

# 環保建築：挑戰與機遇

## **Barriers and Solutions: Greening Existing Buildings and Built Environment**

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Living Future AP GRI Certified Sustainability Professional Certified Carbon Auditor











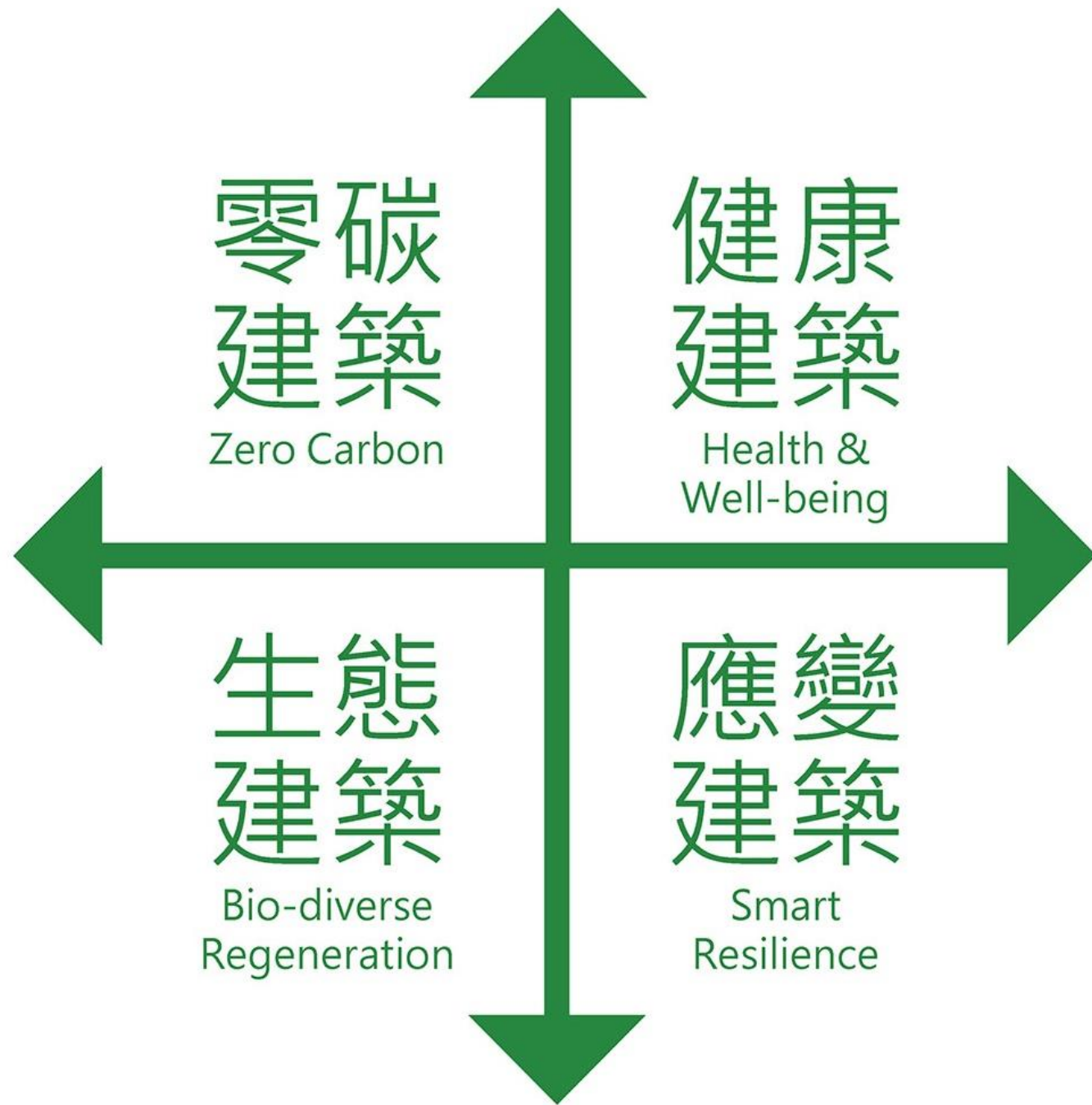
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零碳  
建築

Zero Carbon

健康  
建築

Health &  
Well-being

生態  
建築

Bio-diverse  
Regeneration

應變  
建築

Smart  
Resilience



PLATINUM

鉑金級 NB 新建建築  
V2.0 2019

HKGBC  
BEAM Plus  
綠建環評

# A Strong Green Building Movement in over 25 Years

## Strong Market Participation

In 2021,  
the annual percentage of  
private sector projects joining  
BEAM Plus has reached

**57%**<sup>3</sup>

1996

No. of Buildings  
First Certified by HK-BEAM

**605**



HK-BEAM Society  
香港環保建築協會  
HONG KONG BUILDING ENVIRONMENTAL  
ASSESSMENT METHOD  
香港建築環境評估法

2010

2009  
HKGBC  
established

No. of Buildings  
First Certified by BEAM Plus

**3,164**



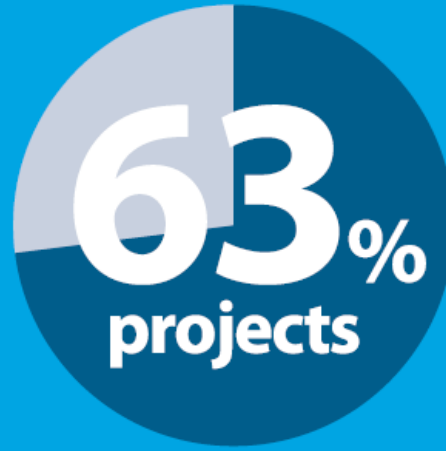
HKGBC  
BEAM Plus  
綠建環評

2022

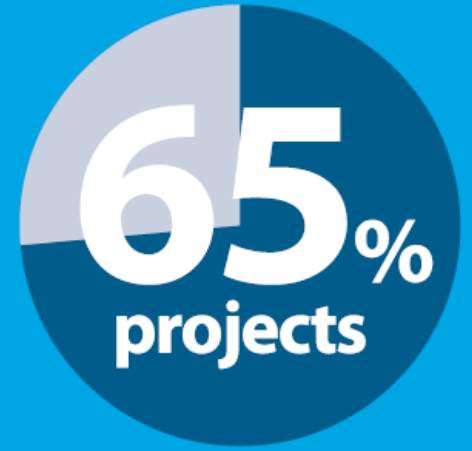
# Aiming High

	<b>Registered</b>	<b>Certified*</b>
No. of Buildings	8,104	3,769
No. of Projects	2,495	1,296
GFA (m <sup>2</sup> )	80.9 million	53.9 million

\* Certified means Bronze rating or above

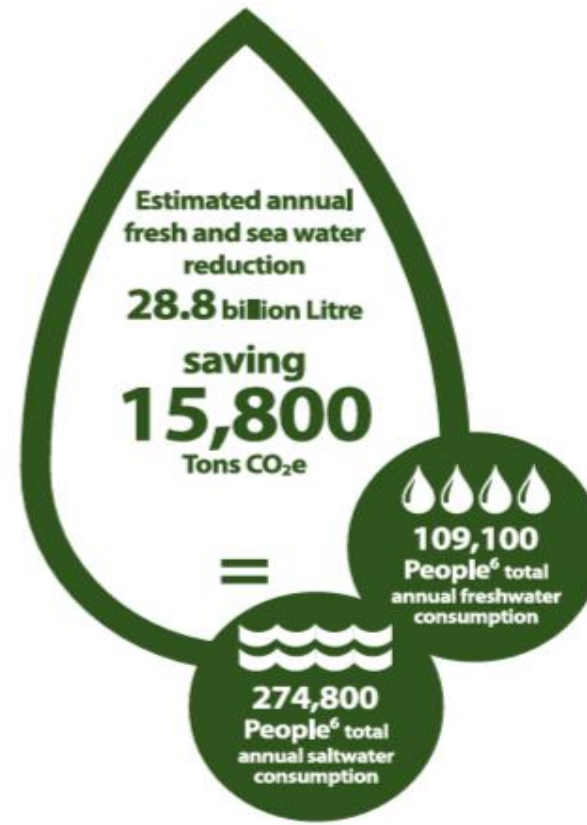
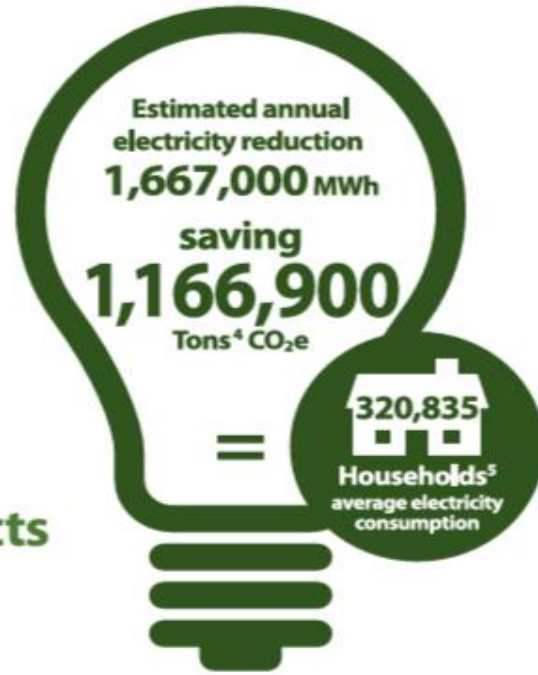


of New Buildings and Existing Buildings have achieved the top 2 ratings from 1996 to 2022.



of New Buildings have achieved the top 2 ratings in 2022.

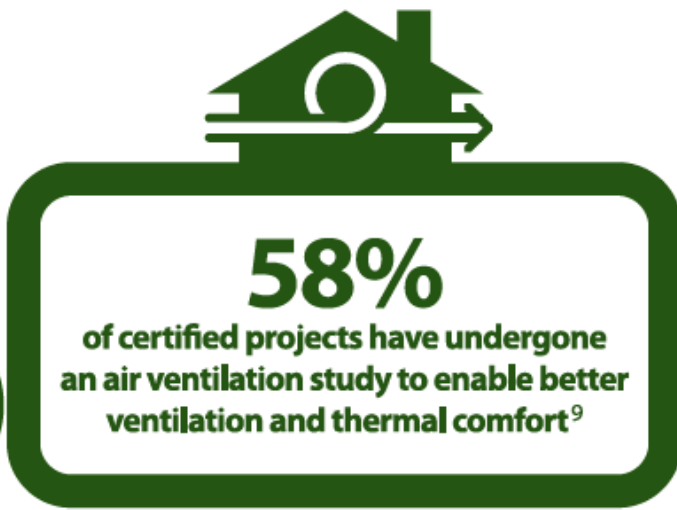
**Total saving of  
BEAM Plus  
New Buildings  
assessed projects  
compared to  
the baseline:**



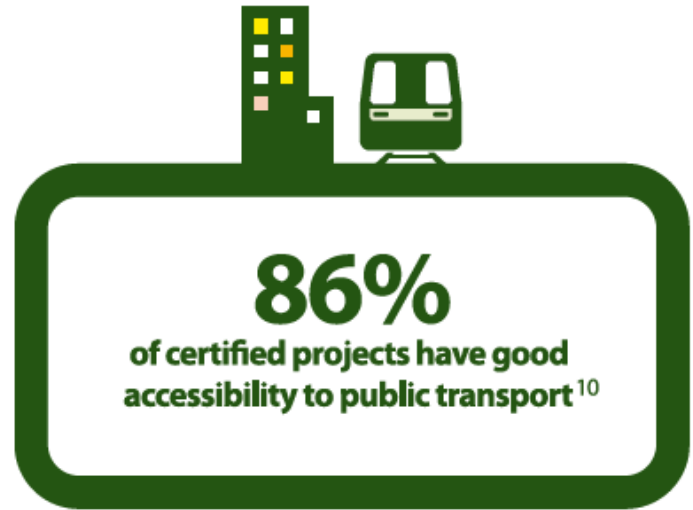
**Total  
estimated  
carbon  
emissions saved  
each year:**

**1,182,700**  
Tons of CO<sub>2</sub>e  
**= 51.4 million trees planted**

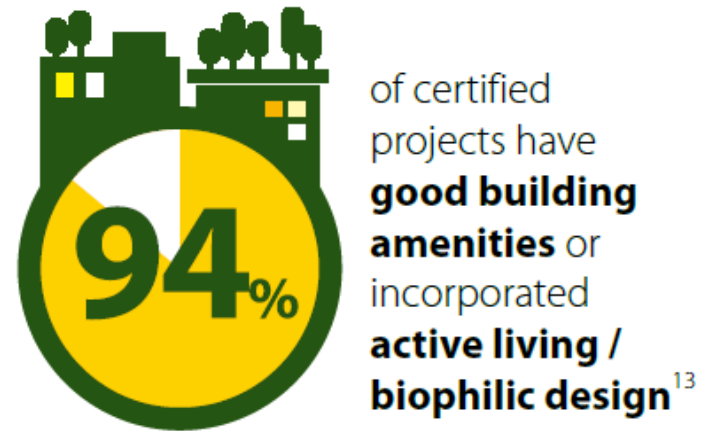
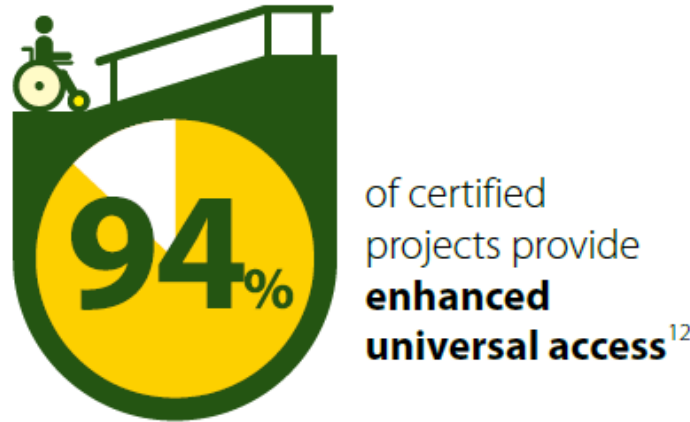
## Pleasant Environment



## Mobility

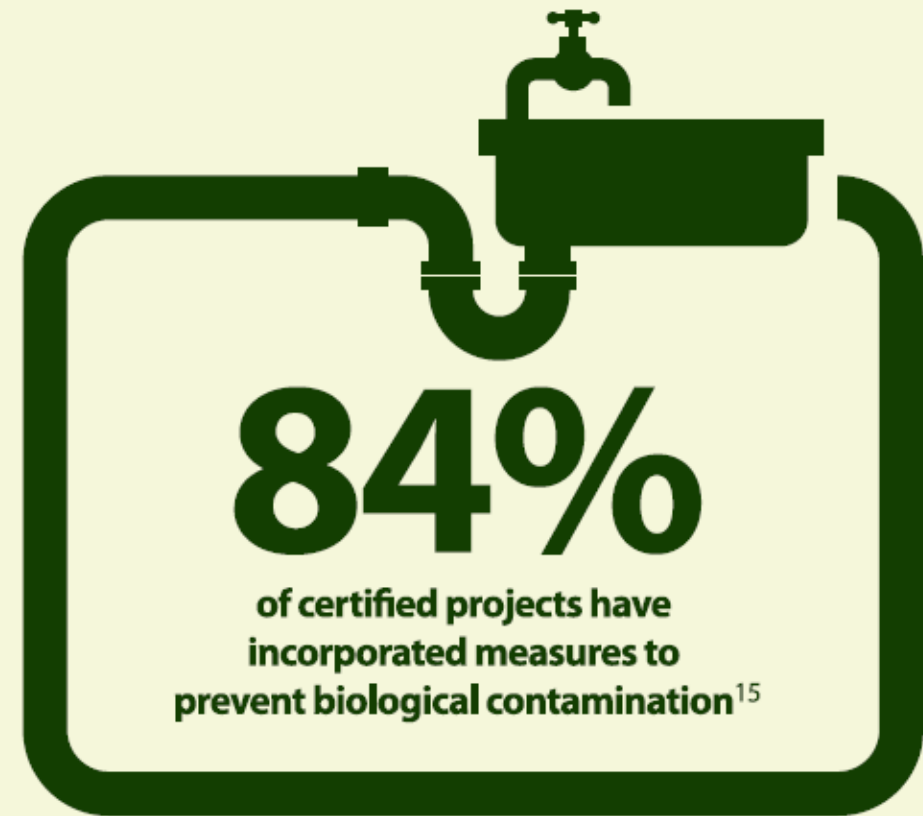


## Community Facilities and Amenities



# Health and Wellbeing

## Excellent Indoor Environmental Quality





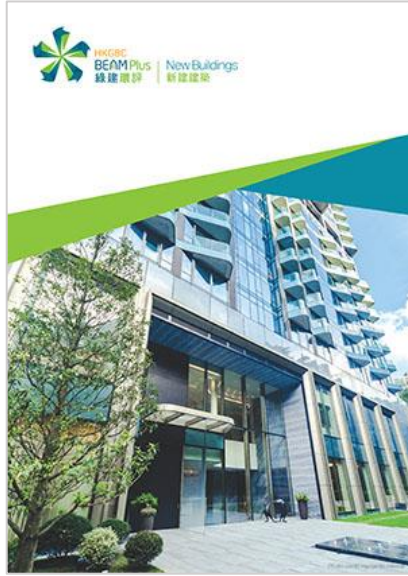


HKGBC  
BEAM Plus  
綠建環評





HKGBC  
BEAM Plus  
綠建環評



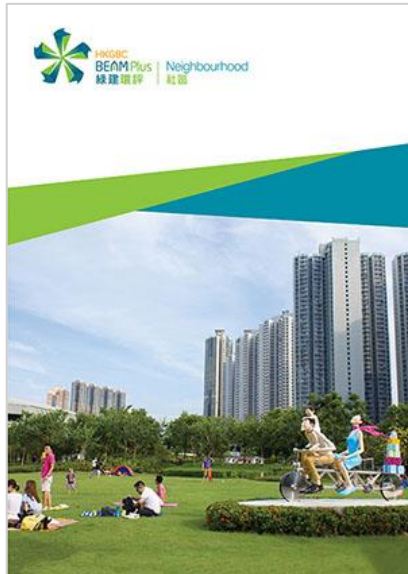
New Buildings 2010



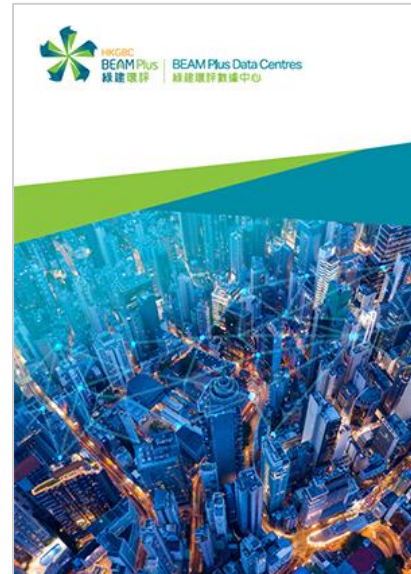
Existing Buildings 2010



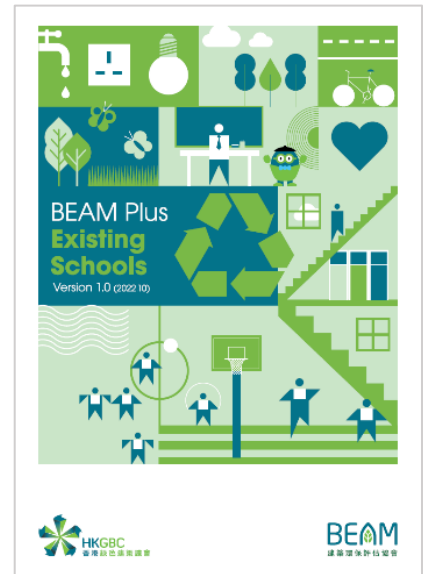
Interiors 2013



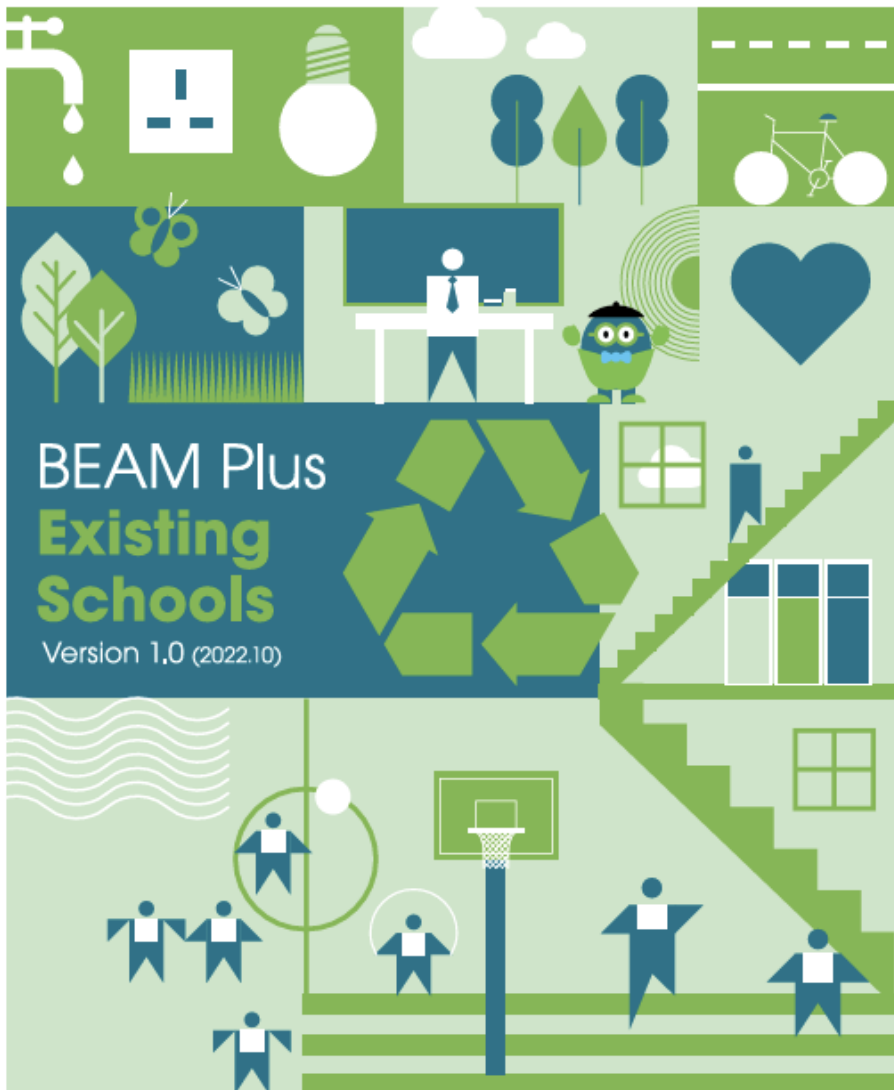
Neighbourhood 2016



Data Centres 2020



Existing Schools 2022



## Outstanding Performance: 卓越表現



Sustainable Leadership  
and Learning (SLL)  
可持續領導及學習



Efficient Use of  
Resources (EUR)  
有效資源運用



Sustainable Campus  
Environment (SCE)  
可持續校園環境



Health, Comfort &  
Happiness (HCH)  
健康, 舒適, 快樂



### Health, Comfort & Happiness (HCH)

This section focuses on school indoor environmental quality and health & wellbeing of school occupants, from healthy lifestyles, mindfulness, to comfort and happiness. The following elements are assessed under this performance category:

- Healthy Air
- Natural Ventilation
- Lighting Quality
- Acoustics
- Healthy Living
- Hygiene
- Health Protection

BEAM Plus Existing Schools Version 1.0

### Health, Comfort & Happiness

#### HCH-01 Healthy Indoor Environment

#### HCH-01-01 Healthy Air

##### Objective:

Promote school occupants' comfort, well-being, and productivity by providing instant and continuous monitoring on indoor air quality.

##### Credit Point(s):

1

##### Attribute:



##### Credit Requirement:

Install real-time Indoor Air Quality (IAQ) sensors to monitor IAQ levels at indoor spaces.

1

##### Assessment:

1. The Applicant shall install real-time IAQ sensors to fulfill the following requirements:

- 1.1 IAQ parameters to be monitored:

PM <sub>2.5</sub>	VOCs	CO <sub>2</sub>
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- 1.2 Required spaces:

Spaces	General office	Staff room	Classroom
Requirement	All	All	At least 50%



**HKGBC**

**Climate Change Framework  
For Built Environment**

## ◆ Carbon reduction potential

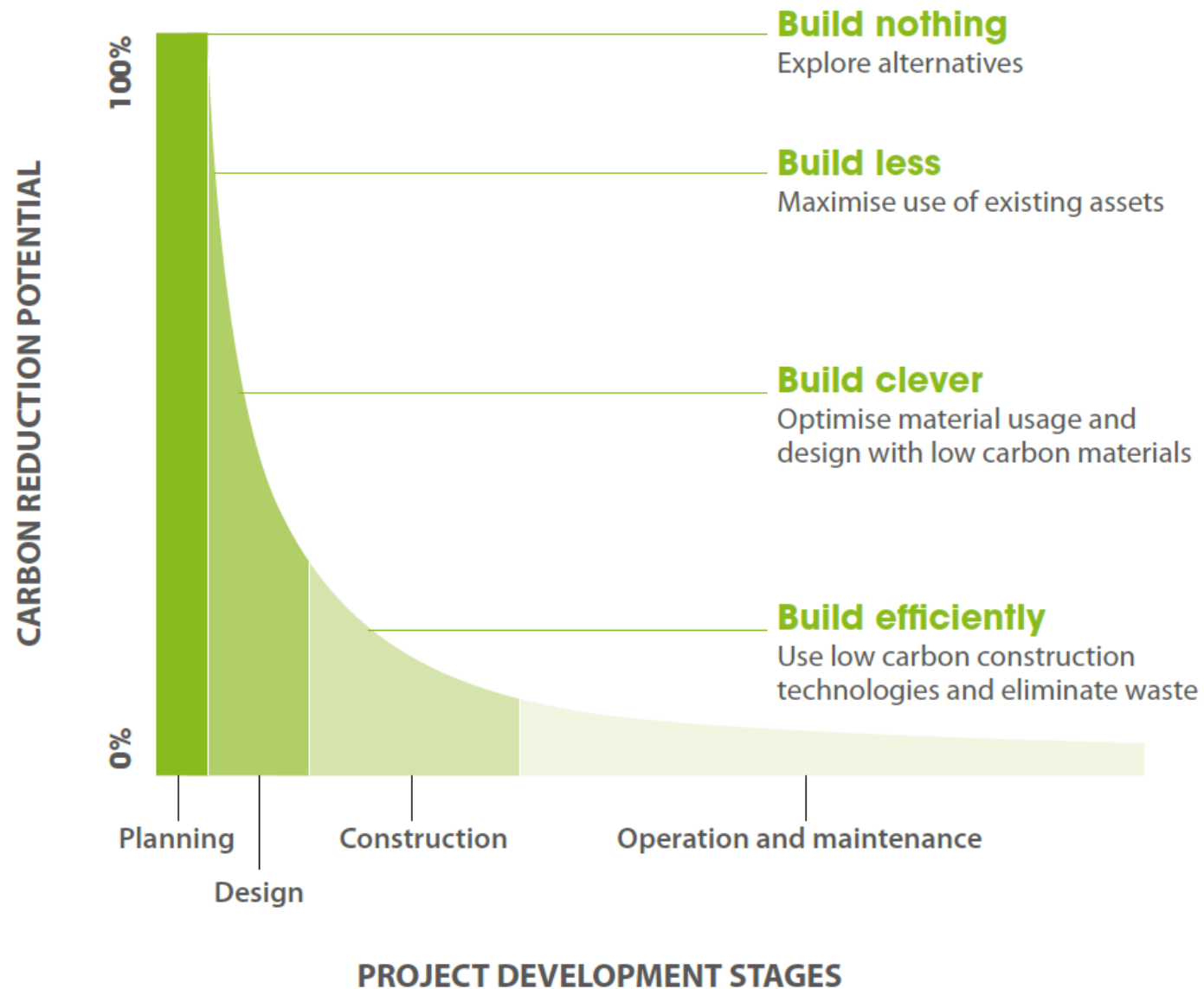
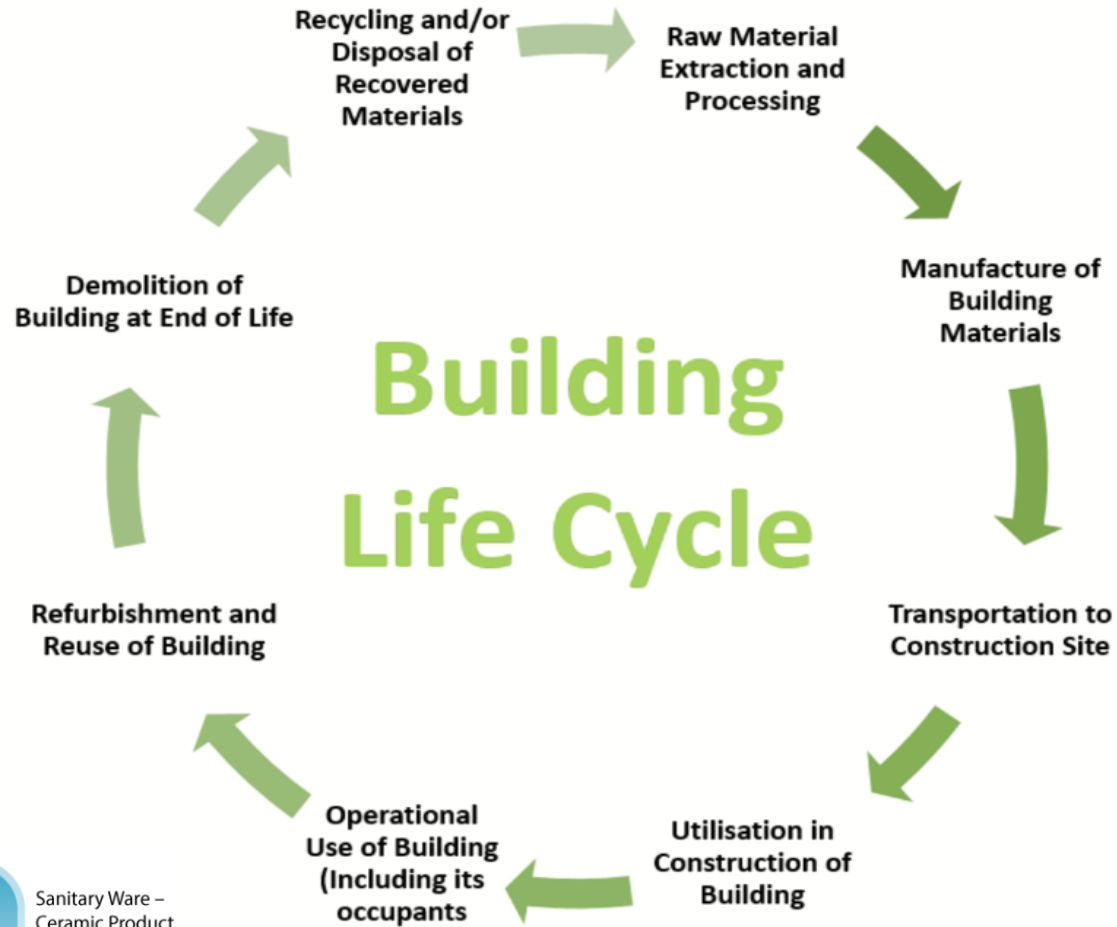


Figure 6a. Opportunities to reduce embodied carbon from stages of design process  
(Source: *Bringing Embodied Carbon Upfront*, World Green Building Council, 2019)

# Green Production Certification

..... minimize resource consumption, human toxicity and ecosystem impact



The trend and changes in the green buildings market .....



# Commitment to Science Based Targets

..... there will be more green building related companies in Hong Kong soon



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

永續  
Sustainability

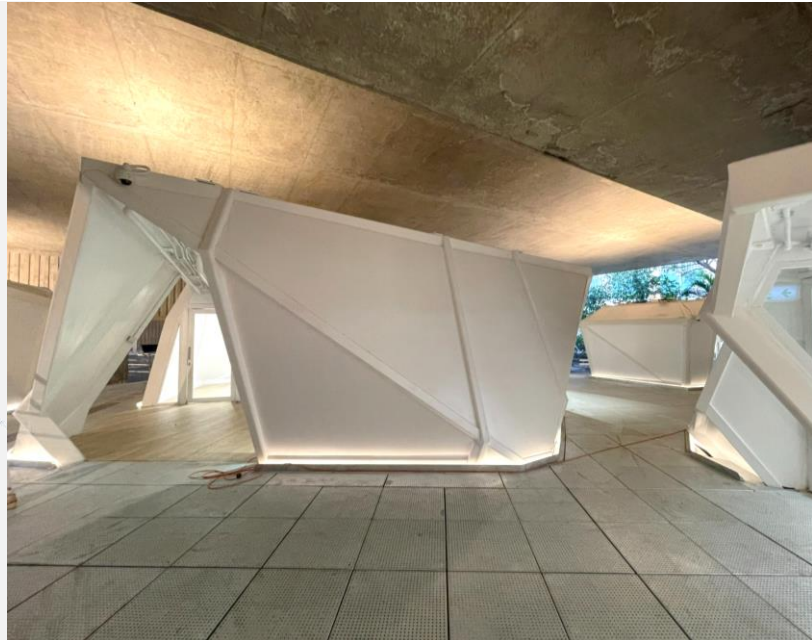
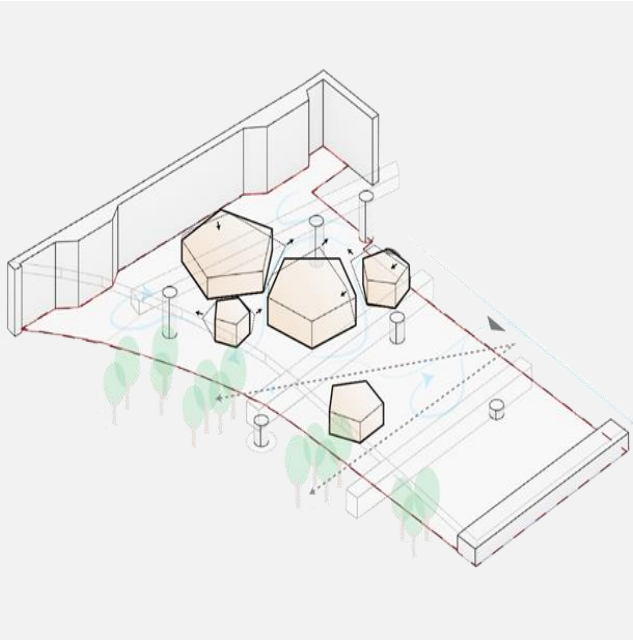




# Revitalising Undesignated Space for Community

Jockey Club - The Conservancy Association Urban Forestry Green Hub at Sham Shui Po

30+  
years old



## MOBILE ARCHITECTURE FOR REVITALIZATION OF UNDESIGNATED SPACE UNDER FLYOVER

AP, architectural and associated consultancy services, in collaboration with B+G Design Co. Ltd. for the HKJC funded project for an education centre underneath the elevated road at Yen Chow Street West with site constraints of highway structure, drainage reserve area and waterwork reserve area, aiming at green architecture with target of BEAM Plus New Building Platinum.



# Revitalising Commercial Building for Community

Women's Welfare Club (Eastern District) HK Young Shu Cheung Neighbourhood Elderly Centre

40+  
years old



## Renovation Works for Women's Welfare Club (Eastern District) HK Young Shu Cheung Neighbourhood Elderly Centre

Client: Women's Welfare Club (Eastern District) Hong Kong

Location: North Point

Completion: 2021

Project Value: \$1M

Funding Source: Social Welfare Department Lotteries Fund

Consultancy Service: AP, architectural & associated consultancy

# Revitalising Industrial Building for Community

611 Bread of Life Christian Church - Creative Media Centre at Tsuen Wan

45+  
years old



## REVITALISATION OF INDUSTRIAL BUILDING

AP, architectural & associated consultancy for a 3-storey creative media centre composed of art studio, audio-visual recording studio, design & media production office, and research & design centre, by revitalising an existing industrial building in an area of 3,000m<sup>2</sup>.

# Revitalising Commercial Building for Community

HKSKH Lady MacLehose Centre Jockey Club Kwai Wah Health and Wellbeing Centre

45+  
years old



## A&A and Fitting-out Works for Setting Up a New Healthy Ageing Community Centre in Kwai Tsing

Client: HKSKH Lady MacLehose Centre

Location: Kawi Chung

Completion: 2020

Project Value: \$7M

Funding Source: Hong Kong Jockey Club Charities Trust

Consultancy Service: AP, architectural & associated consultancy



**SILVER**  
銀級 BI 室內建築  
V1.0 2017

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# Revitalising Historical Building for Community

Hong Kong Repertory Theatre Performing Arts Education Centre at 7 Cox's Road

120+  
years old



## ADAPTIVE USE OF GRADE 2 HISTORICAL BUILDING

AP, architectural and associated consultancy services for the project to adaptively reuse the existing school building structure to accommodate the new performing arts education centre with alteration and additional works. Our scope includes STT land application, DevB funding application and full services on design, tender and construction. Low carbon design approaches are adopted, including material reuse, high performance glazing system, daylight optimization and light-weight flexible PV system.



green  
building  
award 2021  
環保建築大獎

not just green architecture  
but architecture for green living

