

HKQAA Symposium 2017

Policy and Market Drivers for Green Building Initiative: Trends and Development

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Chairman of the HKGBC
18 May 2017

Policy drivers – Do they matter?

From this...



PRESIDENT OBAMA AND WORLD LEADERS JUST SECURED A GLOBAL AGREEMENT TO COMBAT CLIMATE CHANGE THAT:

- **WILL REDUCE GLOBAL EMISSIONS** TOWARD A GOAL OF CARBON NEUTRALITY BY THE END OF THE CENTURY
- LAYS THE FOUNDATION FOR **KEEPING GLOBAL TEMPERATURE RISE BELOW 2° C**, THE LEVEL AT WHICH THE MOST SEVERE IMPACTS FROM CLIMATE CHANGE WILL OCCUR

GO.WH.GOV/CLIMATE



Policy drivers – Do they matter?

To this...

the WHITE HOUSE PRESIDENT DONALD J. TRUMP

Get in Touch ▶



BRIEFING ROOM

ISSUES

THE ADMINISTRATION

PARTICIPATE

1600 PENN



HOME · ISSUES

Issues

America First Energy Plan

America First Foreign Policy

Bringing Back Jobs And Growth

Making Our Military Strong Again

Standing Up For Our Law Enforcement Community

Trade Deals That Work For All Americans

An America First Energy Plan

Energy is an essential part of American life and a staple of the world economy. The Trump Administration is committed to energy policies that lower costs for hardworking Americans and maximize the use of American resources, freeing us from dependence on foreign oil.

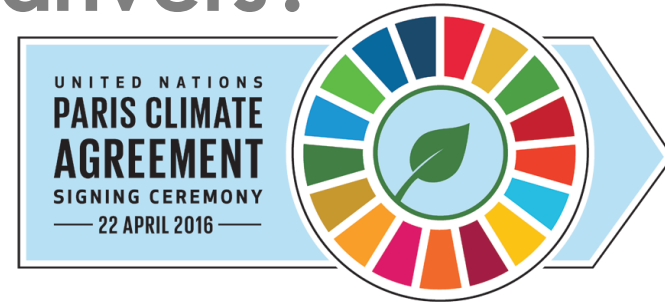
For too long, we've been held back by burdensome regulations on our energy industry. President Trump is committed to eliminating harmful and unnecessary policies such as the Climate Action Plan and the Waters of the U.S. rule. Lifting these restrictions will greatly help American workers, increasing wages by more than \$30 billion over the next 7 years.

Sound energy policy begins with the recognition that we have vast domestic energy reserves right here in America. The Trump Administration will embrace the shale oil and gas revolution to bring jobs and prosperity to millions of Americans. We must take advantage of the estimated untapped shale, oil, and natural gas reserves, especially those that the American people own. We will use the revenues from energy production to rebuild our roads, schools, bridges and public infrastructure. Cheap, expensive energy will be a big boost to American agriculture, a

President Trump is committed to eliminating harmful and unnecessary policies such as the **Climate Action Plan...**



What are the Policy drivers?



Burden-sharing



- *Developed countries must provide financial resources to help developing countries*
- *Other countries are invited to provide support on a voluntary basis*

Review mechanism 2023



- *A review every five years
First world review: 2023*
- *Each review will inform countries in "updating and enhancing" their pledges*

Climate damage



- *Vulnerable countries have won recognition of the need for "averting, minimising and addressing" losses suffered due to climate change*

AFP

What are the Policy drivers?



The Paris climate agreement: key points

The historic pact, approved by 195 countries, will take effect from 2020

Temperatures 2100



- Keep warming "well below 2 degrees Celsius". Continue all efforts to limit the rise in temperatures to 1.5 degrees Celsius"

Finance 2020-2025



- Rich countries must provide 100 billion dollars from 2020, as a "floor"
- Amount to be updated by 2025

Differentiation



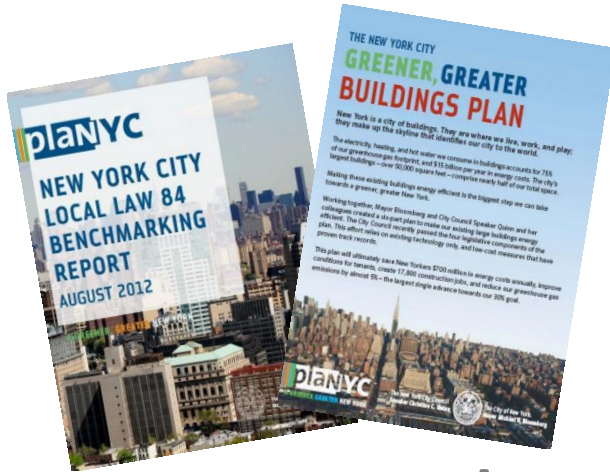
- Developed countries must continue to "take the lead" in the reduction of greenhouse gases
- Developing nations are encouraged to "enhance their efforts" and move over time to cuts

Emissions objectives 2050



- Aim for greenhouse gases emissions to peak "as soon as possible"
- From 2050: rapid reductions to achieve a balance between emissions from human activity and the amount that can be captured by "sinks"

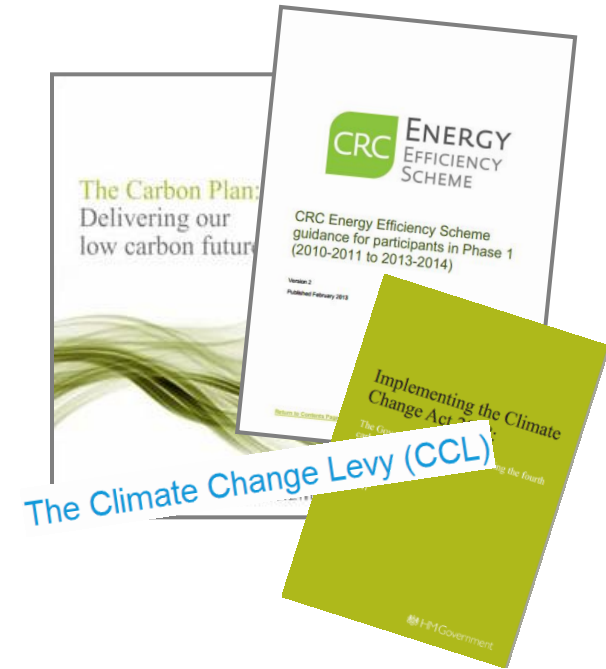
Policy Drivers around the World



New York



Singapore



UK



EU

How about market drivers?

Top Triggers for Green Building (All Respondents)

Dodge Data & Analytics, 2016

2015 2012 2008

Client Demand



Environmental Regulations



Market Demand



Right Thing to Do



How about market drivers?

Metrics Used to Measure the Business Benefits of Green Buildings (2012 and 2015)

Dodge Data & Analytics, 2016

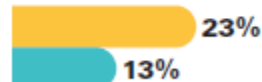
2015
2012



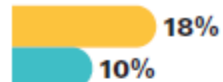
Documentation and Certification Providing Quality Assurance



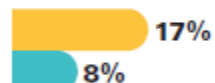
Higher Value at Point of Sale



Higher Occupancy Rates



Increased Productivity for Tenants



Higher Rental Rates



No. 1: Lower operating costs



A low-angle, upward-looking photograph of several modern skyscrapers in Hong Kong. The buildings are covered in glass and steel, reflecting the sky. The perspective creates a sense of height and scale, with the buildings converging towards the top of the frame. The sky is a vibrant blue with scattered white clouds. The text "What about HONG KONG?" is overlaid on the left side of the image.

What about

HONG KONG?

In Hong Kong, human activities in buildings
are responsible for...

60%
GHG emission

90%
Electricity use



What are the market drivers for **Green** Buildings in Hong Kong?



Existing Buildings Roadmap

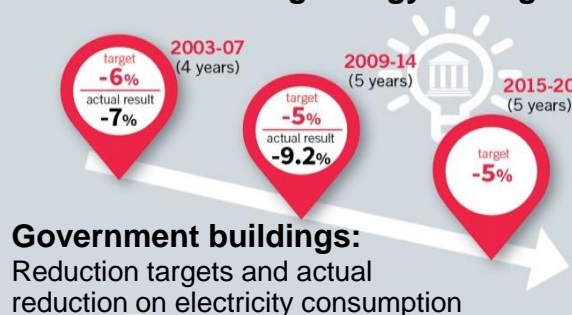
Reporting

Benchmarking

Retro-
Commissioning

Retrofitting

Practicing Energy Saving in Buildings



Government buildings:
Reduction targets and actual
reduction on electricity consumption



Green building
standards, design
and construction



Better air
conditioning
performance



More energy
efficient
electrical
appliances



Improve
building
management



Extend life
span of
buildings



**BEAM Plus
Existing Buildings V2.0**



**Integrated Building
Maintenance Assistance
Scheme**

Sources: Energy Saving Plan

Benchmarking Tool Roadmap

- Targeting both landlord building management and commercial tenants
- Developing office appliance control



HKGBC BENCHMARKING AND
ENERGY SAVING TOOL -
COMMERCIAL BUILDINGS (OFFICE/RETAIL)



HKGBC Benchmarking and Energy Saving Tool -
Office Occupants (BESTOO)



Mandatory Energy
Efficiency Labelling
Scheme (MEELS)



Building Energy Code Roadmap

BEC 2015 tightened requirements for:-

- Lighting installations
- Air-conditioning installations
- Electrical installations
- Lift and escalator installations

New requirements added:

- Performance-based approach
- Energy requirements for major retrofitting works

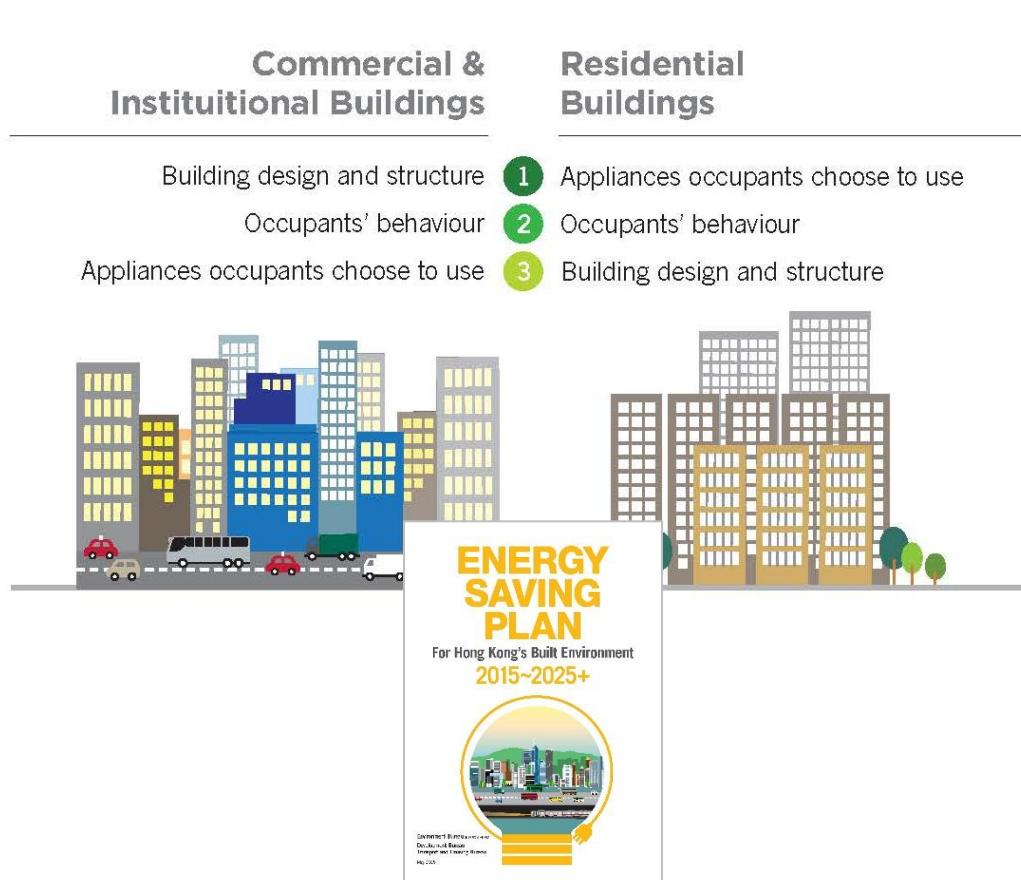


| | | |
|--|---|---------|
| Buildings Department | Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers | APP-130 |
| Buildings Department | Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers | APP-67 |
| Energy Efficiency of Buildings Building (Energy Efficiency) Regulation | | |

New Buildings Roadmap

- Energy Saving Plan 2016

Figure 22 Relative energy saving priorities for different types of buildings



- Practice notes on green buildings

| | | |
|---|---|---------|
| Buildings Department | Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers | APP-151 |
| Building Design to Foster a Quality and Sustainable Built Environment | | |

| | | |
|--|---|-----------|
| Buildings Department | Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers | APP - 152 |
| Sustainable Building Design Guidelines | | |

- BEAM Plus NB V2.0 to be launched in late 2017



Building Controls Roadmap

Guidelines on Design and Construction Requirements for Energy Efficiency of Residential Buildings (2014) promotes:-

- Control of Residential Thermal Transfer Value (RTTV)
- Design for Natural Ventilation for Thermal Comfort

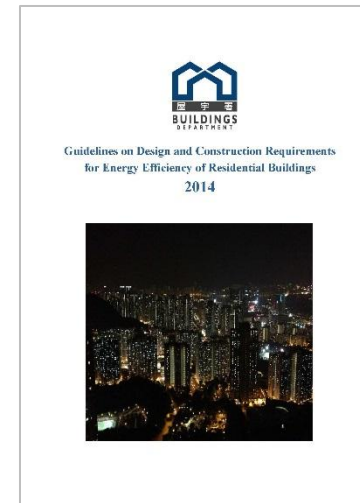


Figure 14 Openable Windows Locations and Cross Ventilation Path
(Rooms with cross ventilation potential are indicated with a tick)

BEAM Plus Roadmap

BEAM Plus:-

- covers a full building lifecycle
- embraces a wide range of sustainability issues
- updates periodically to keep up with the latest best practices

BEAM Plus
Neighbourhood V1.0



Masterplanning

Launched in
Dec 2016

BEAM Plus
New Buildings V1.2



Building Design &
Construction

V2.0 to be
launched in
late 2017

BEAM Plus
Existing Buildings V2.0



Post-Construction
& Operation

Launched in
Mar 2016

BEAM Plus
Interiors V1.0



Fit-out

GFA Incentives Roadmap

- Policy Address 2017 – to review the arrangement of GFA concessions



Promoting Green Buildings

118. Under the current arrangement, a private housing development project is required, among other things, to register for Building Environmental Assessment Method Plus (BEAM Plus) as a prerequisite for application for gross floor area concession for amenity features. We will review this arrangement to further promote green building. In the review, we will consider tightening the prerequisite by requiring a development project to attain specific standards of performance in environmental protection, or even adopt performance-based and site-specific approaches to determine the maximum gross floor area concession.

Green Building Financing Roadmap

ENDED IN 2012



- Allocated 450M
- Funded over 6,400 buildings from 1,115 applications



Supports You to Build a Greener Community



- Funding granted on a “50/50 matching” basis
- For installations:
 - Lighting
 - Electrical installation (e.g. water pump)
 - Air-Conditioning
 - Lift and Escalator



Integrated Building Maintenance Assistance Scheme

- Green Item Subsidy



Tenant-side Reduction Roadmap



Engaging
tenants
**Green
Tenancy
Driver**

Measurement and
Verification



**Sub-
metering**



Application of
Benchmarking tools
and certification



Education Roadmap



CPD Training for BEAM Practitioners

Hong Kong Green Building Week by HKGBC

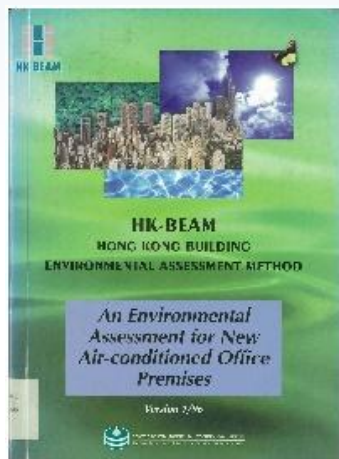


Real time environmental display system
(source: APB Centre)



Industry Guidebooks by HKGBC

Green Building movement in Hong Kong



HK-BEAM
was Launched



Lincoln House
First HK-BEAM
New Buildings
Project
(Excellent
Rating)



**HSBC
Headquarters**
First HK-BEAM
Existing Buildings
Project
(Excellent Rating)

**Fresh Water
Plumbing
Quality
Maintenance
Recognition
Scheme**



**IAQ Certification
Scheme**
was launched



1996



1997

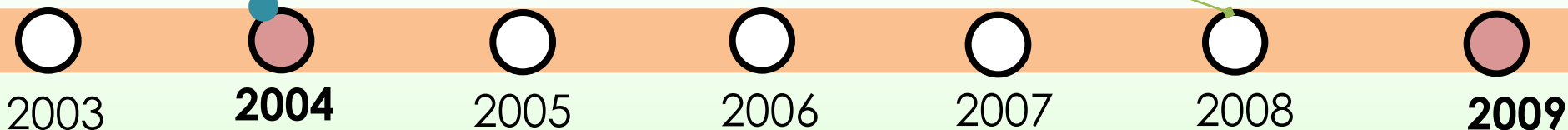


1998



2002

Green Building movement in Hong Kong



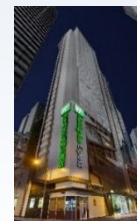
Green Building movement in Hong Kong



BEAM Plus
New & Existing
Buildings (NB, EB)
V1.1
were launched

PNAP APP-152
Sustainable
Building Design
Guidelines

PNAP APP-151
Building Design
to Foster a
Quality and
Sustainable Built
Environment



Holiday Inn Express
Hong Kong Soho
First BEAM Plus NB
Hotel Project



Building
Energy
Efficiency
Ordinance



**BEAM Plus
NB, EB V1.2**
were launched

2010

2011

2012

Green Building movement in Hong Kong



Hysan Place
First BEAM Plus
NB Commercial
Project



**BEAM Plus Interiors (BI)
V1.0**
was launched



**Hong Kong Blueprint for
Sustainable Use of
Resources 2013-2022**



**A Clean Air Plan
for Hong Kong**

2013



MARINELLA
First BEAM Plus NB
Residential Project



**Energizing Kowloon
East Office**
First BEAM Plus NB
Government Project



**A Food Waste &
Yard Waste Plan for
Hong Kong 2014-
2022**

2014

Green Building movement in Hong Kong



ZCB
BEAM Plus NB Platinum



ZCB Eco-Home
First BEAM Plus BI project



Building Energy Code (BEC) 2015



Energy Saving Plan for Hong Kong's Built Environment 2015-2025+



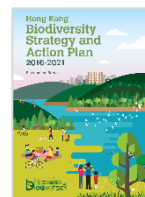
Hong Kong Climate Change Report 2015



BEAM Plus EB V2.0
was launched



BEAM Plus ND
was launched



Hong Kong Biodiversity Strategy and Action Plan 2016-2021



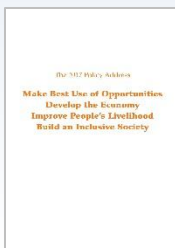
Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030

2015

2016

Green Building movement in Hong Kong

BEAM Plus NB V2.0 will be launched



Policy Address 2017 proposed to raise prerequisite for application for GFA concession

Promoting Green Buildings

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Climate Action Plan 2030+

2017

BEAM Plus: Current update

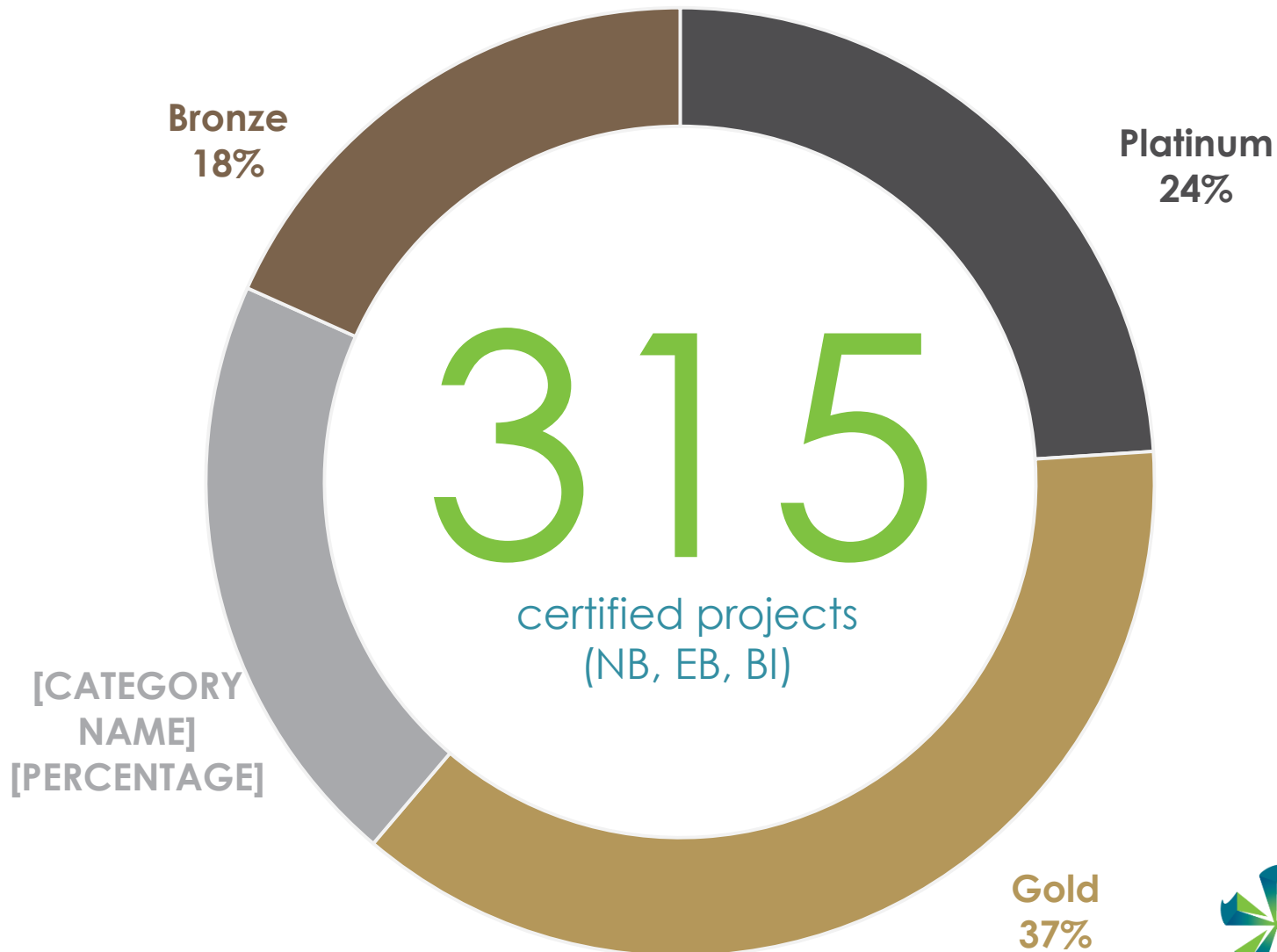
944

registered projects

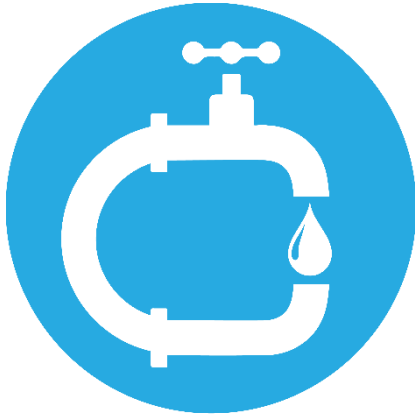


BEAM Plus: Current update

(Data as of
1 Mar 2017)



BEAM Plus: Current update



Average water
saving:

39%



Average energy
saving:

29%



Average greenery
ratio:

39%

BEAM Plus: Current update



Water saved
equals to
consumption of

31,600

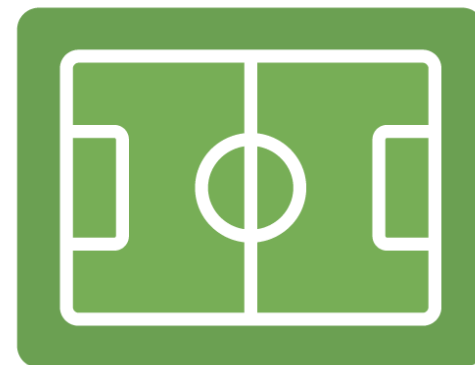
households



Electricity reduction
equals to
consumption of

97,900

households



Total area of
soft landscaping:

73

Hong Kong
Stadium Pitches

The Philosophy of...

Green Building



Green Building Designs & Technologies

Green Building is environmentally responsible and resource efficient throughout a **building's life-cycle**, from:



Planning / Design

Demolition

Construction

Renovation

Operation

Maintenance

Requires close cooperation of the client, planning/design teams, architects, construction teams, management teams and other parties **throughout all stages in the life-cycle of a building.**

Inside the Carbon Footprint of a New Building





**Saving Energy, Reducing CO2,
and Environmentally Sustainable**

節能減排，環保永續

**Simple, Stylish, Pragmatic
but not luxurious**

簡約時尚，實而不華

**Communication,
Collaboration and Back to Nature**

溝通合作，回歸自然

Local Engagement

就地取材

**Smart, Intelligent,
Inclusive and harmonious**

科技智慧，包容和諧



Retro-Commissioning and Retrofitting

重新校驗、恢復機能

TOTAL MAINTENANCE

全面保養、代代無憂

All about Creativity and Balance

一切盡在創意與平衡

老莊智慧，回歸自然

Returning to Nature is the Wisdom of Lao-Zhuang


- 天長地久。天地所以能長且久者，以其不自生，故能長生。(老子) 七章 (The operation of the environment is not for its own.)
- 亂天之經，逆物之情，玄天弗成。(莊子) (在宥) (If the law of nature is disrupted, natural development cannot be sustained.)
- 萬物皆出於機，皆入於機。(莊子) (至樂) (We all come from nature and return back to nature.)



Peace, Long Term Safety & Comfort

太和，長安，永樂



A pair of hands, one from an adult and one from a child, are gently cupping a small green seedling with four leaves. The seedling is growing out of a mound of dark brown soil. The background is a soft, out-of-focus white.

**The Green Culture is
Flourishing**

**綠色文化
正萌芽成長**

**Hope you can join us
in promoting the
green culture!**

綠色文化環保永續

Thank you!

Sr WONG Bay, Chairman of the HKGBC

18 May 2017