

Hong Kong: Green Building in

Action



Hong Kong Green Building Council Limited
www.hkgbc.org.hk

Acknowledgement

Statistics and data related to HK-BEAM assessment tool is generously contributed by BEAM Society Limited and Business Environment Council.

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Data as at
31/12/2022



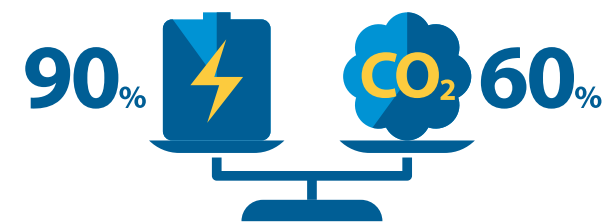
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Fostering Green Building

Hong Kong's Unique Built Environment

Significance of Buildings

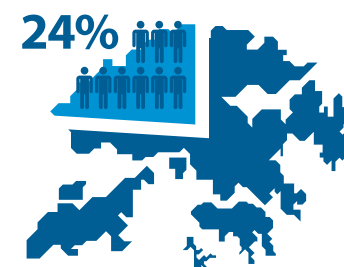


Activities in buildings account for **90% electricity consumption or 60% greenhouse gas emissions**¹

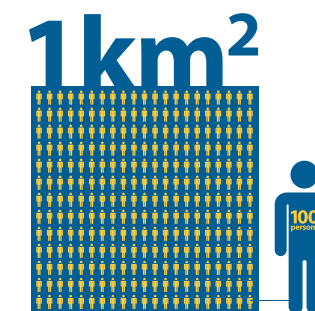
High Population Density



42,000+ buildings in private sector¹



People live and work in **24%** of Hong Kong's total area¹



Average population density of built-up areas **28,000 persons/km²**²

BEAM Plus

What is BEAM Plus?

BEAM Plus is Hong Kong's leading initiative to offer independent assessments of building sustainability performance.

BEAM Plus Family of Tools

- New Buildings
- Interiors
- Data Centres
- Existing Buildings
- Neighbourhood
- Existing Schools

What does BEAM Plus assess?



Benefits of BEAM Plus

Developers and owners

- Demonstrate CSR/ESG commitments
- Help achieve carbon neutrality goal
- Achieve climate resilience
- Reduce liability and risks
- Lower building's life cycle cost
- Create future-proof building assets
- Enhance property value
- Differentiate products in the marketplace
- Attract green investors
- Receive possible reduction in profits tax
- Help meet state or city requirements

End users

- Obtain third-party rating that allows easy comparison
- Assure health and wellbeing
- Provide a green living experience and enhance quality of life
- Increase staff productivity and retention
- Lower operating costs including water and energy
- Enhance maintainability and reduce related costs
- Help protect the environment and enhance corporate image

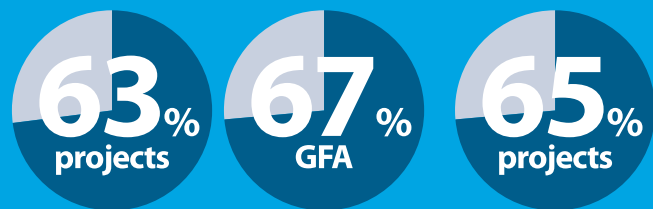
A Strong Green Building Movement in over 25 Years



Aiming High

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

* Certified means Bronze rating or above



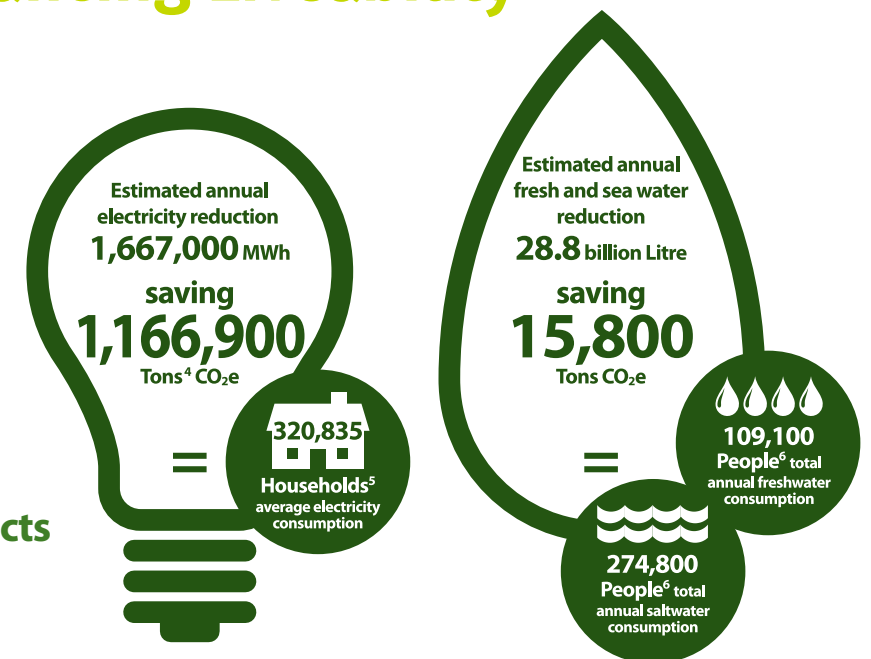
of New Buildings and Existing Buildings have achieved the top 2 ratings from 1996 to 2022.

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

New Buildings: Building Green Future

Combating Climate Change and Enhancing Liveability

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

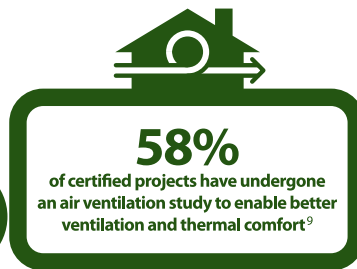
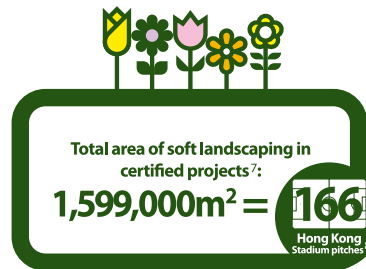


Total estimated carbon emissions saved each year:

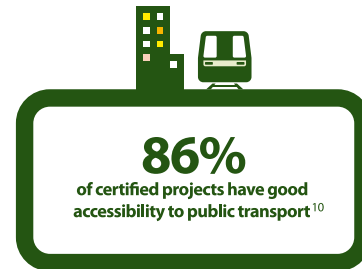
1,182,700 Tons of CO₂e
= **51.4 million** trees planted

Liveability and a Sustainable Lifestyle

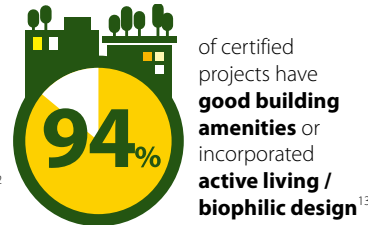
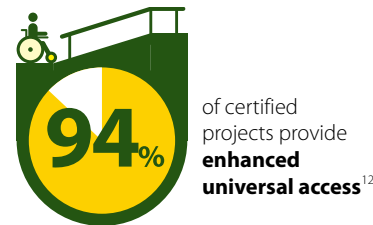
Pleasant Environment



Mobility



Community Facilities and Amenities



Health and Wellbeing

Excellent Indoor Environmental Quality



Biophilia and Daylight Design

Humans' instinctive bond to nature offers opportunities in interior design to create a positive impact on peoples' physical and mental health. In offices that cannot enjoy views of nature, greenery can be introduced by using indoor plants and rooftop gardens. Many modern interior spaces also make good use of natural light, which enhances user comfort and reduces the use of energy for lighting.

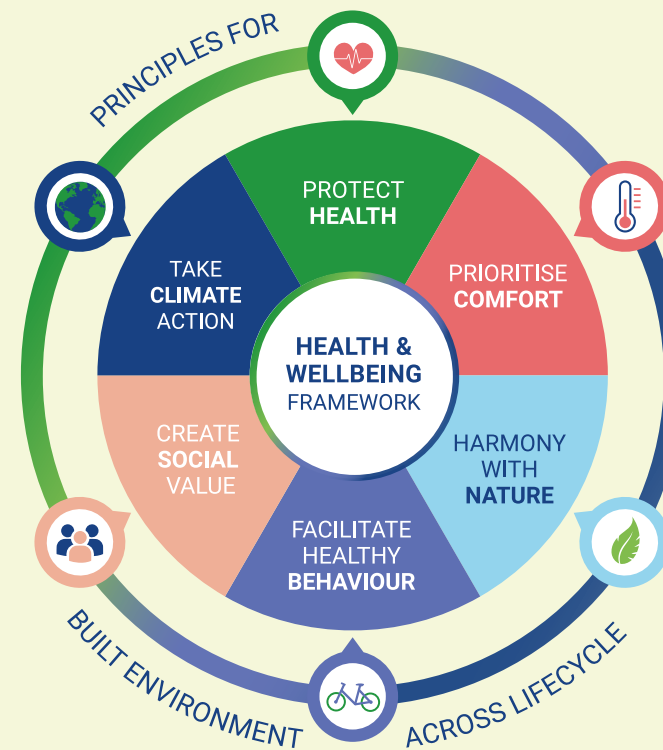


Office of the Printing Division, Government Logistics Department

Better Places for People

The WorldGBC Health & Wellbeing Framework

Six Principles for a Healthy, Sustainable Built Environment



Health and Wellbeing Framework

Since 2014, Hong Kong Green Building Council has participated in the "Better Places for People" Campaign launched by World Green Building Council (WorldGBC). In late 2020, WorldGBC launched a new "Health and Wellbeing Framework" to redefine the scope of health and wellbeing in the built environment. This launch was followed by the rollout of training materials in 2021, offering comprehensive educational tools for healthy and equitable built environments.

Beyond the Business Case Report 2021

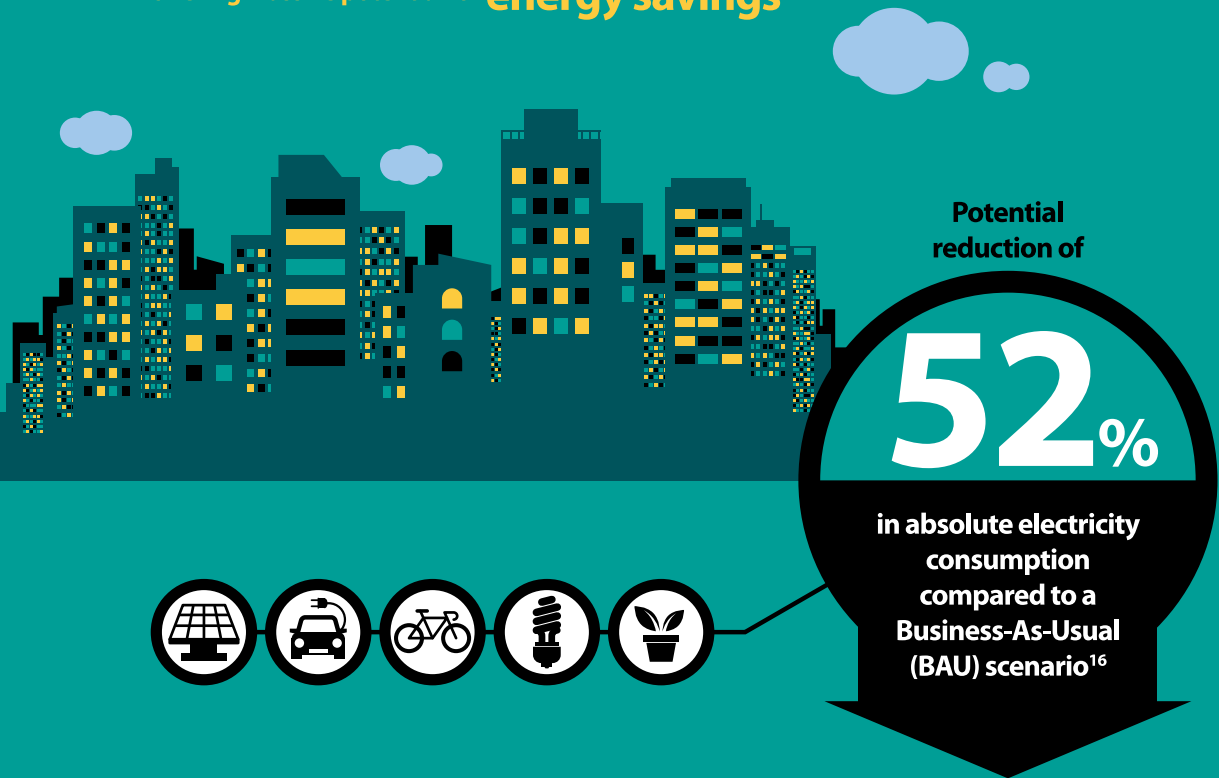
"The Business Case for Green Buildings" Report published in 2013 helped to raise the industry's awareness of sustainability and drive it to differentiate the value of built assets based on green credentials. In 2021, the "Beyond the Business Case" Report presented additional drivers for broadening the business case while also demonstrating seven irrefutable co-benefits for investing in a sustainable built environment, covering both financial and social aspects.



Existing Buildings: Challenges and the Way Forward

Taking up a very large proportion of Hong Kong's current building stock, existing buildings play a key role in Hong Kong's transformation into a low carbon metropolis.

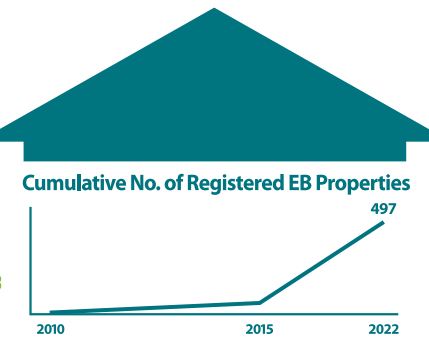
Over **42,000** existing buildings in Hong Kong, offering massive potential for **energy savings**



Existing Buildings: Challenges and the Way Forward

BEAM Plus Existing Buildings V2.0

- Updated in March 2016
- Covering the management, operation, maintenance and improvement of all types of existing buildings of all ages
- Comprehensive Scheme: assessing the overall performance of a property in either one-step or step-wise assessment
- Selective Scheme: assessing individual aspect of the property with a certificate issued for each assessed aspect



A Volume Certification arrangement was launched in 2019 to enable multiple properties managed by the same organisation to undergo assessment in a streamlined and cost-effective manner.

Achievements of BEAM Plus Existing Buildings Certified Properties



Key Initiatives Facilitating Market Transformation



Retro-commissioning Training & Registration Scheme

The Scheme provides comprehensive training and a registration mechanism with the aim to build up the capacity of the industry in carrying out Retro-commissioning.

The HKSAR Government has been promoting RCx as a cost-effective tool for energy savings and as one of the initiatives in the 2050 climate action plan.

Qualified industry practitioners and companies can register as RCx Practitioners, RCx Professionals and RCx Services Providers. Those listed under the registration scheme can give quality assurance of their experience and expertise in providing RCx services to their employers and clients.

Jointly submitted with the EMSD, the Scheme received the Gold Award under the Smart Jobs and Consumers pillar in the 2022 Asia-Pacific Economic Cooperation (APEC) Energy Smart Communities Initiative (ESCI) Best Practices Awards Program.



HKGBC Retrofitting Guidebook

The objective of this Guidebook is to promote and facilitate the industry to implement retrofitting and optimise the energy performance of existing buildings. Its timely strategies for retrofitting are organised under 10 key themes and include case studies. Other resources, such as available funds in the market, are also covered to offer building owners clear guidance in the retrofitting of their buildings.



Download



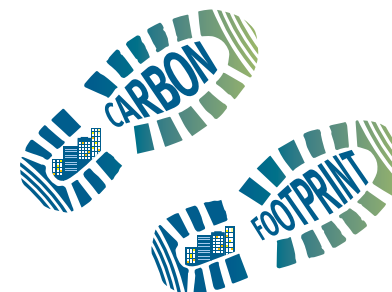
CIC Green Product Certification

The scheme aims to transform Hong Kong into a greener built environment by providing a certification platform for building and construction products / materials. It differentiates products which have significantly reduced their impact on the environment.

Advancing Net Zero

What is Advancing Net Zero (ANZ)?

“Advancing Net Zero” is the World Green Building Council’s (WorldGBC) global project which calls for business, organisations, cities, states and regions to reach net zero operating emissions in their portfolios by 2030 and for all buildings to be net zero in operation by 2050. HKGBC is one of 25 GBCs committed to this global project.



According to the WorldGBC, buildings currently account for 39% of energy-related carbon emissions globally– with operational carbon emissions accounting for 28% while embodied carbon emissions account for the remaining 11%.

As stated in the WorldGBC Advancing Net Zero Status Report 2022, the embodied carbon of all new buildings, infrastructure and renovations will have achieved at least a 40% reduction by 2030, and the operational carbon of all new buildings will be net zero by that time. By 2050, both embodied carbon and operational carbon will have achieved net zero²⁰.

HKGBC ANZ Programme

HKGBC commits to help the Hong Kong building and construction industry sector transition towards net zero in a high density high rise compact city context.

• Development of the “Climate Change Framework for Buildings and Construction”

1 The “Climate Change Framework for Buildings and Construction” is currently in preparation. This framework aims to serve as a toolbox of carbon neutrality and climate risk management for the building and construction sector in Hong Kong.



2 Industry stakeholders and professionals, including the Government, developers, consultants, contractors and academia, have been invited to participate in various Expert Groups. Covering buildings’ whole life carbon and climate-related aspects, the first version of the Framework will focus on upfront embodied carbon, zero-carbon-ready building certification schemes, climate risk assessment and disclosure, and adaptation and resilience.



• Advancing Net Zero (ANZ) Ideas Competition 2021 E-Book

The Advancing Net Zero (ANZ) Ideas Competition 2021 e-book is now available on the HKGBC website, enabling the public to review the Competition’s highlights. The e-book not only captures the full story of why and how HKGBC organised the Competition, it also offers a summary of the industry’s creative ideas generated throughout the process, which will hopefully serve as a valuable reference as we continue our ANZ journey into the future.



Green Finance



What is Green and Sustainable Finance?

Green and Sustainable Finance is a new and rapidly expanding area of financial activities.

Green finance raises funds via an array of loans, debt mechanisms and investments for addressing climate and environmental issues.

Sustainable finance takes into consideration an even wider range of topics, including environmental, social and governance (ESG) issues and risks, with the aim of increasing long-term investments in sustainable economic activities and projects.

Why is it important?

- 1) The green finance market in Hong Kong is undergoing strong growth. A substantial number of Mainland and overseas entities have chosen to issue green bonds in Hong Kong, including multilateral development banks.
- 2) Hong Kong is making great progress to becoming an international green finance hub. As of July 2022, the Government had successfully issued **close to US\$10 billion** worth of green bonds under the Government Green Bond Programme (GGBP). The first retail bond issuance of HK\$20 billion equivalent was launched in May 2022, which was the world’s largest retail green bond issuance²¹.



Carbon Trading and Green Finance

Carbon trading is a pricing tool to set the price for carbon emissions based on a market mechanism. It controls overall emissions by setting emission caps and allowing the market to trade limited emission permits²³ (also known as carbon credits). With the increasing awareness of environmental, social and governance (ESG) among companies and investors around the world, the demand for trading and investment in carbon credits is expected to grow continually in the years ahead.

To create a complete green financial ecosystem, Hong Kong Exchanges and Clearing Limited (HKEX) launched Core Climate in October 2022, the only carbon market offering both HKD and RMB settlement for the trading of international voluntary carbon credits²⁴. The platform will drive accessibility to the market and further enhance Hong Kong’s role as a world-class offshore RMB hub and premier green and sustainable finance centre by channelling capital to emission-reduction projects that address climate and environmental issues.



- 3) The Government continues to improve the Green and Sustainable Finance Grant Scheme to support smaller-sized enterprises in obtaining green financing. The Pilot Green and Sustainable Finance Capacity Building Support Scheme was also launched in December 2022²².

What is the role of green building and BEAM Plus in green finance?

BEAM Plus is one of the green building certification schemes recognised by GRESB, HKQAA & CIC.



HKGBC
BEAM Plus
綠建環評

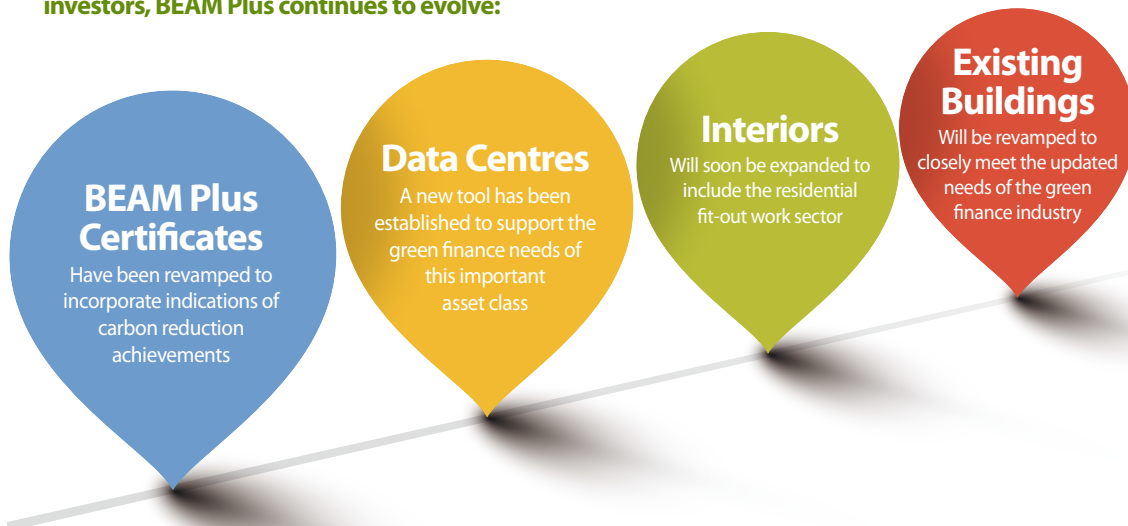


BEAM Plus is also a criterion of Green Mortgages of major banks in Hong Kong, which has the following features:

- Available for green residential properties which have attained BEAM Plus Platinum or Gold ratings;
- Clients who purchase green residential properties are rewarded with an extra cash rebate and other incentives

How is BEAM Plus transforming in response to green finance?

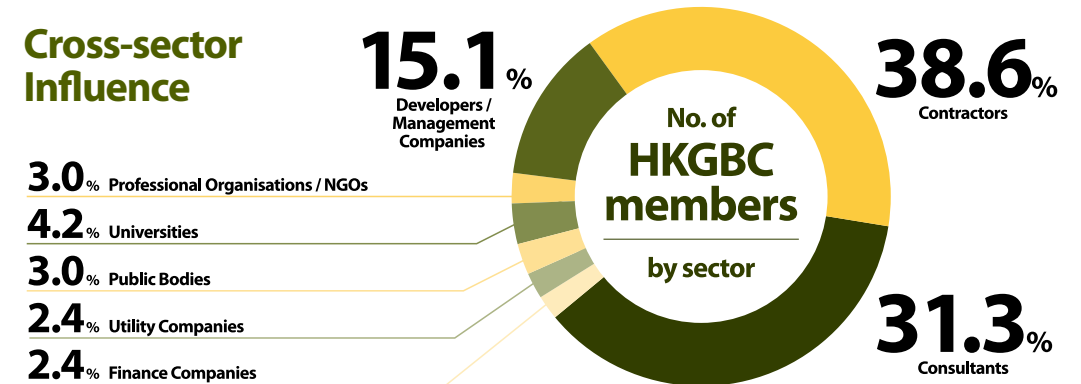
To further expand its market coverage and attract international investors, BEAM Plus continues to evolve:



Turning Engagement into Impact

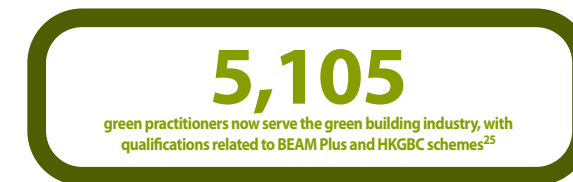
To drive Hong Kong's transformation into a sustainable built environment, it is essential to bring the Government, industry, academia and the public together. As an overarching organisation in the green building community, Hong Kong Green Building Council strives to take the lead in turning the valuable network into real impact.

Cross-sector Influence



Building Competence

No. of green building practitioners



No. of training hours



Since its establishment in 2009, the HKGBC has been spreading the importance of green building at home and abroad through:





“My Green Space” Student Competition

- Organised since 2011
- Encourages students to present their creative ideas on applying green building concepts in real-life built environments, and to develop their ideal green spaces

Hong Kong Green Building Week

- First launched in 2013 with Construction Industry Council
- An annual territory-wide campaign to encourage the public to live a greener life and learn more about local green building development through a series of educational programmes

Hong Kong Green Shop Alliance

- Established in 2016
- Fosters collaborations between malls and shops in building a green shopping environment

Jockey Club BEAM Plus in Schools Project

- Takes place from 2020 to mid-2023 at over 120 secondary and primary schools
- Aims to lead the school sector to achieve 10% carbon reduction and BEAM Plus certification
- Carries out retro-fitting works and facility upgrades to reduce carbon emissions and develops a new BEAM Plus manual for Existing Schools
- Provides educational programmes to promote green building concepts to teachers and students

Green Building Award



Co-organised by the Hong Kong Green Building Council (HKGBC) and the Professional Green Building Council (PGBC), this biennial award aims to provide recognition to building-related projects and organisations for their outstanding performance and contributions to sustainability and the built environment. The Award covers five categories: New Buildings (NB), Existing Buildings (EB), Research & Planning (RP), Building Products & Technologies (BPT) and Green Building Leadership (GBL).

References

Unless otherwise specified, the data and statistics used in this publication are referring to projects under BEAM Plus assessment scheme only and updated as of 31 Dec 2022.

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7. Soft landscaping area of credit SA7b (V1.1 and V1.2) and SS 8b (V2.0) of BEAM Plus New Buildings
8. The dimension of the pitch area of Hong Kong Stadium is 130m x 74m (Leisure and Cultural Services Department, <http://www.lcsd.gov.hk/en/stadium/hks/facilities.html>)
9. Achievement rate of credit SA8c (V1.1 and V1.2) and SS 8c (V2.0) of BEAM Plus New Buildings
10. Achievement rate of credit SA2b (V1.1 and V1.2) and SS 1a (V2.0) of BEAM Plus New Buildings
11. Achievement rate of credit SA3b (V1.1 and V1.2) and SS 2a (V2.0) of BEAM Plus New Buildings
12. Achievement rate of credit IEQ22 (V1.1 and V1.2) and HWB 3 (V2.0) of BEAM Plus New Buildings
13. Achievement rate of credit IEQ23a (V1.1 and V1.2) and HWB 1 or HWB 2 (first credit) of BEAM Plus New Buildings
14. Achievement rate of credits IEQ6 and IEQ7 (V1.1 and V1.2) and HWB 8a (V2.0) of BEAM Plus New Buildings
The projects have to be certified (in Final Assessment stage) or target to achieve (in Provisional Assessment stage) at least the Good Class standard of the Indoor Air Quality (IAQ) Certification Scheme for Offices and Public Places. (Environmental Protection Department, A Guide on Indoor Air Quality Certification Scheme for Offices and Public Places)
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17. Percentage of energy reduction under credit EU4b of BEAM Plus Existing Buildings V2.0 Comprehensive and Selective Scheme
18. Adoption rate of credit EU3b of BEAM Plus Existing Buildings V2.0 Comprehensive Scheme
19. Achievement rate of credits MWA1 of BEAM Plus Existing Buildings V2.0 Comprehensive Scheme and MWA2a of BEAM Plus Existing Buildings V2.0 Selective Scheme
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25. Statistics including the number of BEAM Professional, BEAM Affiliate, GB Faculty and BEAM Assessor, RCx Professional and Practitioner.
26. Training man-hours are offered to BEAM Practitioners by the HKGBC, BEAM Society Limited and other organisations that provide green building related trainings.