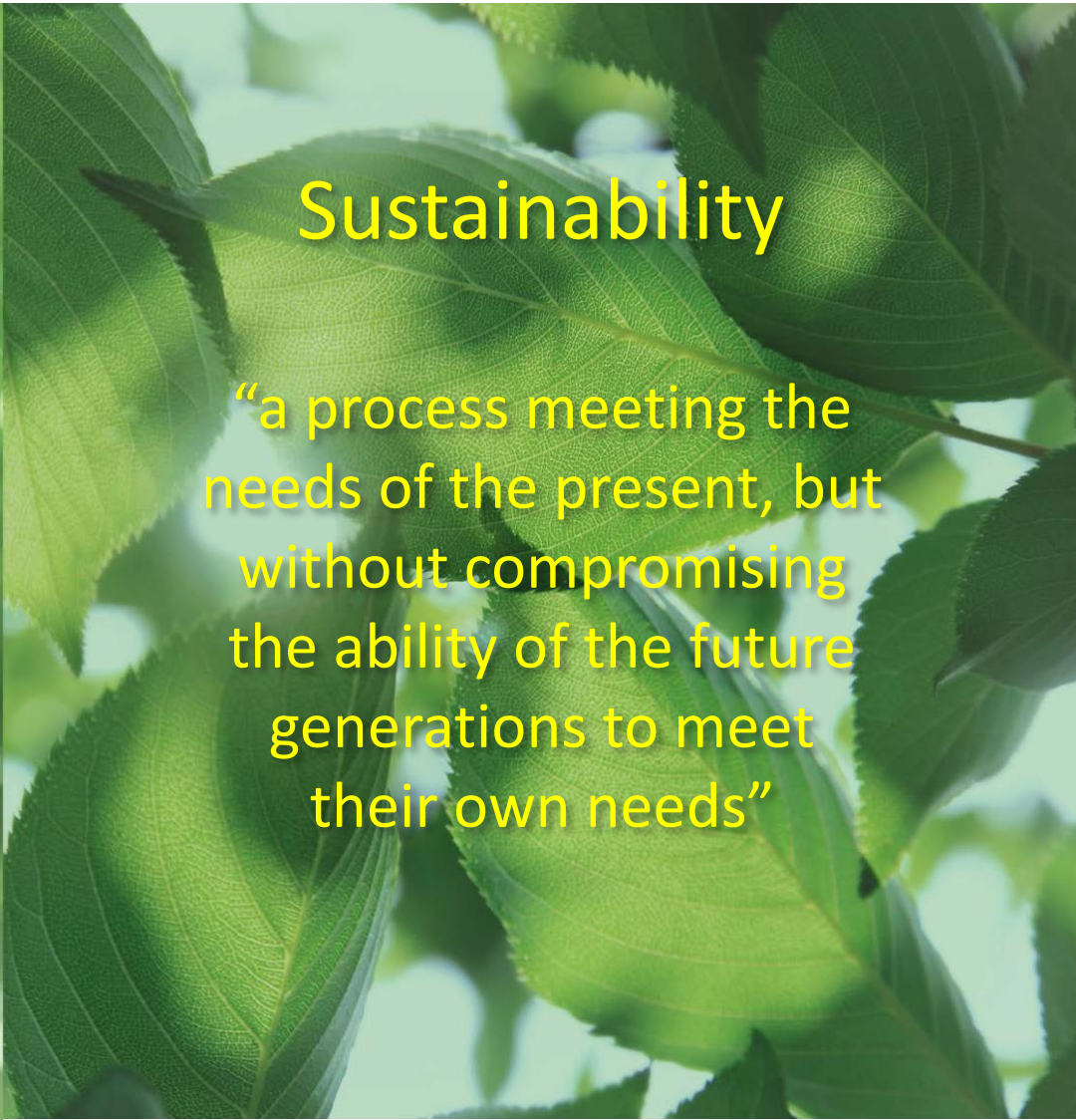


GREEN BUILDING : Challenges and Opportunities




Sustainability

“a process meeting the needs of the present, but without compromising the ability of the future generations to meet their own needs”

GREEN BUILDING : Challenges and Opportunities

- WHY Green & Sustainable ?
- Examples of Green developments with video
 - Double Cove (by Lord Richard Rogers)
 - 18 King Wah Road (by Cesar Pelli)
- Thoughts Sharing

The background is a soft, abstract watercolor wash. It features a mix of light green, pale yellow, and off-white tones. The colors are blended together in a way that creates a textured, organic feel, with some areas appearing more saturated than others. The overall effect is clean and fresh, typical of eco-friendly or sustainable branding.

WHY Green & Sustainable ?

01

Global Challenges around us

Global Citizen

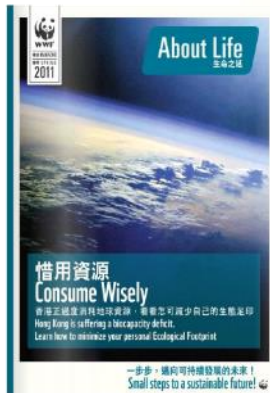
At the growing pressure of the increasingly serious global environmental problems, overpopulation, lack of resources, environmental pollution, sustainable development has become the consensus.



Ecological Footprint in Hong Kong

How many earths does it take to support Hong Kong's lifestyle?

WWF 2011



什麼是生態足印？

生態足印以測量人類對地球生物圈再生能力（即「生物承载力」）的需求。該需求由每人消耗的資源如食物、木材、森林產品、魚類及肉類產品的生產及貿易過程，以及吸收二氧化碳排放所需土地面積決定。生態足印以地球資源公頃 (global hectares, gha) 為單位，與全球生物生產力的平均價值比較。香港人的生態足印為每人4.2地球資源公頃 (gha)，遠高於中國水平（每人1.2地球資源公頃）及亞太區的水平（每人1.7地球資源公頃）。

碳足印佔人類生態足印中的一大部分，但在生態足印報告中，它是計算吸收二氧化碳吸收所需土地面積指示，與字時代表碳吸收的足印有所不同。

要下載《香港生態足印報告2010》，可到此網頁：www.wwf.org.hk/reports/footprint 或瀏覽地球一小時網頁：www.wwf.org.hk/earthhour 了解更多。

香

港人一直忽略了一些對這個城市有深遠影響的重要數據——根據《香港生態足印報告2010》，香港嚴重耗用地球有限生物資源。這套年度報告指出，如地球上每個人都像香港人般生活，將需要2.2個地球才能滿足人類的需求。這比其他中國城市，如北京（2.1個地球）和上海（2個地球）還更高。

根據現存最早計算顯示，人類的生態足印其實早在1976年首次超過地球的生物承载力。至2007年，全球生態足印是地球生物承载力1.5倍。換言之，地球至少需要1.5年才能吸收人類在一年內所產生的二氧化碳排放量並再生地球資源。

全球足印總額 (Global Footprint)



The people of Hong Kong are currently overlooking critical statistics that will have a major impact on the city's future. According to the Hong Kong Ecological Footprint Report 2010, on the ecological front, the city is heavily indebted to the world. The biennial report reveals if everyone in the world lived a Hong Kong lifestyle, we would need the equivalent of 2.2 Earths to absorb the CO₂ emissions and to regenerate the renewable resources used in a year, which is higher than that of other cities in China, such as Beijing (2.1 Earths) and Shanghai (two Earths).

In fact, by the most recent calculations available, humanity's Ecological Footprint first exceeded the Earth's biocapacity in 1976. By 2007 the global total Ecological Footprint was 1.5 times higher than available biocapacity. In other words, it would take at least a year and six months for the Earth to absorb the CO₂ emissions and regenerate the renewable resources that people used in that year, with the carbon footprint component of the Ecological Footprint the largest portion of humanity's current Footprint.

Network) 行政總裁 Mathis Wackernagel 博士指出：「人類日益增長的生態足印已超越地球可能承受範圍。全球生態足印，高度依賴進口資源的國家及城市，他們的經濟發展將面臨嚴重威脅。香港是特別依賴進口其各地生態資源的地區，急需減少這種依賴。如能以更小的生態足印來維持高生活質素，香港將不但可以協助解決全球暖化，亦能令香港的經濟更具韌性來挑戰時能力。」

由於香港依賴中國及其他國家進口自然資源，這意味著我們同樣需要面對其他國家在整個供應鏈過程，包括開採原材料、產品製造及運輸等所造成的碳排放量。

WHAT IS AN ECOLOGICAL FOOTPRINT?

An Ecological Footprint is an accounting tool used to measure humanity's demand on the regenerative capacity of the planet's biosphere, or "biocapacity". Human demand for biocapacity is determined by evaluating production and trade flows of crops, timber, forest, fish, and meat products, as well as the amount of forest land needed to absorb carbon dioxide (CO₂) emissions. An Ecological Footprint is expressed in units of global hectares (gha), defined as hectares with world-average biological productivity.

The carbon component of the Ecological Footprint has the highest portion of humanity's current Footprint. In the Ecological Footprint report, it is calculated as the amount of forest land that would be required to absorb these carbon dioxide emissions. This differs from other uses of the term "carbon footprint", which usually expresses emissions of a number of different greenhouse gases as quantities of the CO₂ equivalent.

To download the Hong Kong Ecological Footprint Report 2010, go to www.wwf.org.hk/reports/footprint. You can also learn more about the footprint issue at the Earth Hour website, www.wwf.org.hk/earthhour.

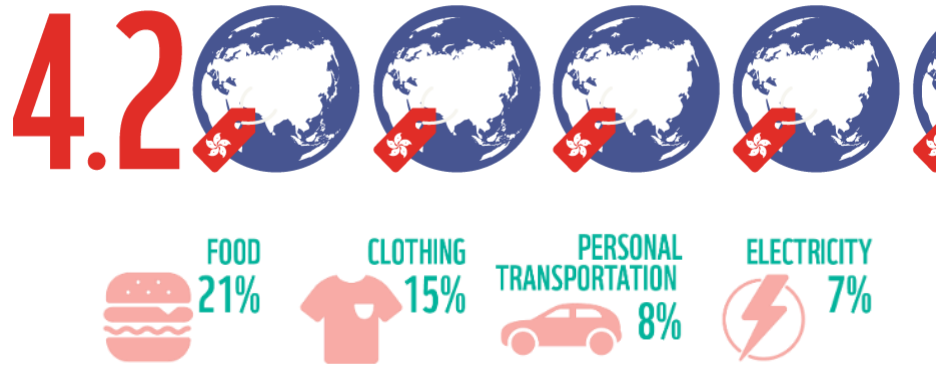
Moreover, Hong Kong's reliance on imported resources from China and other countries implies that we are also responsible for carbon dioxide emissions abroad that are created during the process of extracting raw materials, manufacturing products and transporting them throughout the supply chain before they reach Hong Kong consumers.

"We are in a new era where humanity's growing Ecological Footprint is outpacing what nature is able to renew," says Global Footprint Network President Mathis Wackernagel. "In such times of global overshoot, cities and countries that maintain high levels of resource dependence are putting their own economies severely at risk. As a region particularly reliant on the ecological health of the rest of the world, Hong Kong stands to benefit from minimising its resource dependence. The more it can provide a high quality of life for its residents on a smaller Ecological Footprint, Hong Kong will not only address global risks, but more directly, it will make its economy more resilient facing the future."

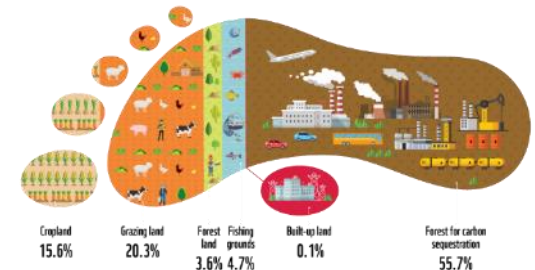
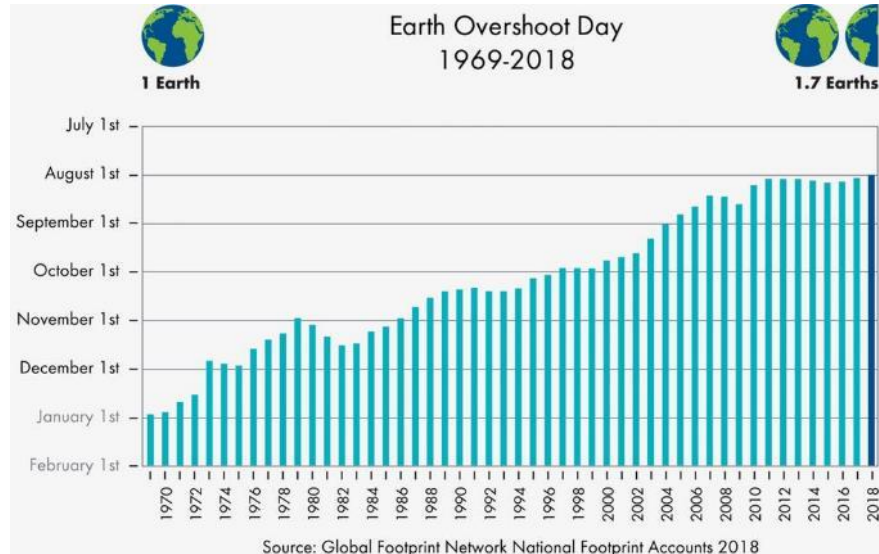
02

Ecological Footprint in Hong Kong

How many earths does it take to support Hong Kong's lifestyle?



**WWF
2019**







03

Sustainable Challenges in High-Density Urban Environment in Hong Kong

Why should we develop green building ?

High-density urban environment

**High expectation of
indoor and outdoor environments**



03

Sustainable Challenges in High-Density Urban Environment in Hong Kong



Ultra high-density city

Hong Kong

Population density around

7082 persons / km²



Beijing
1313



Shanghai
3823



Singapore
7,953



GREEN



SMART



HEALTHY



**ART
CULTURE**

04

Our Business Core Values

“ We recognize that the long-term success of the Group is closely linked with the **health and prosperity** of the **communities** we operate in. ”



Lee Ka Shing, Martin

Chairman and Managing Director
CSR Committee Chair



05

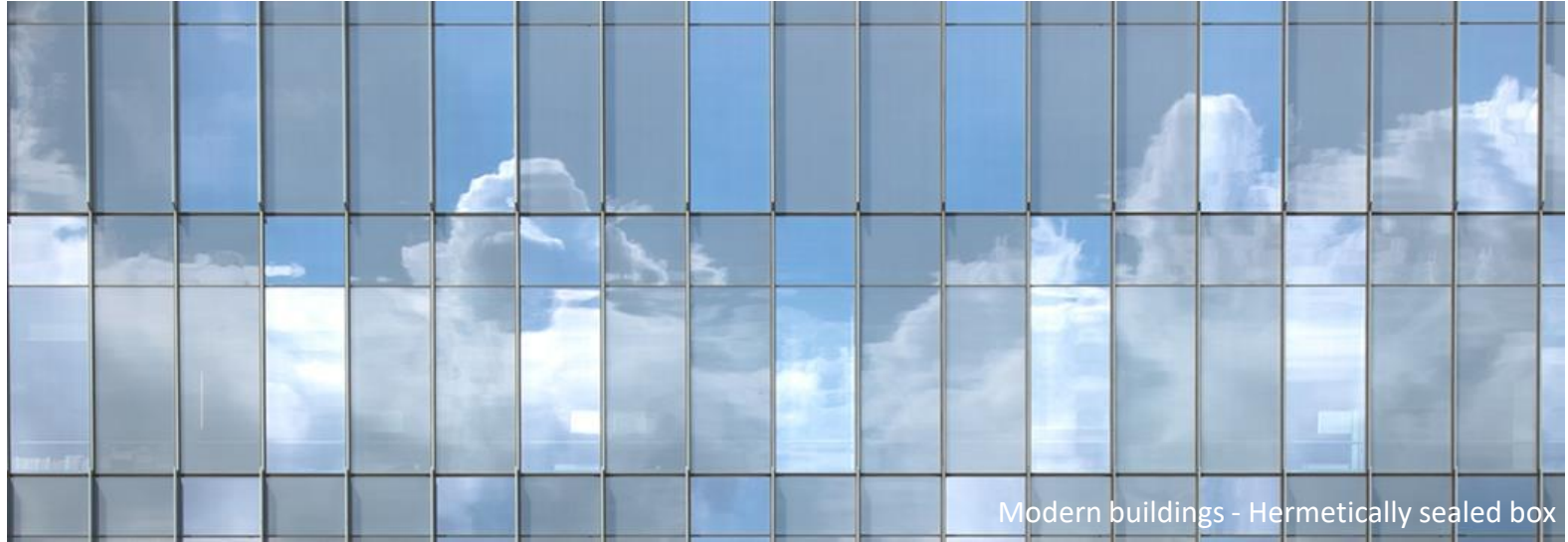
From “Green” to “Healthy”

► People-Oriented
『以人為本』



06

Modern Remedy for Sick Building Syndrome



07

Absenteeism & Productivity

Health Factors in Decisions on Building

(According to Owner HR Executives)

Source: McGraw Hill Construction, 2014

Improved Employee Engagement



Improved Productivity with Better Indoor Environment



Ability to Attract New Talent with Better Built Environment



Lower Healthcare Costs associated with Sick Buildings



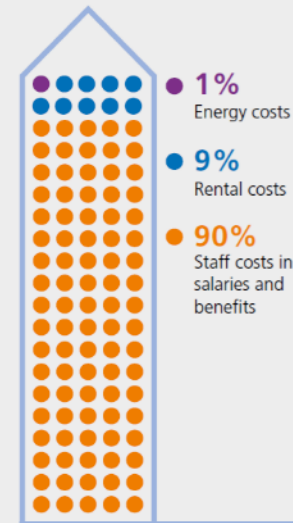
Lower Absenteeism due to Sickness



Positive Effect on Reputation/Marketing/PR



Typical business operating costs¹



10% Variation

A 10% variation applied equally to each cost has a far from equal impact

+/- 0.1%

Energy costs

+/- 0.9%

Rental costs

+/- 9.0%

Staff costs

Source: WorldGBC, 2015

Examples of Green developments with video

- Double Cove (by Lord Richard Rogers)
- 18 King Wah Road (by Cesar Pelli)

“Living in a Park” in a walkable community

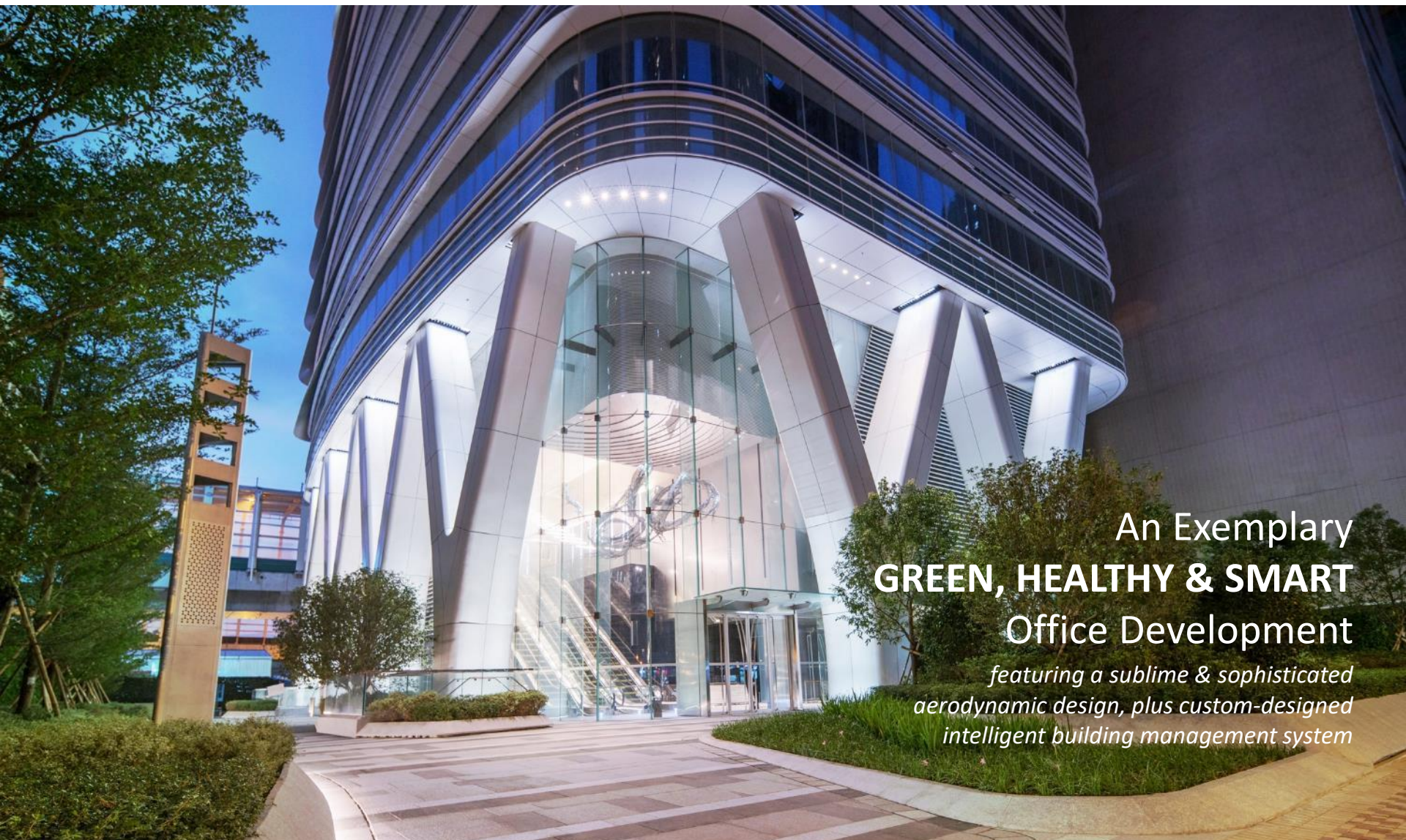
by Lord Richard Rogers



Quality Building Award 2018
Hong Kong Non-Residential
(New Building— Non-Government,
Institution or Community)



恒基兆業地產有限公司
HENDERSON LAND DEVELOPMENT COMPANY LIMITED



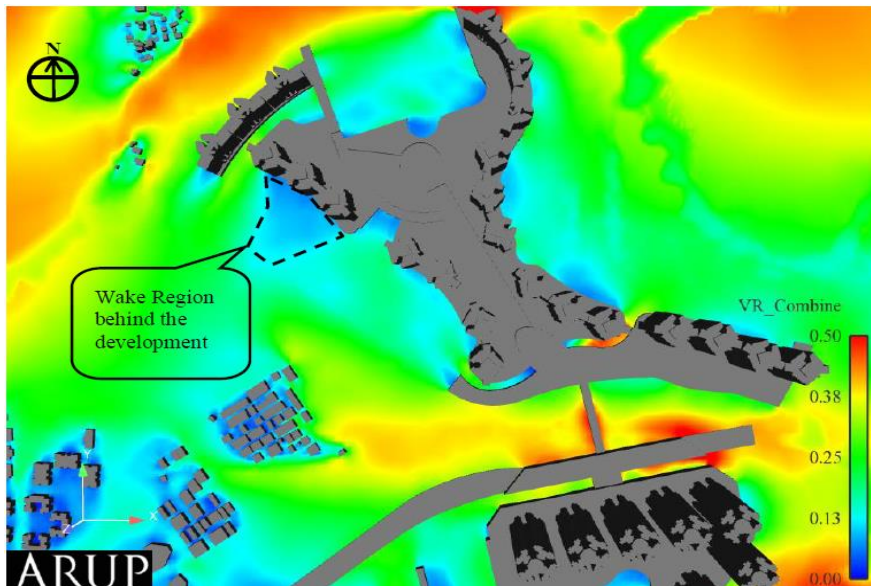
An Exemplary
GREEN, HEALTHY & SMART
Office Development

*featuring a sublime & sophisticated
aerodynamic design, plus custom-designed
intelligent building management system*

Thoughts Sharing

- Take Challenge as Opportunity
- Paradigm shift
- Meet and exceed user's expectation

Driver of Creating Urban Microclimate Environment



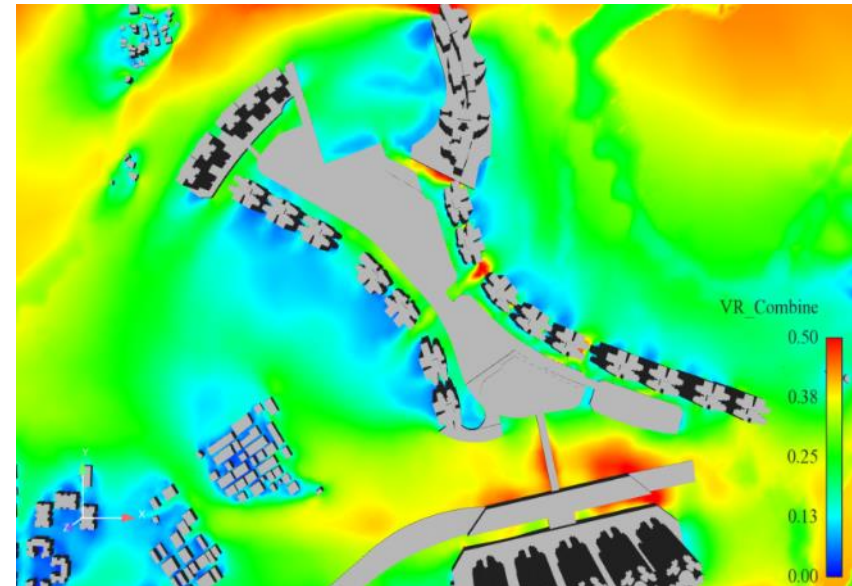
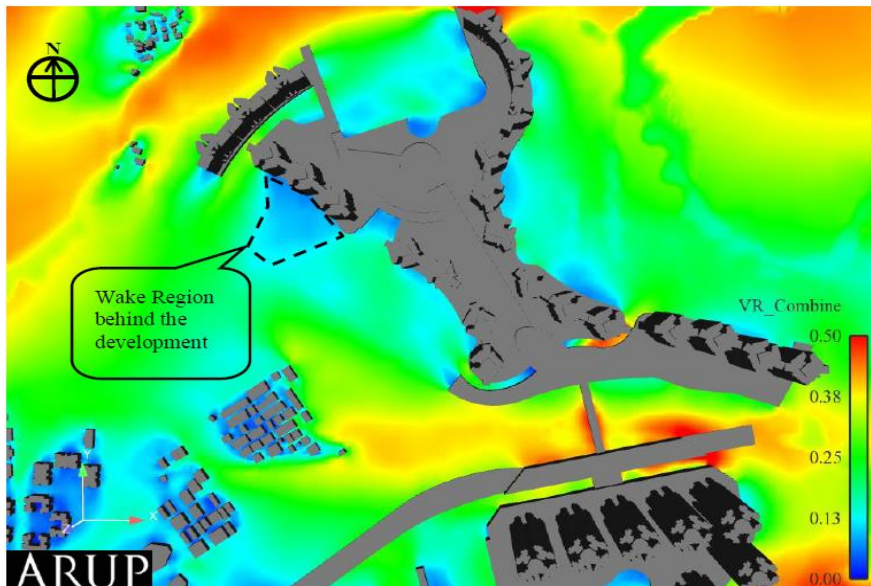
Original Scheme



No more “Birthday Cake” design

Financial Considerations
at early 2009

Driver of Creating Urban Microclimate Environment

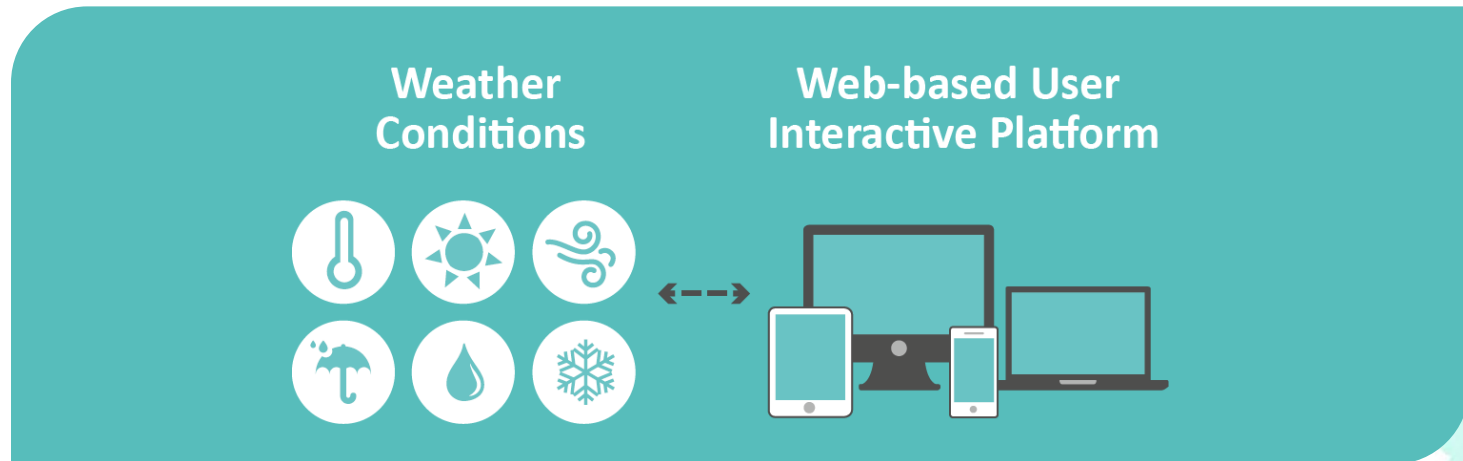


Original Scheme

20% COST
SAVING

Final Scheme

SMART - Users controllability of their workplace environment
User Individual COMFORT CONTROL



Smart Office Apps

Controlling by BOTH occupants and property manager



Functions :

- Indoor Thermal Comfort,
- Office Lighting,
- Openable windows
- Roller Blinds

10

Meet and exceed user's expectation

Expanding the livable spaces beyond the flat



10

Meet and exceed user's expectation

Expanding the livable spaces

Through green & sustainable environment and themed artwork setting



10

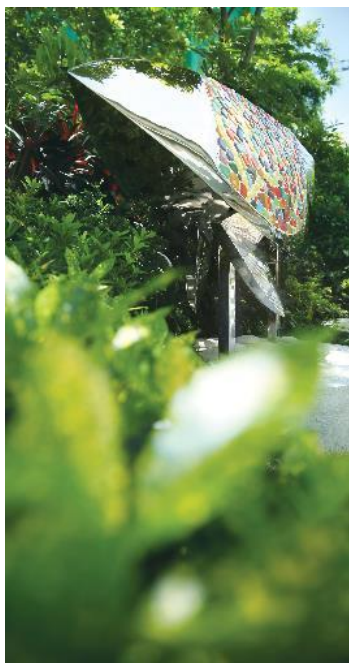
Meet and exceed user's expectation

Artworks themed concept “Symphony of Nature”

Artworks
over 60

Total artwork value
\$33 Million

One of the
biggest arts project



JU MING LIVING WORLD SERIES THE THIRD GENERATION
JAUME PLENSA MEMORIA
YUE MINJUN CONTEMPORARY TERRACOTTA WARRIORS NO.8
WILLIAM LIM MARINE • INFINITY
WILLIAM LIM UNCLE OWL

FUNG LIK YAN TREE HUGGERS
FUNG LIK YAN VOYAGER
MOK YAT SAN WAVING GLORY
MOK YAT SAN IN THE MOOD FOR HOLIDAYS
KUM CHI KEUNG APPLE•FLOWERS

KUM CHI KEUNG GREEN JOY
MOON BYEONG DOO I HAVE BEEN DREAMING TO BE A TREE
CHEUNG WOOK JANG THE LONG JOURNEY - ELEPHANTS
SONG WOON CHANG I AM FINE
FREEMAN LAU HORSES BY THE SEA

KUM CHI KEUNG PROPAGATION
RICHARD X ZAWITZ INFINITY ZIIX
LEE CHIN FAI WATERSCAPE
MAN FUNG YI DOUBLE HAPPINESS
TSANG CHEUNG SHING LOADS OF LOVE

10

Meet and exceed user's expectation

International Artists



岳敏君 Yue Min Jun



朱銘 Ju Ming



Jaume Plensa

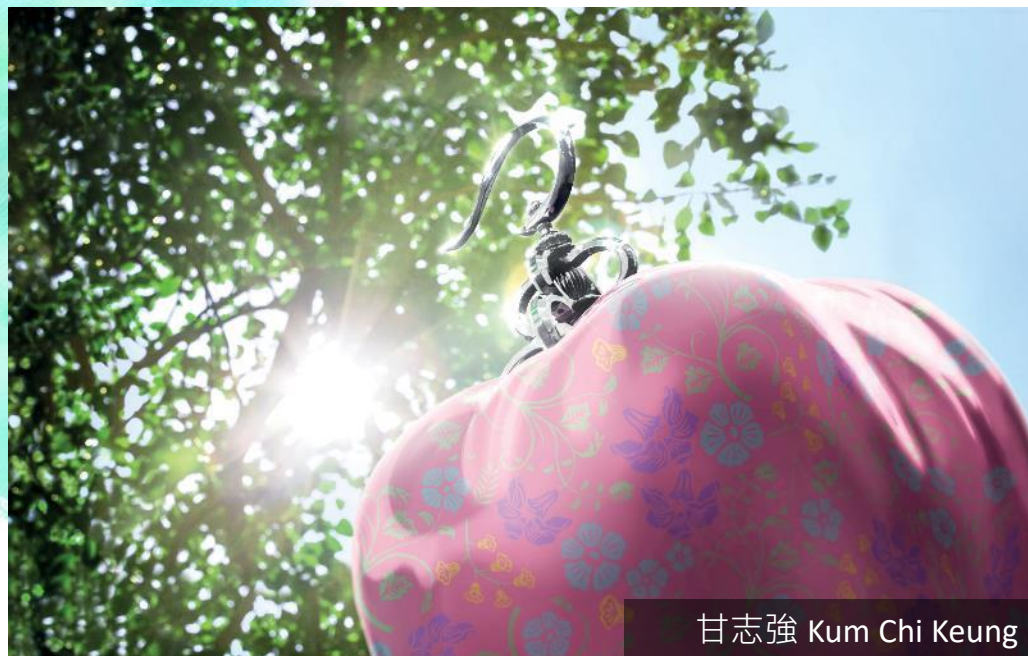
10

Meet and exceed user's expectation

Local Artists

Over 60%

artwork by Hong Kong artists



A woman with dark hair in a ponytail, wearing a white t-shirt and blue jeans, is lying on her stomach on a lush green lawn. She is using a paintbrush to draw a yellow sun on a white rectangular board. The sun is simple, with a semi-circle and several rays. The text 'TO BUILD A BETTER GREEN FUTURE...' is written in white, bold, sans-serif capital letters on the left side of the image.

TO BUILD A
BETTER
GREEN
FUTURE...

THANK YOU



恒基兆業地產有限公司
HENDERSON LAND DEVELOPMENT COMPANY LIMITED