoming a carbon-neutral nation by 2050



LCSBPIM revision, Expected by Q3, 2022

Action Names	Themes
1. Integrated Green Transportation	GREEN ECONOMY
2. Green Industry	
3. Low Carbon Urban Governance	
4. Green Buildings & Construction	
5. Green Energy System & Renewable Energy	
6. Low Carbon Lifestyle	GREEN COMMUNITY
7. Community Engagement & Consensus Building	GREEN ENVIRONMENT
8. Walkable, Safe, Livable City Design	
9. Smart Growth	
10. Green and Blue Infrastructure & Rural Resources	
11. Sustainable Waste Management	
12. Clean Air Environment	



- Low Carbon Society Blueprint for Iskandar Malaysia 2025 presents comprehensive climate change mitigation policies and detailed strategies to guide development of Iskandar Malaysia
- The LCSBPIM– a quick reference for all policy-makers in both public and private sectors as well as IRDA; 12 Actions grouped in 3 parts namely: Green Economy, Green Community, and Green Environment with total 281 programmes.



Halatuju Negeri Johor Dalam PPMJ



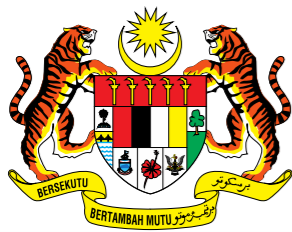
CASBEE Iskandar telah diseranaikan sebagai salah satu program Pelan Pembangunan Mampan Negeri Johor 2030 (Teras 4)

PERNYATAAN DASAR

TERAS 04 Kelestarian Alam Sekitar



LANGKAH	PROGRAM
Langkah 1 Memperkasa sistem penilaian bangunan hijau di seluruh Johor.	<p>Program 1 Menggalakkan penggunaan sistem penilaian, alat penarafan dan pensijilan bangunan hijau sedia ada, seperti LEED, Indeks Bangunan Hijau (GBI), GAIA oleh IRDA, MyCrest oleh CIDB serta CASBEE; untuk semua pembangunan baharu.</p> <p>Program 2 Mewajibkan pelaporan tenaga bangunan untuk komersial, pejabat dan bangunan pembangunan bersepadu yang dipantau PBT.</p>
Langkah 2 Mempromosi infrastruktur bangunan hijau.	<p>Program 1 Mengubah suai bangunan dan infrastruktur awam sedia ada untuk meningkatkan kecekapan tenaga, air dan sisa buangan.</p> <p>Program 2 Menyediakan insentif kepada pemilik-pemilik bangunan untuk melaksanakan inisiatif bangunan hijau.</p> <p>Program 3 Mensyaratkan penggunaan penghawa dingin daripada <i>District Cooling System</i> (DCS) di kawasan industri, komersial dan pembangunan berskala besar yang menggunakan penghawa dingin dengan kapasiti yang tinggi.</p>

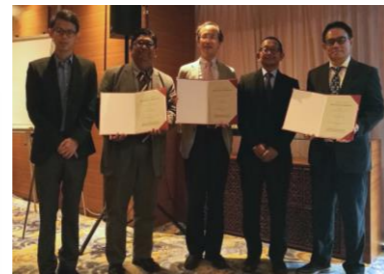


Perkembangan CASBEE Iskandar



Fasa 1

- I. Completed the High-level proposal for Setting Up CASBEE Iskandar Center
- II. Customized and incorporated CASBEE Iskandar into GAIA assessment criteria



I. Signed the new Memorandum of Understanding (MoU) – Expanding CASBEE Activities

I. The CASBEE Iskandar module is adopted under the GEF-funded Green Technology Application for the Development of Low Carbon Cities (GTALCC) initiative for the cities showcase in 2019; 60pax @ Holiday Villa Hotel

Fasa 2

2021

- I. Developing new CASBEE (Urban Development)
- II. Preparing modules under funding GTALCC 2021 (70 pax)

2020

Developed 1st CASBEE Accredited Professional Course (AP) module (Building Category)

II. Successfully conducted 2 new building assessments & certification under CASBEE Iskandar Under funding Johor State Government

2019

2018

II. Conducted 2nd CASBEE Introductory modules expanded to all local authorities (80pax) @ Jen Hotel

2017

III. Conducted the first CASBEE Introductory capacity-building workshop @ KSL Resort Hotel (50pax)

2016

- I. 3 CASBEE Iskandar Manuals published
 - Building
 - Urban Development
 - Cities
- II. Endorsement of CASBEE Iskandar by MOA, IRDA

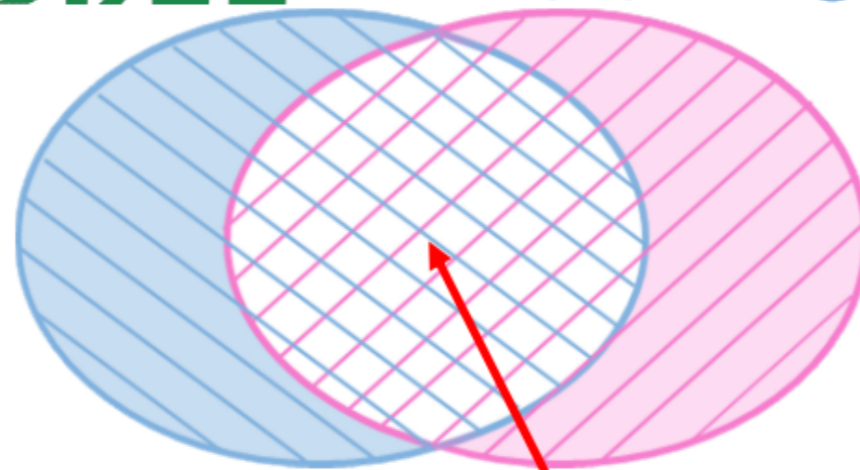


Berdasarkan Kajian Hosei Univiersiti, projek yang memenuhi CASBEE meyumbang 75% (secara terus dan tidak terus) dalam mencapai SDGs.

Main results

- ◆ More than 75% of assessment items correspond to SDGs

CASBEE® SUSTAINABLE DEVELOPMENT GOALS



Common part: About 75% or more

⇒ CASBEE is a tool that corresponds to the SDGs

- ◆ As the scale of assessment items become larger,
the number of goals directly contribute to the achievement increases



SDGs (Sustainable Development Goals) (2015.9)

⇒ Improvement of environmental quality ,Q



Paris Agreement

⇒ Reduction of environmental load ,L
(Emission of CO2)

⇒ Q and L are the two major factors of
environmental planning

**CASBEE is in line with
global policy issues for
a sustainable society**



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Projek yang dinilai dengan menggunakan CASBEE akan menerima sijil pengiktirafan CASBEE dengan keputusan dan seterusnya dengan label bangunan

CASBEE 評価内容 CASBEE-新築

評価ツール CASBEE-NE.2004+1.2
認証番号 IBEC-C0000-NC(b)
発行日 2008年12月20日

建物名称	エコルシオンヴィヴァンテール上青木ハートランド川口駅西	敷地面積	1,995㎡
建物用途	病院	建築面積	798㎡
建設地	埼玉県川口市上青木3丁目10番地17号	延床面積	3,961㎡
気候区分	地域区分IV	階数	地上4階
地域・地区	第2種住居地域、防火指定なし	構造	RC造
竣工年(予定)	2008年1月	平均居住人員	140人
		年間使用時間	6,760時間/年

建築物の環境性能効率 (BEE: Building Environment Efficiency)

BEEによる建築物のサステナビリティランキング

建築物の環境品質・性能 Q

建築物の環境負荷 L

$$BEE = \frac{\text{建築物の環境品質・性能 } Q}{\text{建築物の環境負荷 } L} = \frac{25 \times (80-1)}{25 \times (5-0.6)} = \frac{65}{23} = 2.8$$

建築物の環境品質・性能と環境負荷係数性

レーダーチャート

Q-1: 室内環境 (Sum = 3.5)

Q-2: サービス性能 (Sum = 3.6)

Q-3: 室外環境 (敷地内) (Sum = 3.7)

LR-1: エネルギー (Sum = 4.2)

LR-2: 資源・マテリアル (Sum = 3.5)

LR-3: 敷地外環境 (Sum = 4.4)

認証番号 IBEC-C0000-NC(b)

CASBEE® 建築評価認証書

建築物総合環境性能評価認証制度要綱第5条の規定に基づき評価した結果、CASBEEによる建築物の総合環境性能評価が的確であると認証する

評価 Aランク

建物名称 : (建物名)

申請者 : 一般財団法人 建築環境・省エネルギー機構
理事長 村上 周三

建設地 : 東京都千代田区麹町三丁目五番一号

評価段階 : 実施設計段階

評価ツール : CASBEE新築 (2010年版)

有効期限 : 2012年4月1日

2012年4月1日

一般財団法人 建築環境・省エネルギー機構
理事長 村上 周三



Laporan Bangunan dan Sijil Penarafan

Label Bangunan



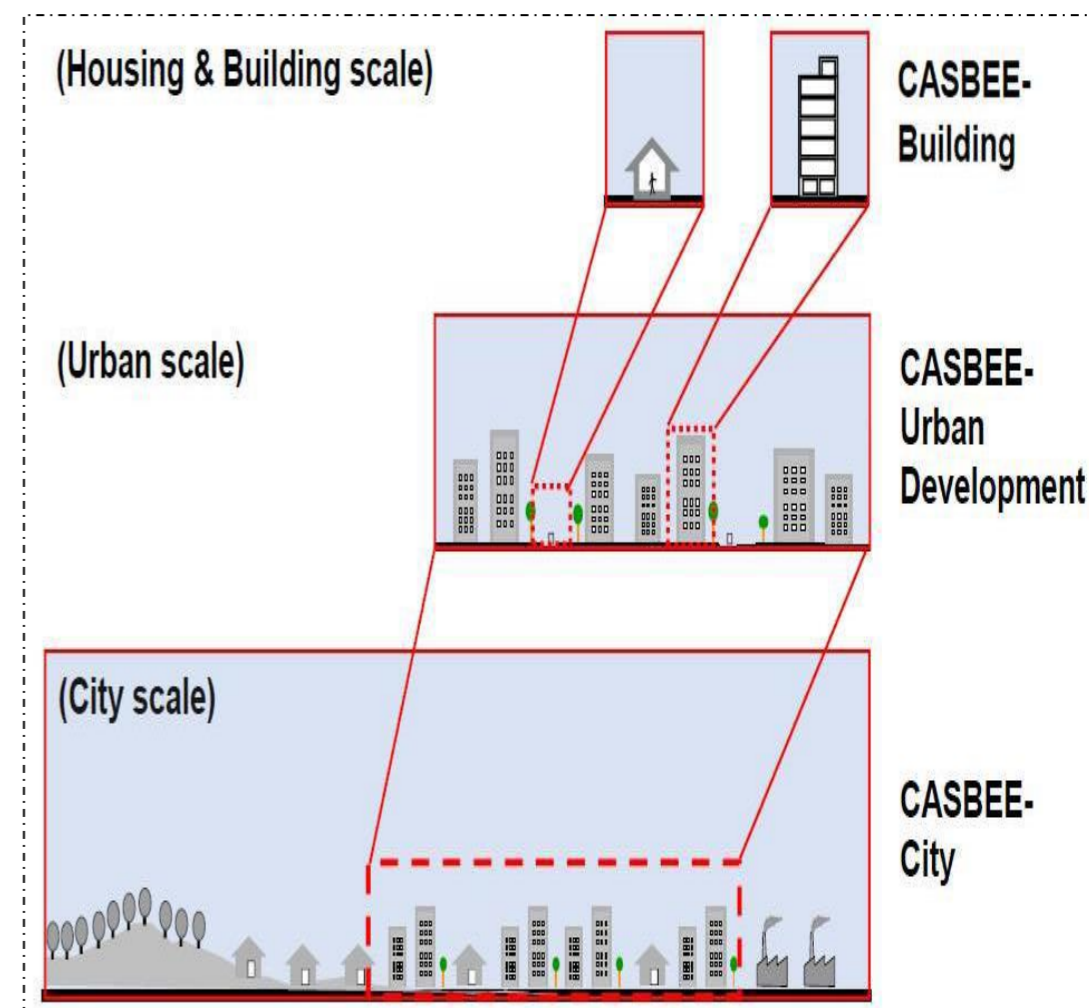
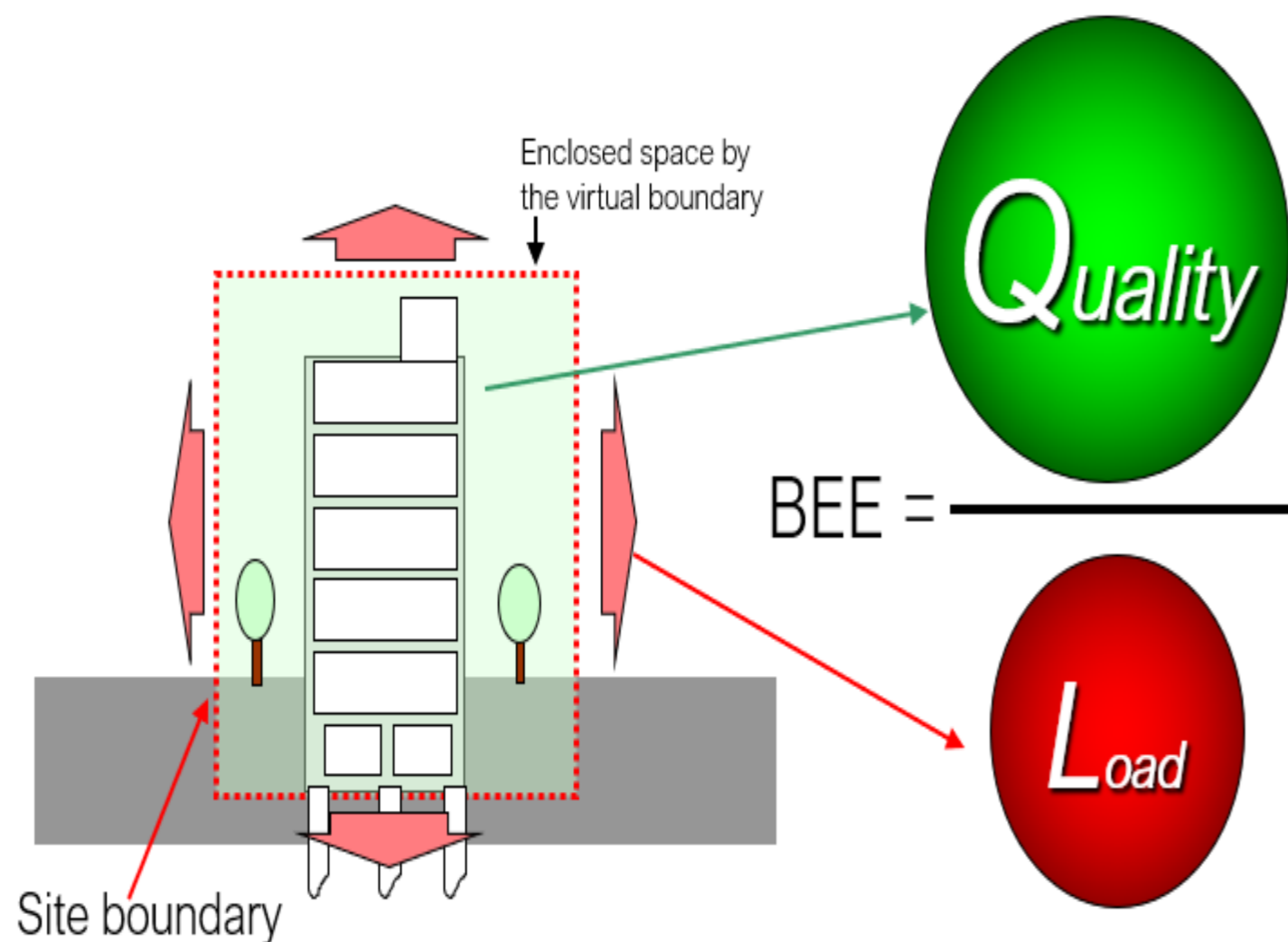
Pengenalan CASBEE

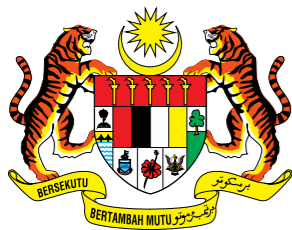


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Comprehensive Assessment System for Built Environment Efficiency (CASBEE)

- Alat penilaian antarabangsa yang berasal Jepun untuk mengukur tahap kecekapan untuk skala bangunan, urban dan bandar.
- Formula: Kecekapan Alam Bina (BEE) = **Qualiti (Q)** / **Beban Alam Sekeliling (L)**





Kriteria Penilaian Bangunan



PRIME MINISTER'S DEPARTMENT

Kualiti *Quality* (Q)

Major Item	Primary Item	Secondary Item	Criteria
Q	Q1. Indoor Environment	1 Sound Environment	1.1 Noise
			1.2 Sound Insulation
			1.3 Sound Absorption
		2 Thermal Comfort	2.1 Room Temperature Control
			2.2 Humidity Control
			2.3 Type of Air Conditioning System
		3 Lighting & Illumination	3.1 Daylight
			3.2 Anti-glare Measures
			3.3 Illuminance Level
			3.4 Lighting Controllability
		4 Air Quality	4.1 Source Control
			4.2 Ventilation
	4.3 Operation Plan		
	4.4 Verification		
	Q2. Quality of Service	1 Service Ability	1.1 Functionality & Usability
			1.2 Amenity
			1.3 Maintenance
		2 Durability & Reliability	2.1 Natural Catastrophe Resistance
			2.2 Service Life of Components
			2.3 Reliability
3 Flexibility & Adaptability		3.1 Spatial Margin	
		3.2 Floor Load Margin	
		3.3 System Renewability	
Q3. Outdoor Environment (On-site)	1 Preservation & Creation of Biotope		
	2 Townscape & Landscape		
	3 Local Characteristics & Outdoor Amenity	3.1 Attention to Local Character & Improvement of Comfort	
		3.2 Improvement of the Thermal Environment on Site	
	4 Pre-Construction and Pre-Completion Consideration	4.1 Site Consideration	

Beban *Load* (L)

Major Item	Primary Item	Secondary Item	Criteria			
L	LR1. Energy	1 Control of Heat Load on the Outer Surface of Buildings				
		2 Natural Energy Utilization				
		3 Efficiency in Building Service System				
		4 Efficient Operation	4.1 Monitoring 4.2 Operation & Management System			
	LR2. Resources & Materials	1 Water Resources		1.1 Water Saving 1.2 Rain Water & Grey Water		
			2 Reducing Use of Non-renewable Resources	2.1 Reducing Use of Materials 2.2 Continuing Use of Existing Structural Frame, etc 2.3 Use of Recycled Materials as Structural Materials 2.4 Use of Recycled Materials as Non-structural Materials 2.5 Timber from Sustainable Forestry 2.6 Efforts to Enhance the Reusability of Components and Materials 2.7 Use of Regional Materials		
		3 Avoiding the Use of Materials with Pollutant Content		3.1 Use of Materials without Harmful Substances 3.2 Elimination of CFCs and Halons		
			1 Consideration of Global Warming			
		LR3. Off-site Environment	2 Consideration of Local Environment		2.1 Air Pollution 2.2 Heat Island Effect 2.3 Load on Local Infrastructure	
				3 Consideration of Surrounding Environment		3.1 Noise, Vibration & Odor 3.2 Wind/Sand Damage & Daylight Obstruction 3.3 Light Pollution
					4 Construction Management	



Pencapaian CASBEE Iskandar dengan 11 Penarafan dan Pensijilan Hijau

2016

2019



(4) Four Buildings	Scoring
1. J.S.T. Connectors (M) 2. Heng Hiap Industries 3. JBCC Komtar JBCC 4. Molek Pine 4	

2 New Buildings	Scoring
1. Nong Chink Green Institute 2. Lembaga Pelabuhan Johor	

Total GFA Building certified : 304,323sqm

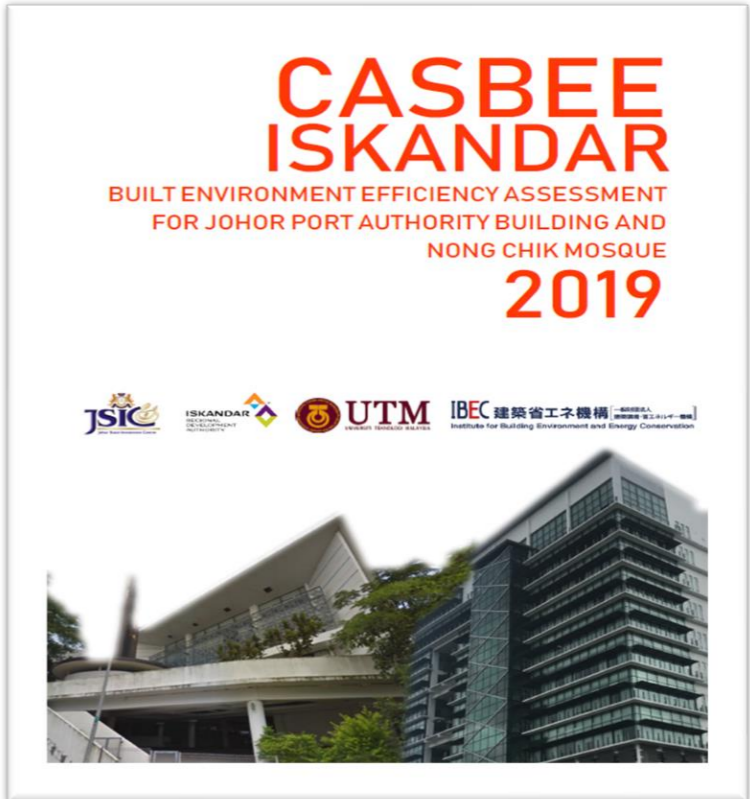


(2) Urban Development	Scoring
1. The Seed, Tmn Sutera Utama 2. Bandar Dato' Onn, Johor Bahru	

Total area certified : 6,155,000sqm



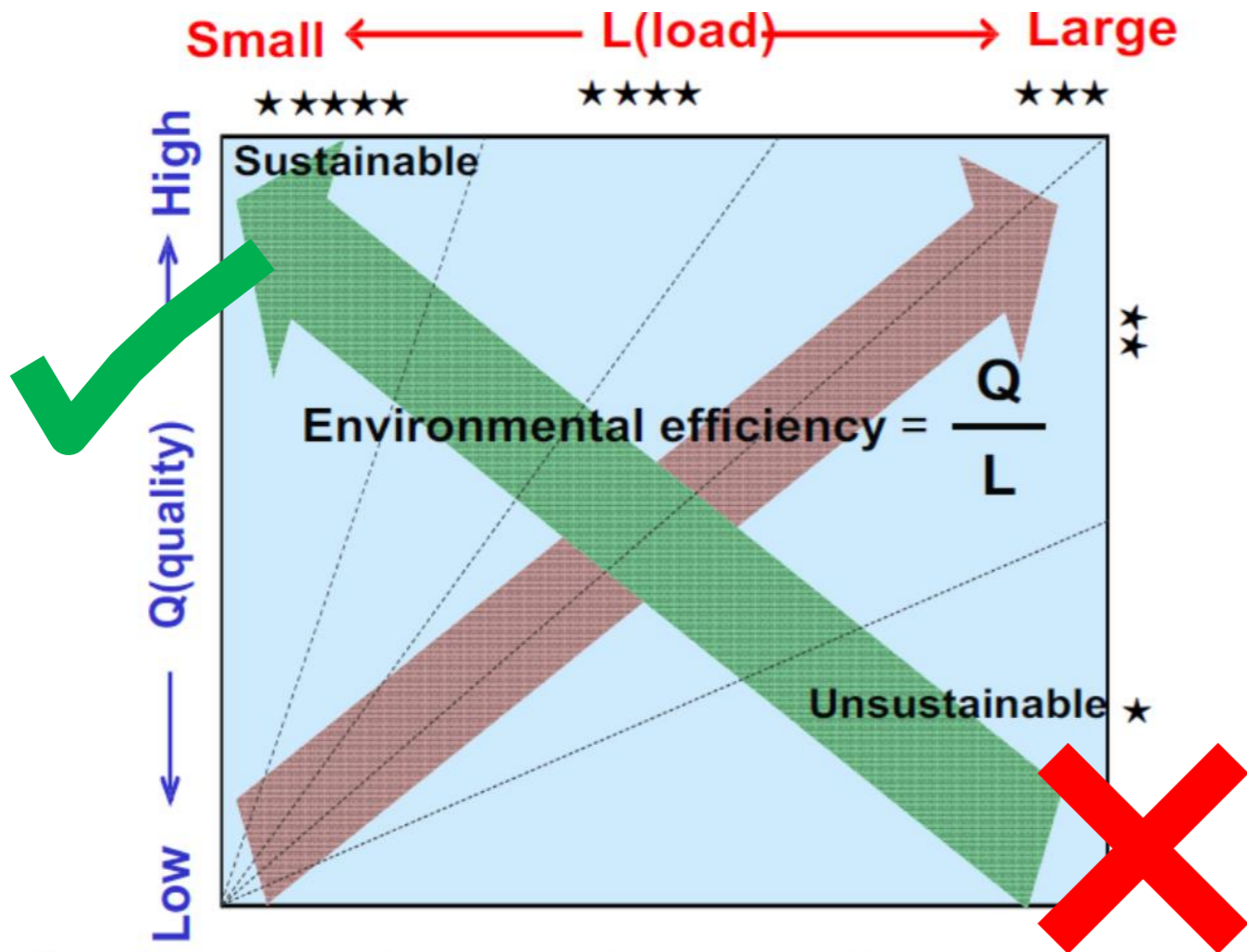
(3) Cities	Scoring
1. Johor Bahru	B+
2. Iskandar Puteri	B+
3. Kulai	B-





Perbandingan Alat Penarafan Hijau Antarabangsa

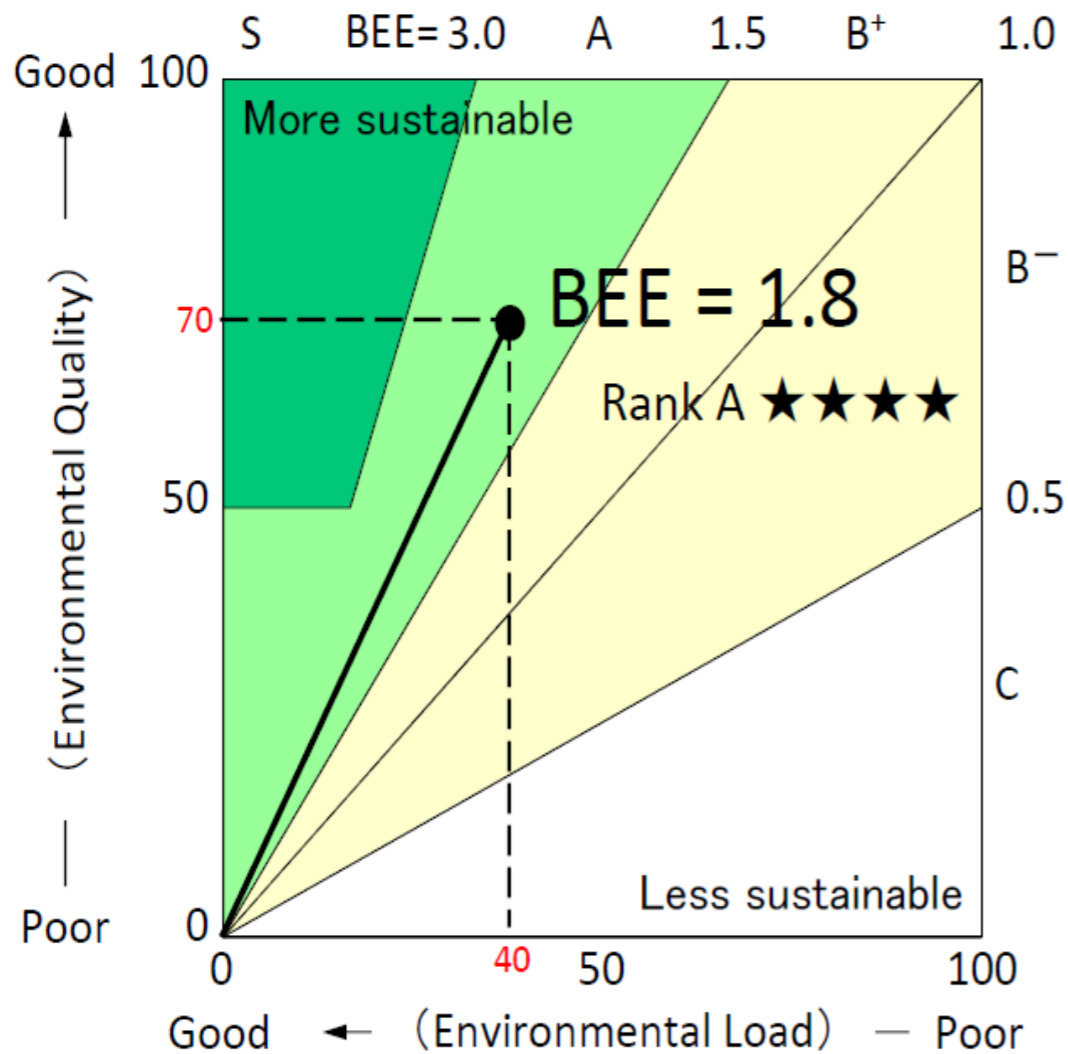
	BREEAM	LEED	CASBEE	GRIHA	GBI
<i>Year of commence</i>	1990	1998	2001	2007	2009
<i>Country of Origin</i>	UK	USA	Japan	India	Malaysia
<i>Developed by</i>	Building Research Establishment (BRE) Ltd	U.S. Green Building Council (USGBC)	Japan Sustainable Building Consortium (JSBC)	Ministry of New & Renewable Energy	Pertubuhan Akitek Malaysia (PAM) & Association of Consulting Engineers Malaysia (ACEM)
<i>Geographical focus</i>	Global	Global	Japan, also adapted and adopted Globally	Local India	Malaysia
<i>Characteristics</i>	2 stages: 1. Design stage & post construction assessments	Voluntary tool constitute of 5 sustainability areas. Industrial standard certification process	3 stages of development. Primarily on environmental impact/ concern	Designed for building's environmental performance in context to Indian atmospheric condition	developed specifically for the Malaysian-tropical climate, environmental and developmental context, cultural and social needs
<i>Building Type</i>	Offices, retails, industry units, courts, educations, healthcare, prison	Healthcare facilities, schools, homes, entire neighbourhoods	Residential and non-residential types of building	Commercial, residential and institutional	Non residential, Residential, Retail, Township, Residential, Interiors, Historical buildings
<i>Results representation</i>	Pass, Good, Very Good, Excellent	Certified, Silver, Gold Platinum	BEE graphical output via apps/system – "Spider web" diagram, histograms	1 star to 5 stars	Certified, Silver, Gold and Platinum
<i>Result Products</i>	Certificate	Award Letter, certificate and plaque	Certificate and website published report & results	Certificate	Certificate, online published and registered report



CASBEE is an integrated assessment of two policy issues:

1. Quality
2. Environmental load

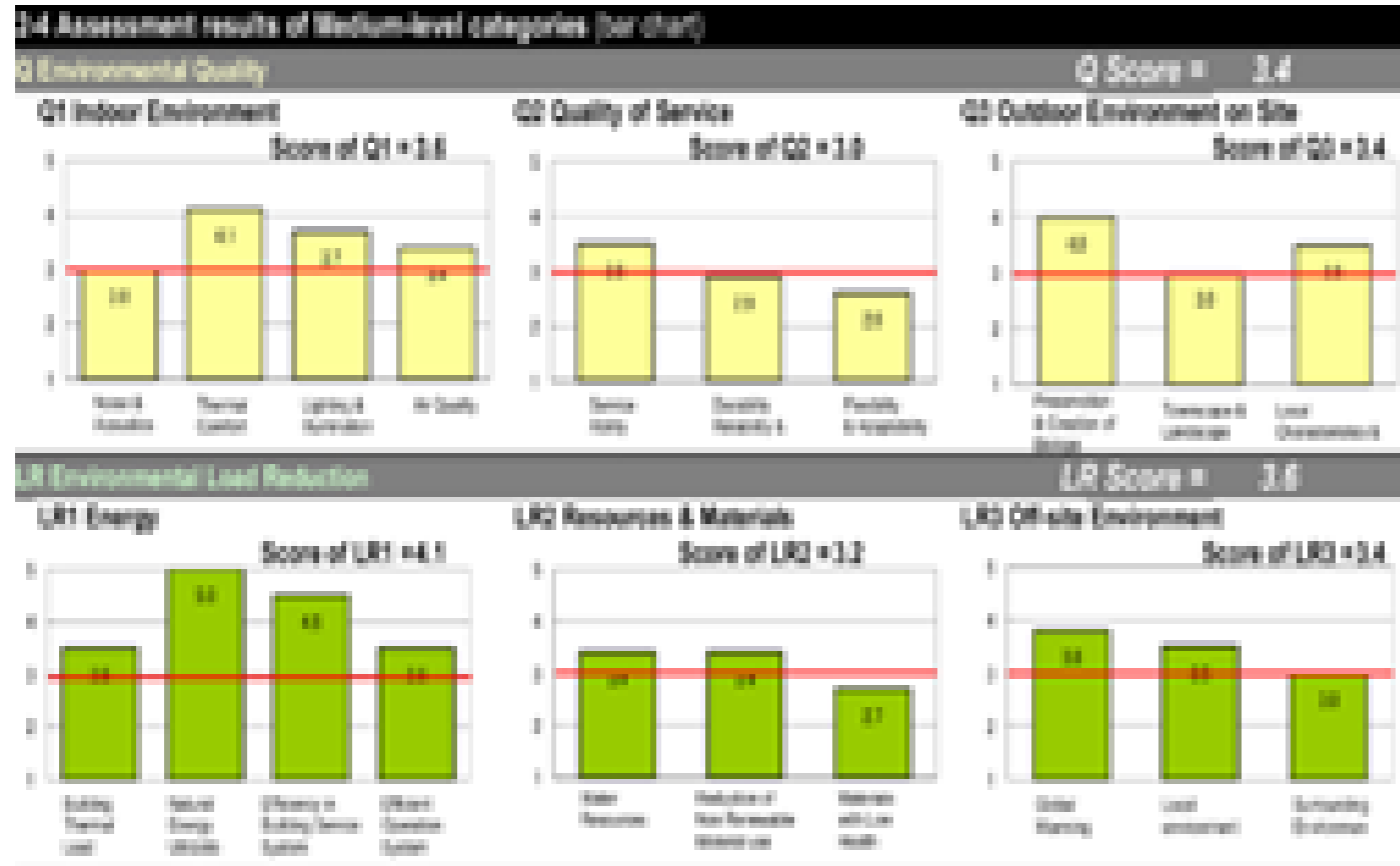
⇒ Planning for realization of a sustainable society based on reduction of L and improvement of Q



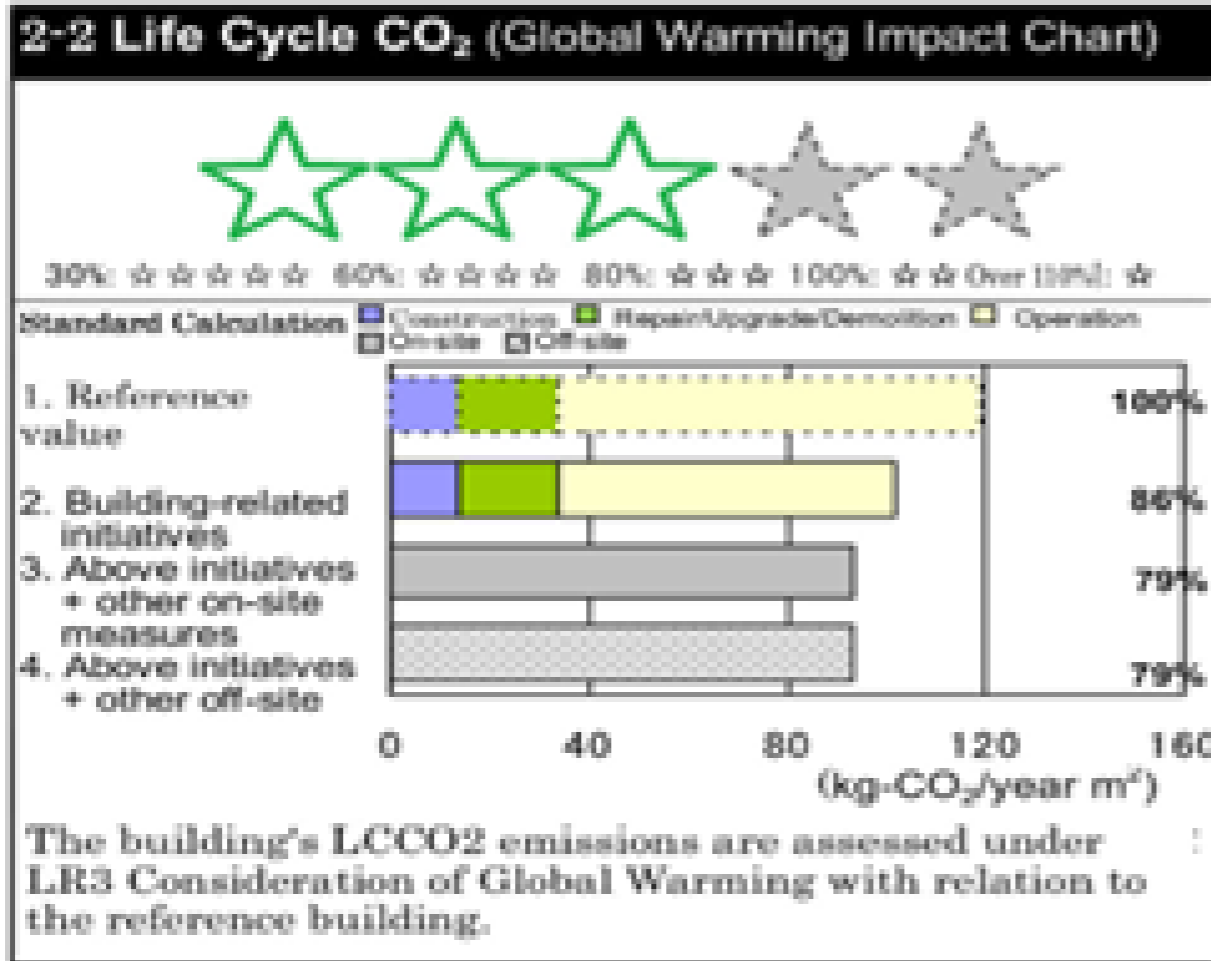
$$\left(\begin{array}{l} \text{BEE} \\ = \frac{\text{Score for Q}}{\text{Score for L}} \end{array} \right)$$

S	: ★★★★★★
A	: ★★★★★
B ⁺	: ★★★
B ⁻	: ★★
C	: ★

CASBEE's sustainability ranking based on BEE as a function of Q/L



Bar chart of credit to give comparison to reference (good for improvement purpose).



CASBEE system able to produce a lifecycle of carbon emission (LCCO₂) for the entire building lifecycle (ie. from construction till operation phases as well as potential reduction).



Langkah Seterusnya

Memohon pertimbangan MBBJ dalam perkara sebagaimana di bawah:

1. MBBJ menggunakan sistem CASBEE Iskandar (dengan sukarela) sebagai alat penilaian dan pensijilan bangunan dengan integrasi dengan komponen MS 1525 dan UBBL 38A.
2. PBT mempertimbangkan pakej insentif sebagai pemangkin bagi inisiatif bangunan hijau(CASBEE-Building) di MBBJ.



Pelaksanaan Secara Berfasa Untuk Menggunakan Casbee Iskandar



PRIME MINISTER'S DEPARTMENT

Fasa 2b CIC

Fasa 3 CIC

2022

2023

2024

2025

2026-2030

Menandatangani MoU antara IRDA-UTM-MBJB

- i) Ubahsuai templat CASBEE Iskandar mengikut keperluan & kehendak MBJB
- ii) Modul kapasiti kepada MBJB & pihak-pihak berkepentingan
- iii) FGD untuk pakej insentif
- iv) Penentuan yuran bayaran penilaian dan pensijilan
- v) Pengumuman dan promosi



Semua PBT di Johor

Pelaksanaan sistem CASBEE Iskandar (**Basic**)

- Integrasi dengan **komponen utama MS 1525 & UBBL 38A-Passive Design**

Pelaksanaan sistem CASBEE Iskandar (**Standard**) –

- Integrasi keseluruhan komponen **MS 1525 & UBBL 38A-Passive Design**

Pelaksanaan Sistem CASBEE Iskandar (**Advance**)

- Bersepadu
- Wajib (semua jenis bangunan)

Pengenalan dan suai-kenal pasaran

Sukarela

Hibrid (Sukarela & Wajib*)

*Wajib

Penubuhan CIC

Cadangan Insentif (tertakluk MBJB):

- Rebat Bayaran Kumpulan Wang Perkhidmatan Kemajuan (ISF) / Cukai pintu dll bagi projek yang memenuhi CASBEE
- Pengiktirafan dan Anugerah (cth. GAIA)
- Rebat dalam yuran ubahsuai bangunan

Cadangan insentif:

- Elaun Densiti Bonus (atau nisbah plot tambahan)
- Kadar Faedah Pinjaman ditawarkan oleh Institusi Kewangan



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2021 - 2022
Recognising Excellence in Sustainable Development

Objective:

The Iskandar Malaysia Green Accord Initiative Award (GAIA) is a soft incentive scheme developed by Iskandar Regional Development Authority (IRDA) that recognise the outstanding business organisation that contributes towards the adoption of sustainable design, planning, retrofitting, and operations in the built environment.

Category:

Three (3) GAIA categories are offered to IM organisations, businesses and individual residents.

- A GAIA Commercial Building and Individual Properties
- B GAIA Township
- C GAIA Industry

Call for entries:
Iskandar Malaysia Green Accord Initiative Award (GAIA) is now calling for entries. Please contact us to register your participation.

All applications must be submitted via email or e-Form to: hwachong@irda.com.my

**Closing Date
2 May 2022**



GAIA 2021/ 2022 Call for Entries

<https://bit.ly/3bqRC7P>

Scan the QR code or use the link to participate

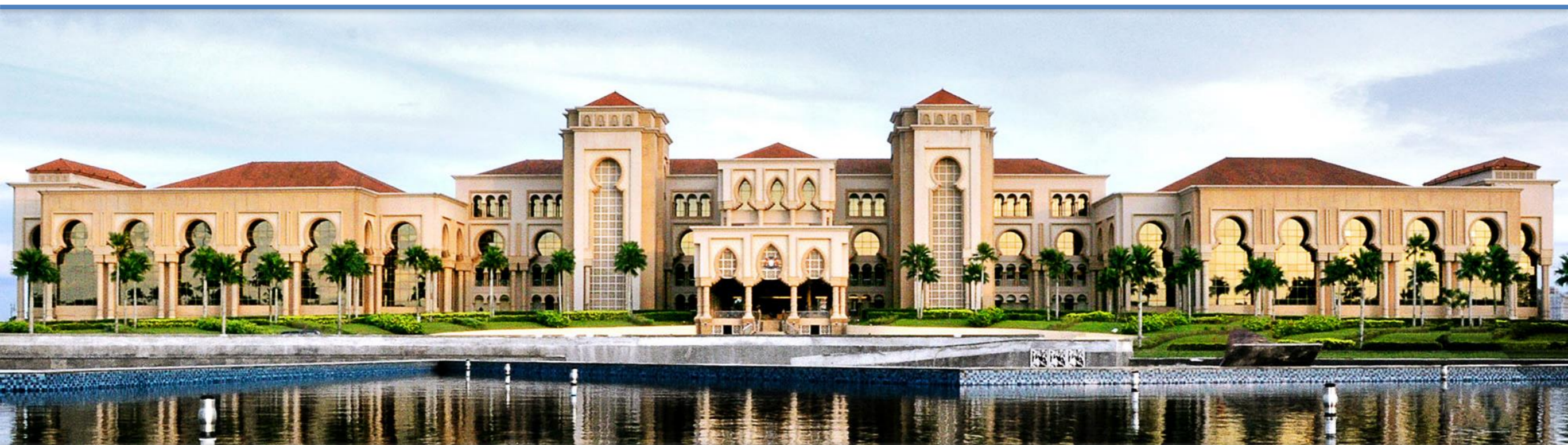
In conjunction with



ISKANDAR MALAYSIA
SINCE 2006



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THANK YOU

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Appendix

Galeri Aktiviti Pembangunan Kapasiti (1/2)



Registration



Photo taking session with YB Vidyananthan Ramanadhan and working committee



Officiating speech by YB Vidyananthan Ramanadhan



Closing remarks



Special note from the Dean of Faculty Built Environment and Surveying, UTM



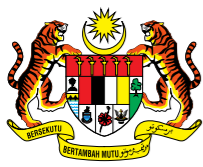
Group Photo with participants



The workshop starts – Day 1



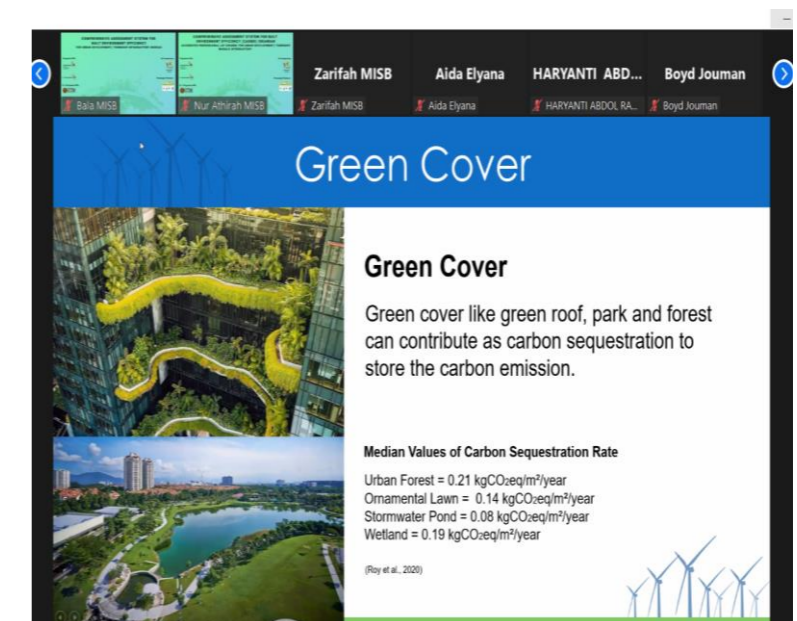
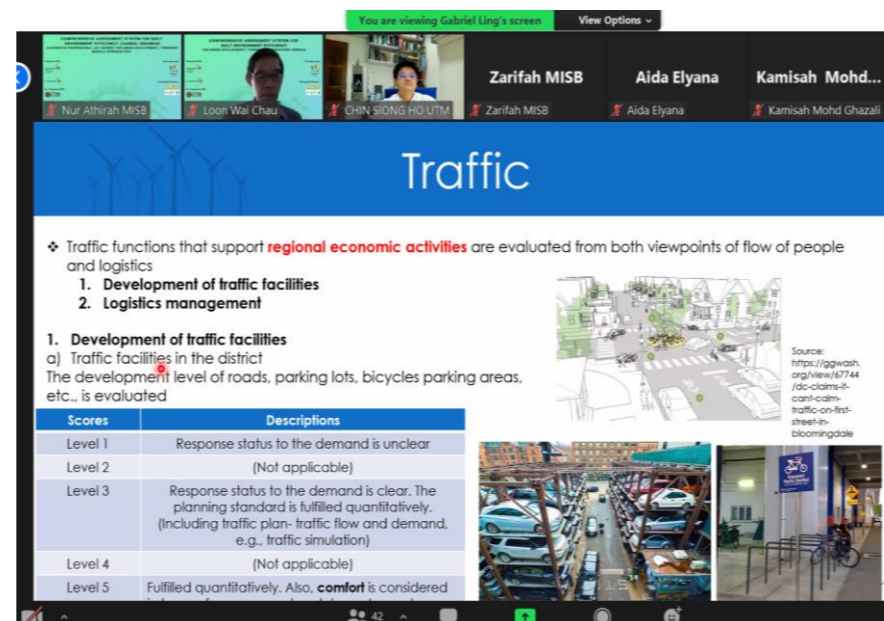
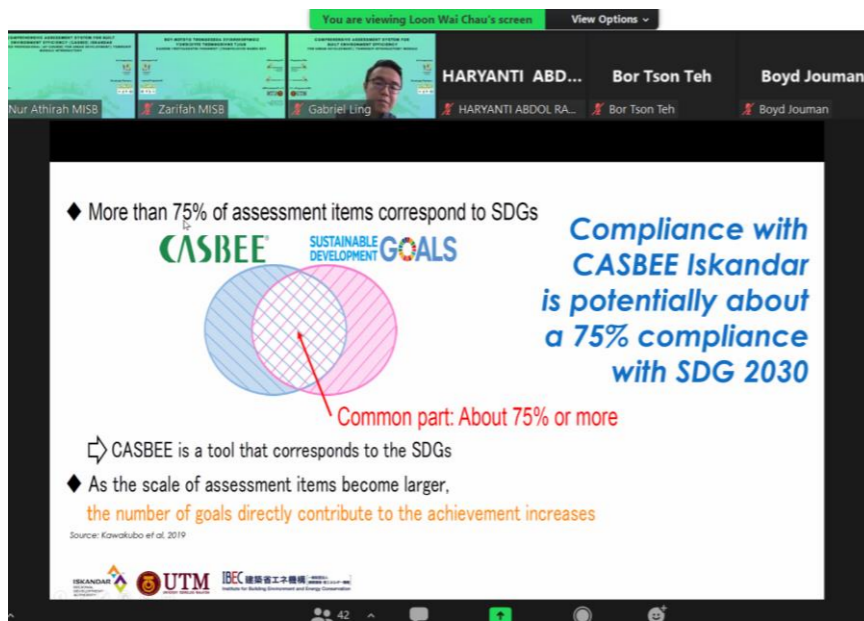
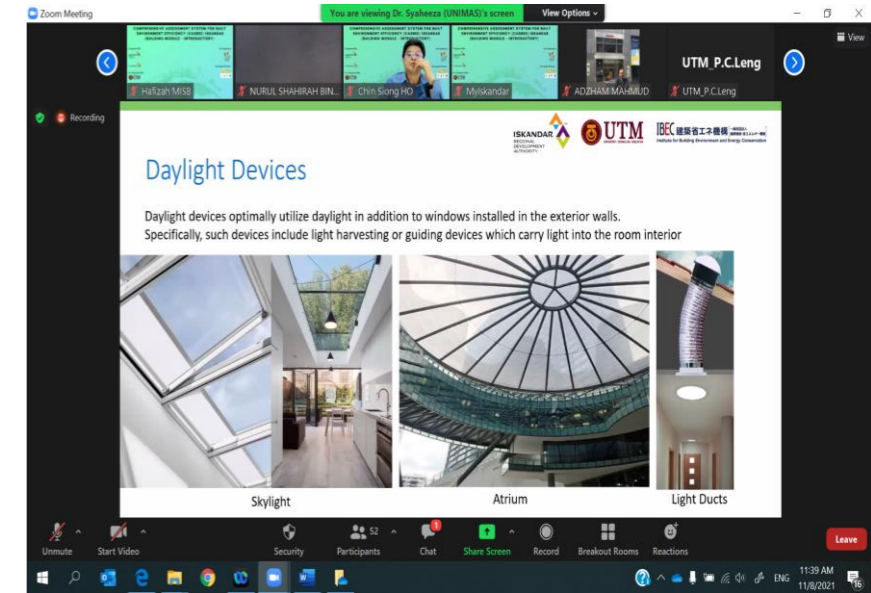
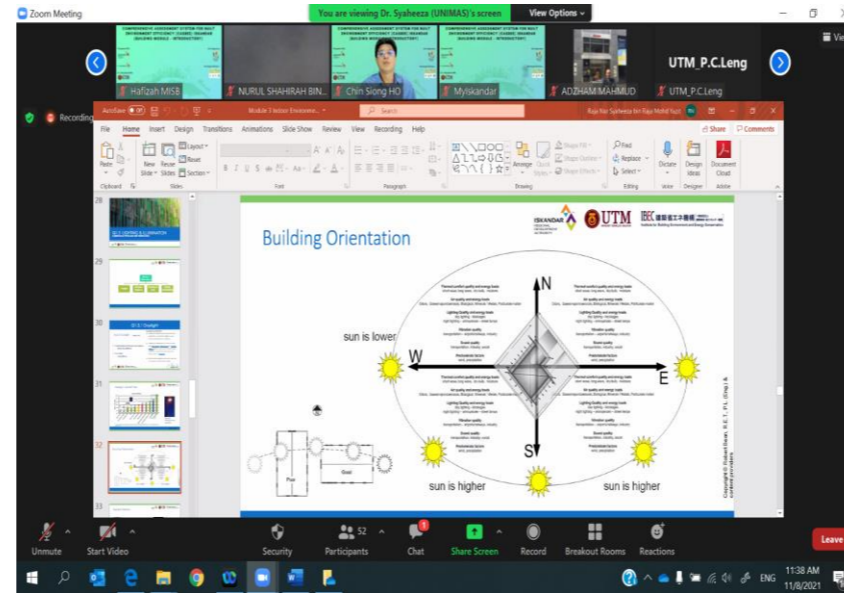
Assignment – Day 2

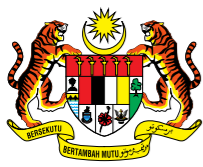


PRIME MINISTER'S DEPARTMENT



Galeri Aktiviti Pembangunan Kapasiti (2/2)





PRIME MINISTER'S DEPARTMENT



Courtesy visit to the Ministry of Land, Infrastructure, and Transport (MLIT), 2018
* MLIT responsible to execute CASBEE



The Group Photo of Johor Delegation in MLIT



The Introduction of CASBEE Iskandar Manuals by Prof Murakami (Left), Ms Akiko Ito (Central) and YB Datuk Ayub Bin Rahmat (Right)

Site visit to the Tokyo Square Garden – Showcase of CASBEE Building

The Tokyo Square Garden is categorized as **sustainable** or “S” status in the Comprehensive Assessment System for Built Environment Efficiency (**CASBEE**) rating. Besides, it obtained a special incentive with additional **5.3 bonus of Floor Area Ratio (FAR)** from the Tokyo Metropolitan Government (TMG).



The YB Datuk Ayub led the delegation to visit the Tokyo Square Garden

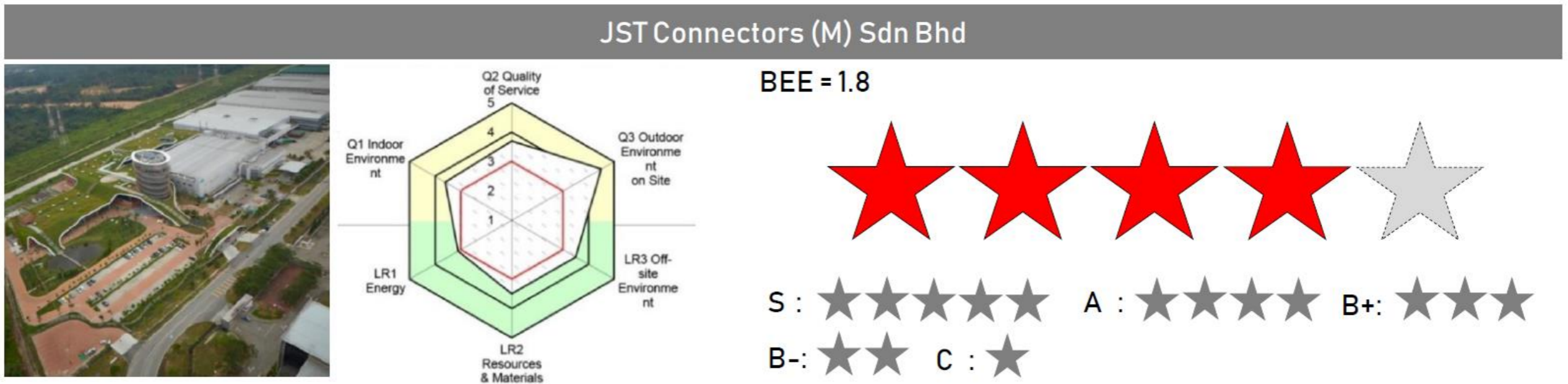


The Exterior Photos of the Tokyo Square Garden



Site Visit to the Green Hill of Tokyo Square Garden

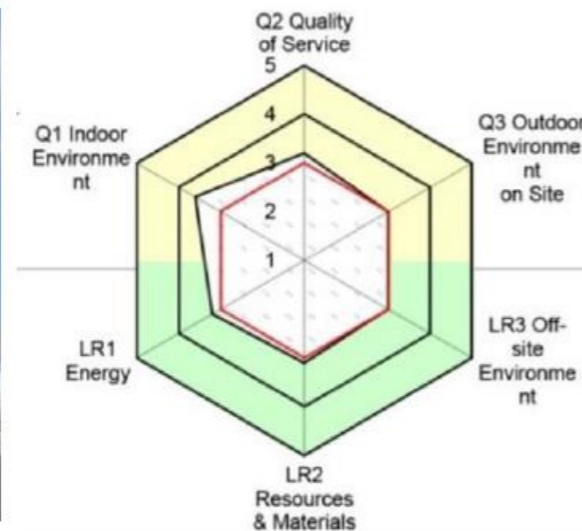
A glimpse of past CASBEE Iskandar assessed buildings



- ❑ Electrical and electronic (E&E) industry plant located at Port of Tanjung Pelepas (PTP)
- ❑ Strong features on green roof, green wall, rainwater harvesting and day lighting

A glimpse of past CASBEE Iskandar assessed buildings

Heng Hiap Industries Sdn Bhd



BEE = 1.2

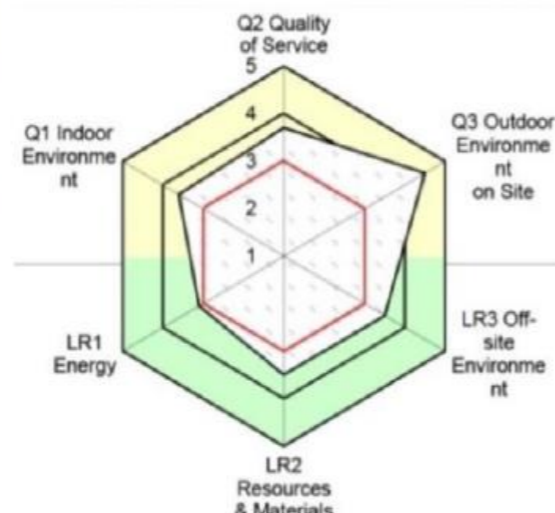


S : ★★★★★ A : ★★★★★ B+ : ★★★
B- : ★★ C : ★

- ❑ Newly built **plastic wastes recycling** industry factory located in **Pasir Gudang**.
- ❑ Strong features in **day lighting harnessing** and **various energy saving** and **environmental friendly technology**

A glimpse of past CASBEE Iskandar assessed buildings

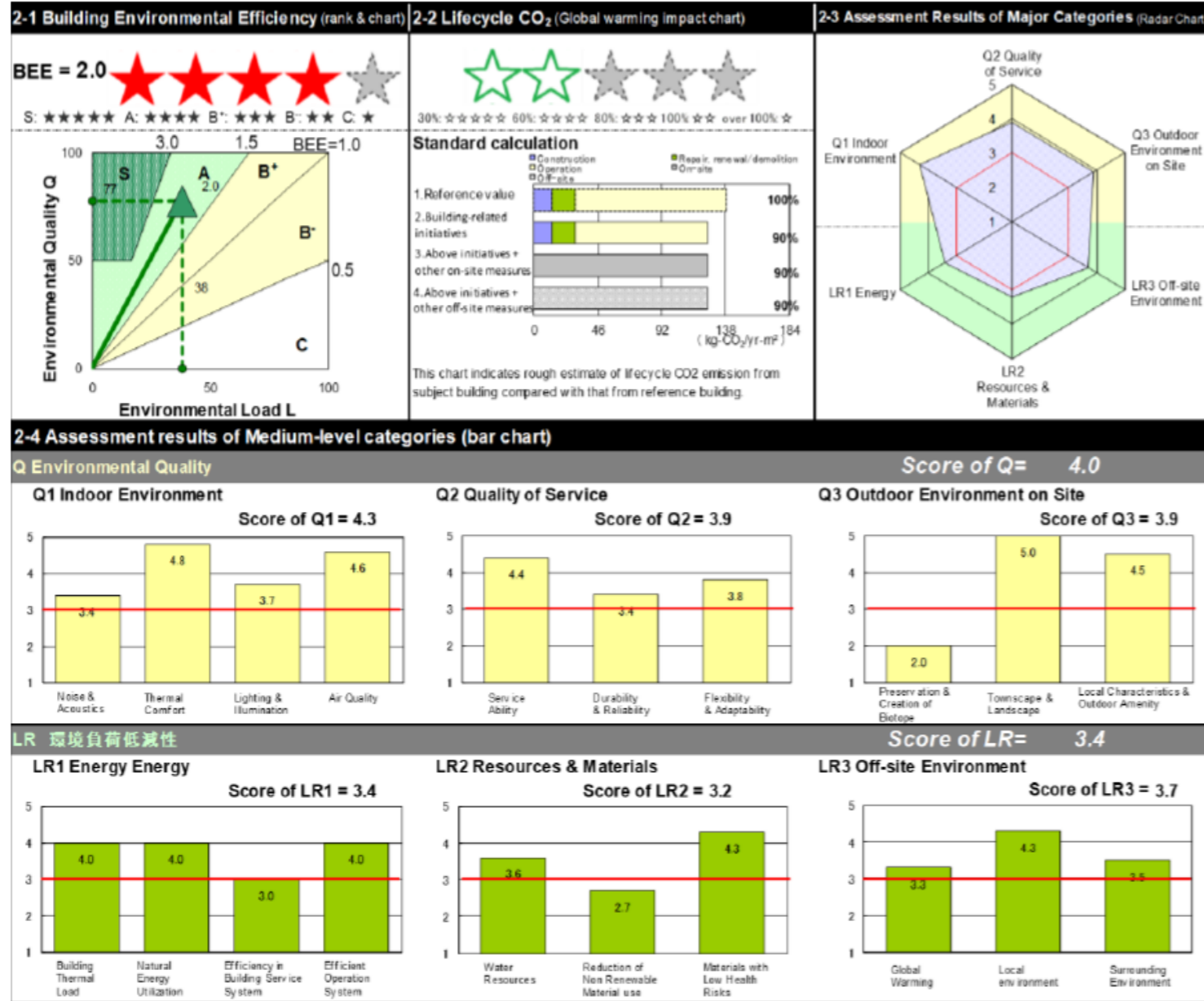
Molek Pine 4



BEE = 1.8

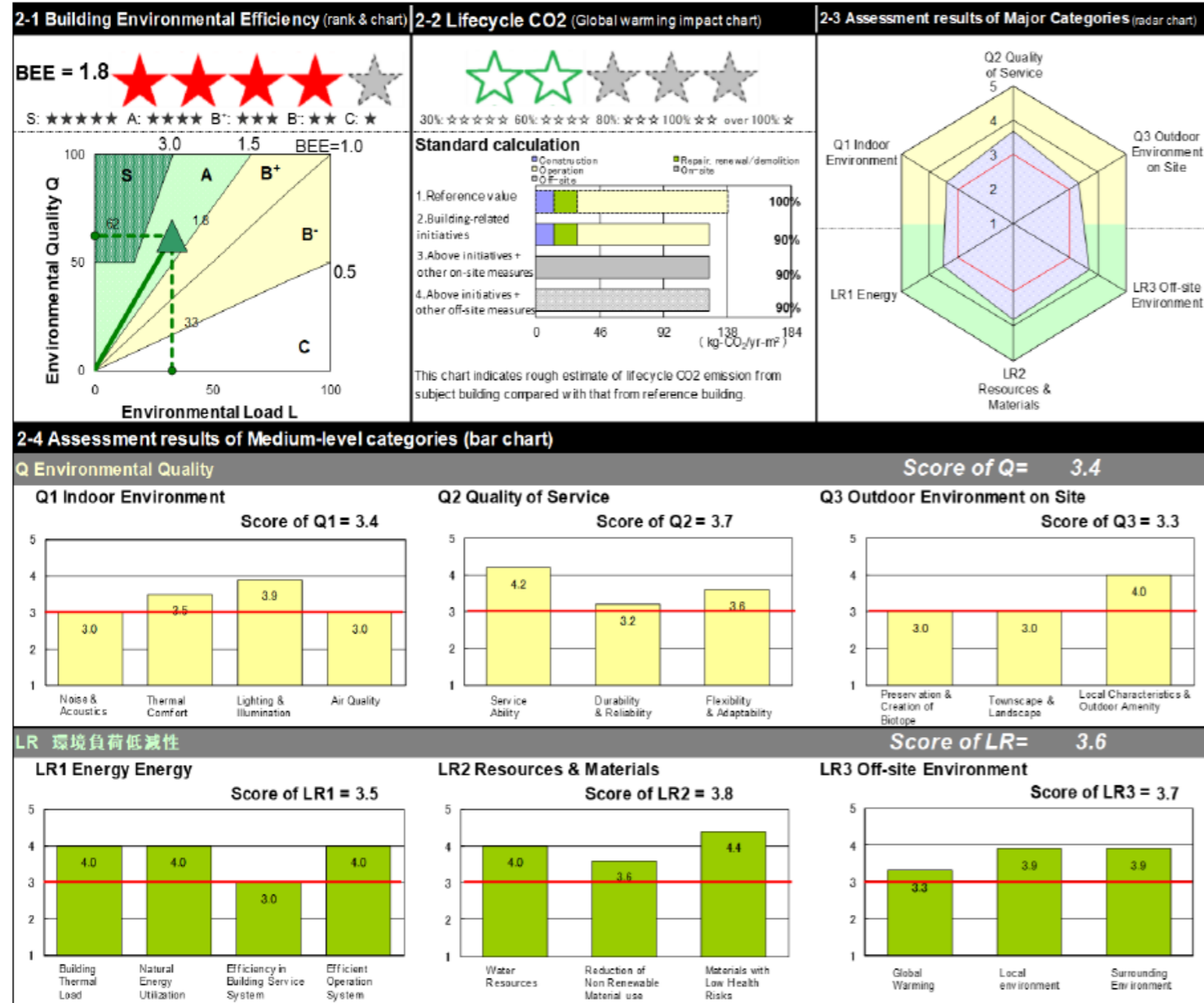


- 37-storey condominium (260 units), 3-storey clubhouse, 1-storey multipurpose hall, a semi basement car park
- Overall site planning aims to minimise the heat island effect while achieving the lush green ambience effect



Recent CASBEE Iskandar assessed buildings – Johor Port Authority Building



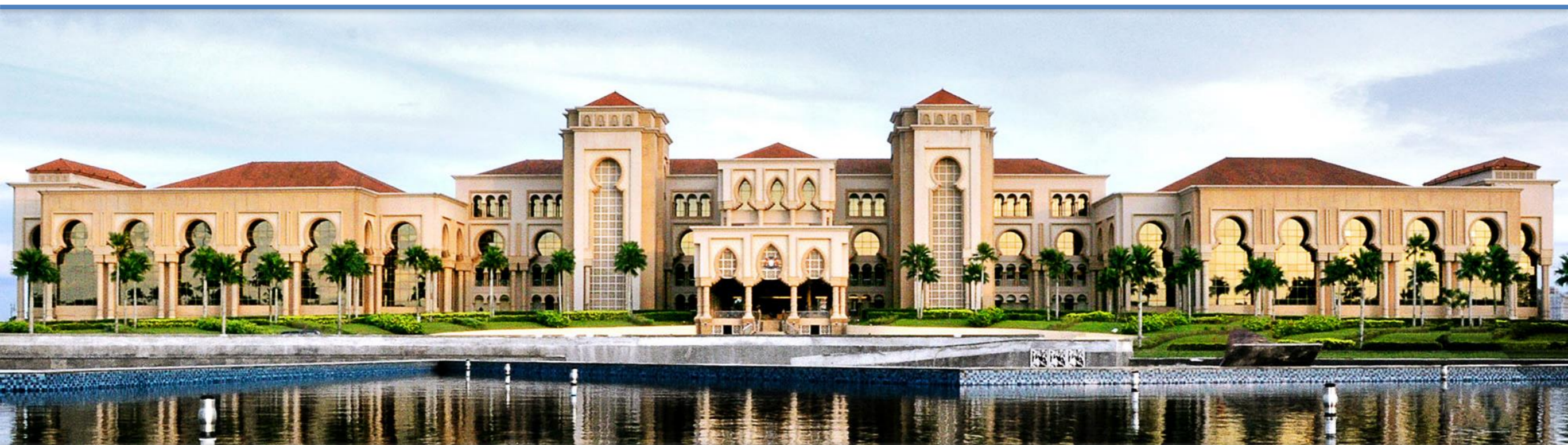


Recent CASBEE Iskandar assessed buildings – Nong Chik Institute





PRIME MINISTER'S DEPARTMENT



THANK YOU



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