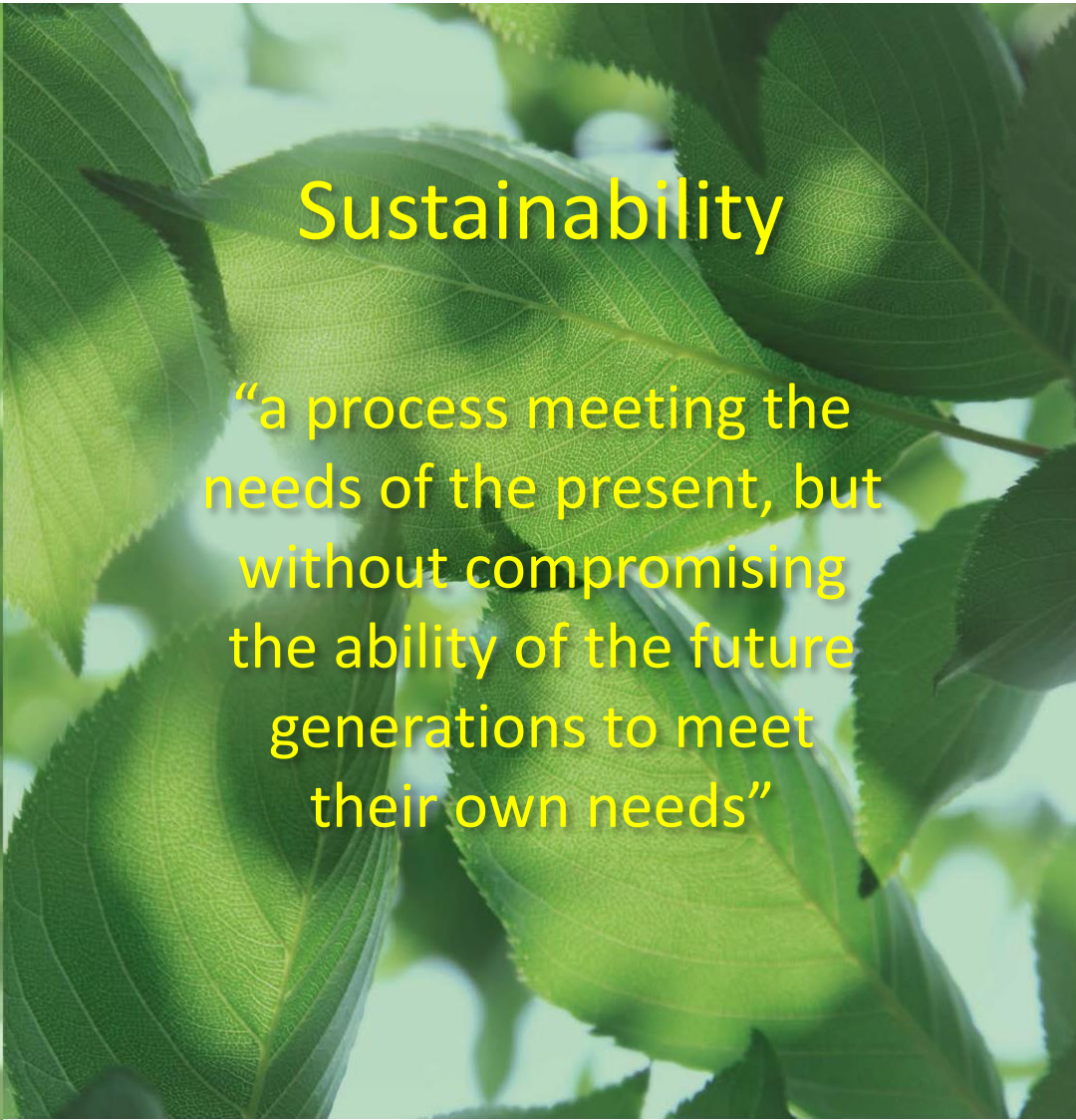


# GREEN BUILDING : Challenges and Opportunities



## Sustainability


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

Kevin NG, Henderson Land



# 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 hints of light blue, creating a textured, organic feel. The colors are blended together, with some areas appearing more saturated than others, giving it a painterly quality.

**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.

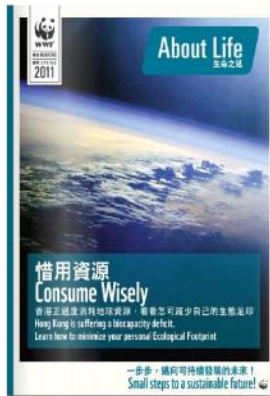


# 02

## 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「生物承載力」)的需求。該需求由每人消費的資源如農作物、木材、森林產品、魚類及肉類製品的生產及貿易過程,以及吸收二氧化碳排放所需耕地土地面積決定。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數目比較。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2.2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排放量所需的土地面積,與字面代表碳排放的碳足印有所不同。

要下載《香港生態足印報告2010》,可到網頁是: [www.wwf.org.hk/reports/footprint](http://www.wwf.org.hk/reports/footprint) 或瀏覽地球一小時網站: [www.wwf.hk/earthhour](http://www.wwf.hk/earthhour) 了解更多。

# 香

港人一直忽略了一些對這個城市的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的生態資源。這份年度報告指出,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)還要高。

根據現存最長的計算顯示,人類的生態足印其早於1976年首次超出地球的生物承載力。至2007年,全球生態足印是地球生物承載力的1.5倍。換言之,地球至少要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。

全球足跡網絡 (Global Footprint

# T

he 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 CO<sub>2</sub> 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 CO<sub>2</sub> emissions and regenerate the renewable resources that people used in that year, with the carbon Footprint the largest portion of the Ecological Footprint the largest portion of humanity's current Footprint.



### 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 (CO<sub>2</sub>) emissions. An Ecological Footprint is expressed in hectares 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 CO<sub>2</sub> equivalent.

To download the Hong Kong Ecological Footprint Report 2010, go to [www.wwf.org.hk/reports/footprint](http://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](http://www.wwf.org.hk/earthhour).

Network) 行政總監 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。全球生態耗竭, 高度依賴進口資源的國家及城市, 他們的經濟發展都面臨嚴重威脅。香港是特別依賴其各地生態資源的地區, 急需減少這種依賴。如能以小小的生態足印來維持高生活質素, 香港將不但可以緩解全球環境問題, 亦能令香港的經濟更具韌性來承擔挑戰的能力。」

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產生的碳排放負責。

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."

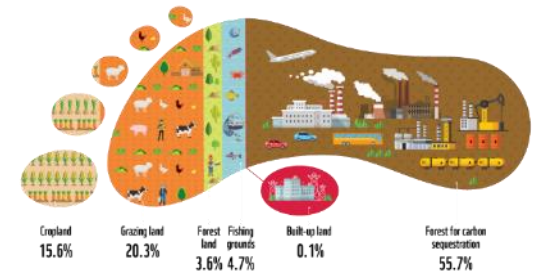
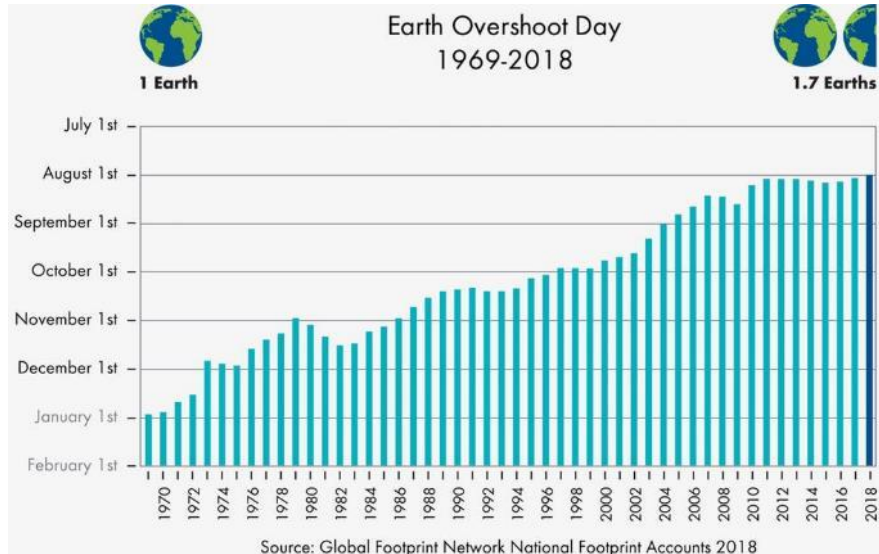
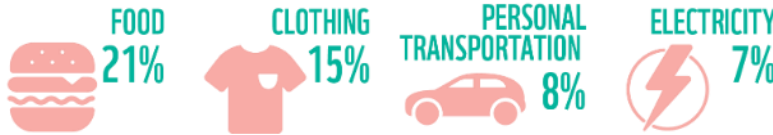
# 02

## 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 / km<sup>2</sup>



**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

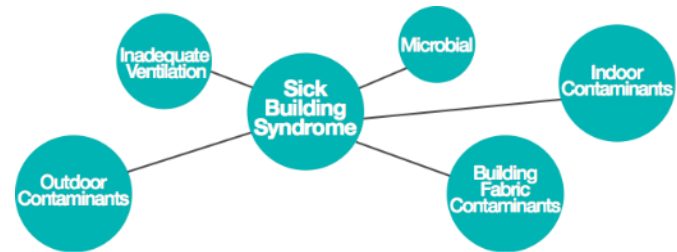
# From “Green” to “Healthy”

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



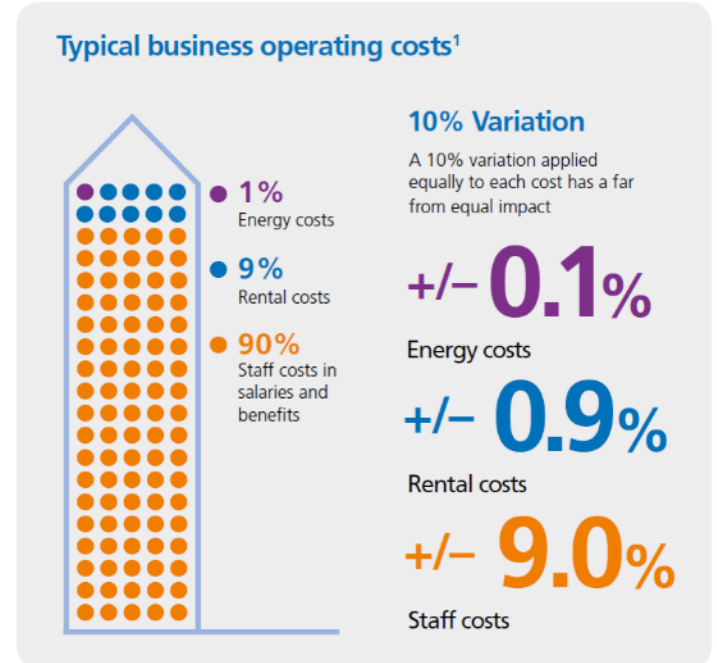
Lower Healthcare Costs associated with Sick Buildings



Lower Absenteeism due to Sickness



Positive Effect on Reputation/Marketing/PR



Source: WorldGBC, 2015

## Examples of Green developments with video

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



QUALITY BUILDING AWARD 2016  
HONG KONG RESIDENTIAL  
(MULTIPLE BUILDINGS)



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



新世界發展有限公司  
New World Development Company Limited



培新集團  
PETERSON GROUP



# “Living in a Park” in a walkable community

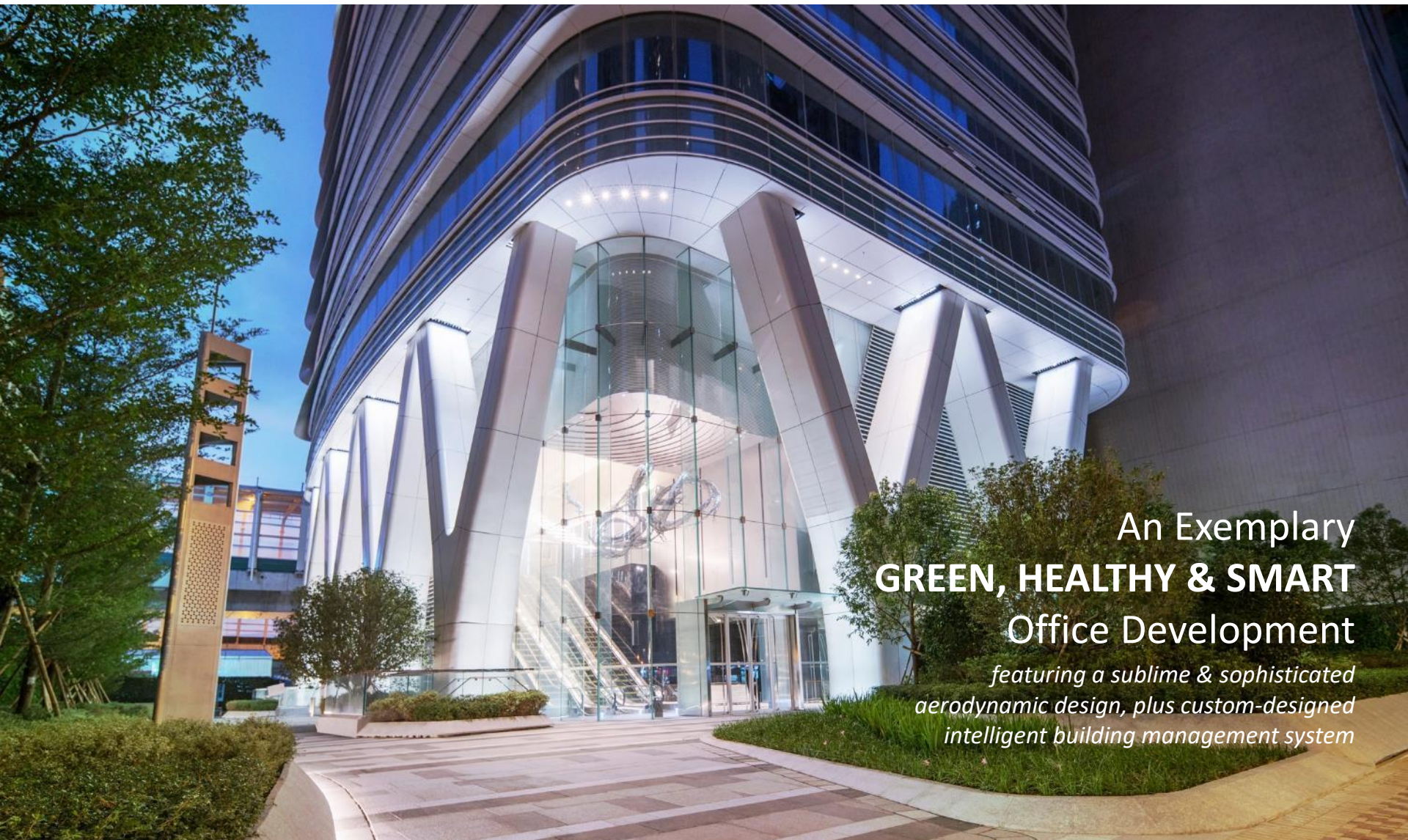
by Lord Richard Rogers



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

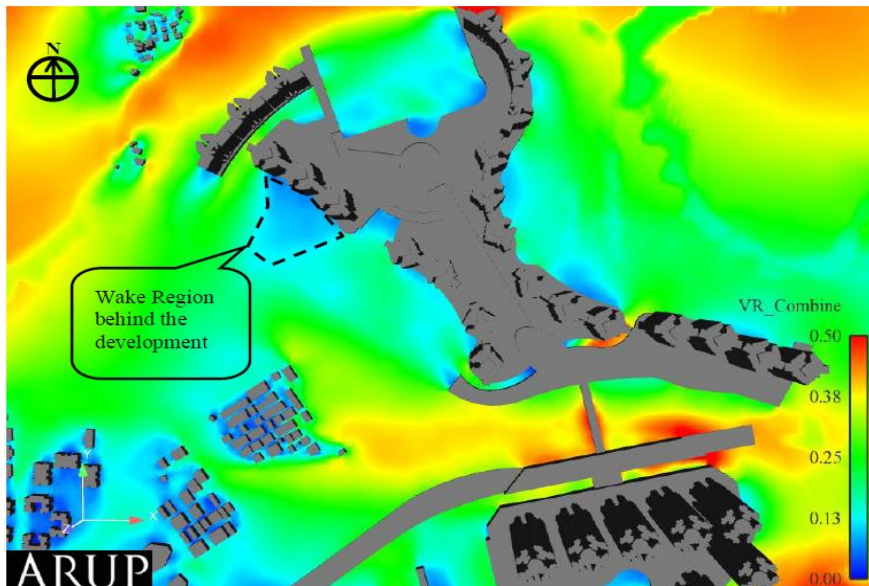
*featuring a sublime & sophisticated  
aerodynamic design, plus custom-designed  
intelligent building management system*



## Thoughts Sharing

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

## Driver of Creating Urban Microclimate Environment



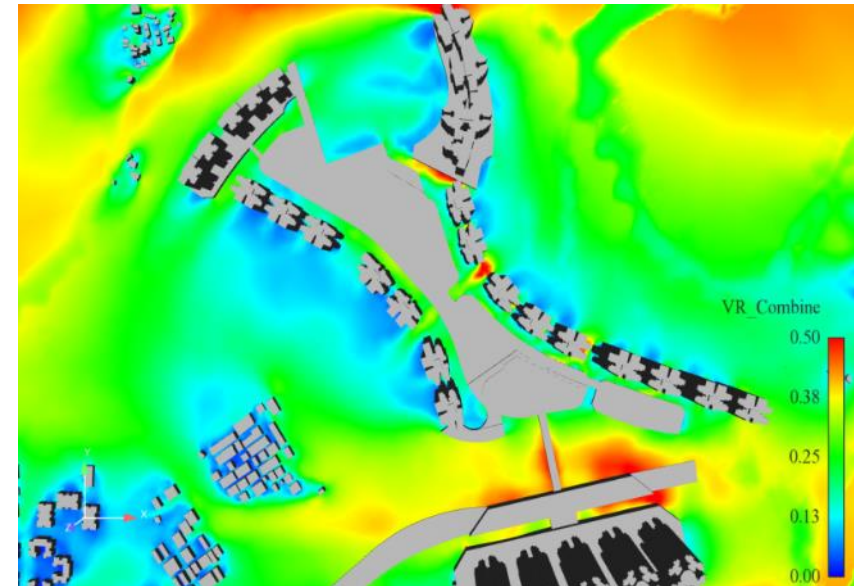
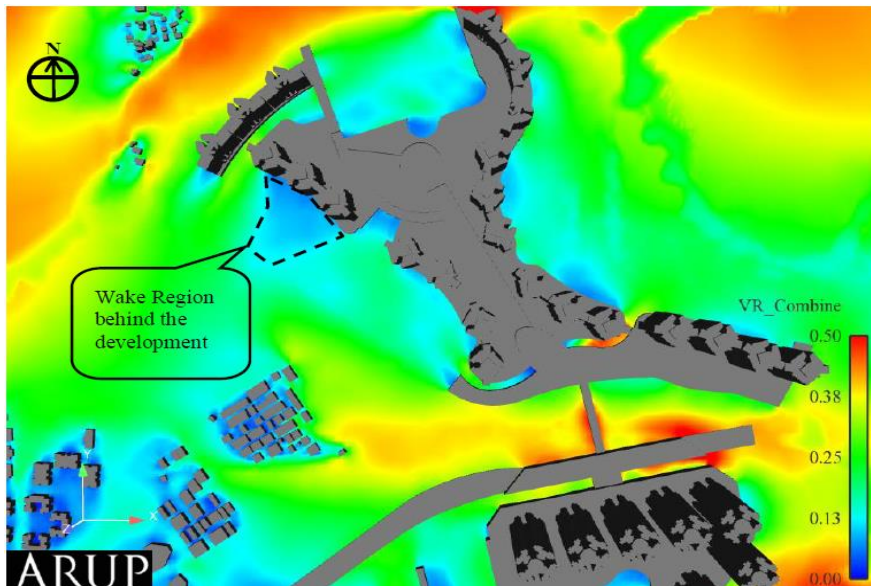
Original Scheme



No more “Birthday Cake” design

Financial Considerations  
at early 2009

## Driver of Creating Urban Microclimate Environment

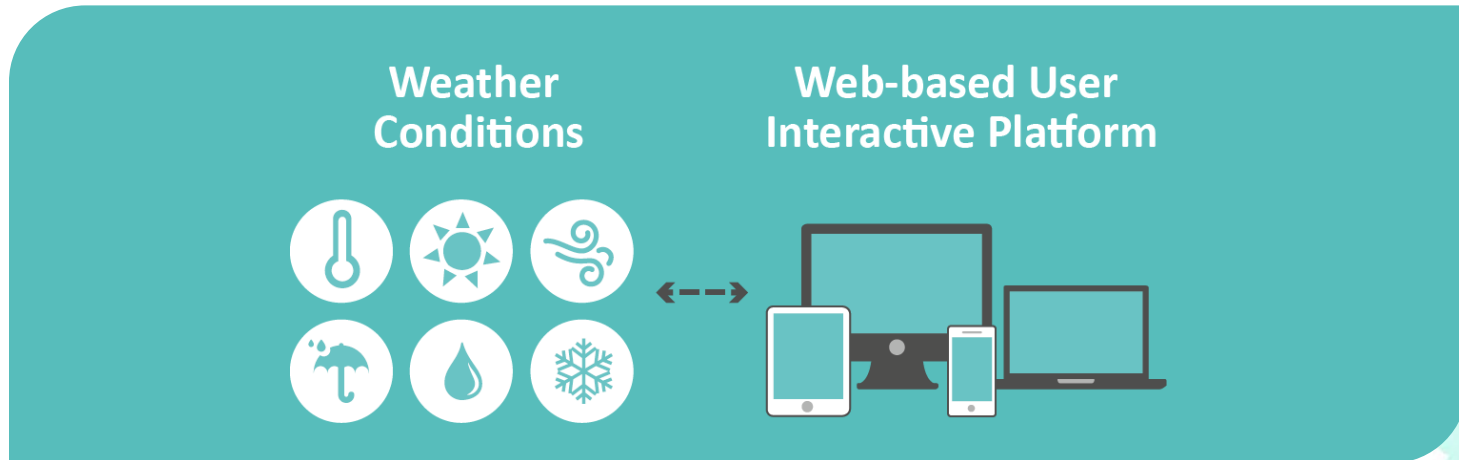


Original Scheme

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

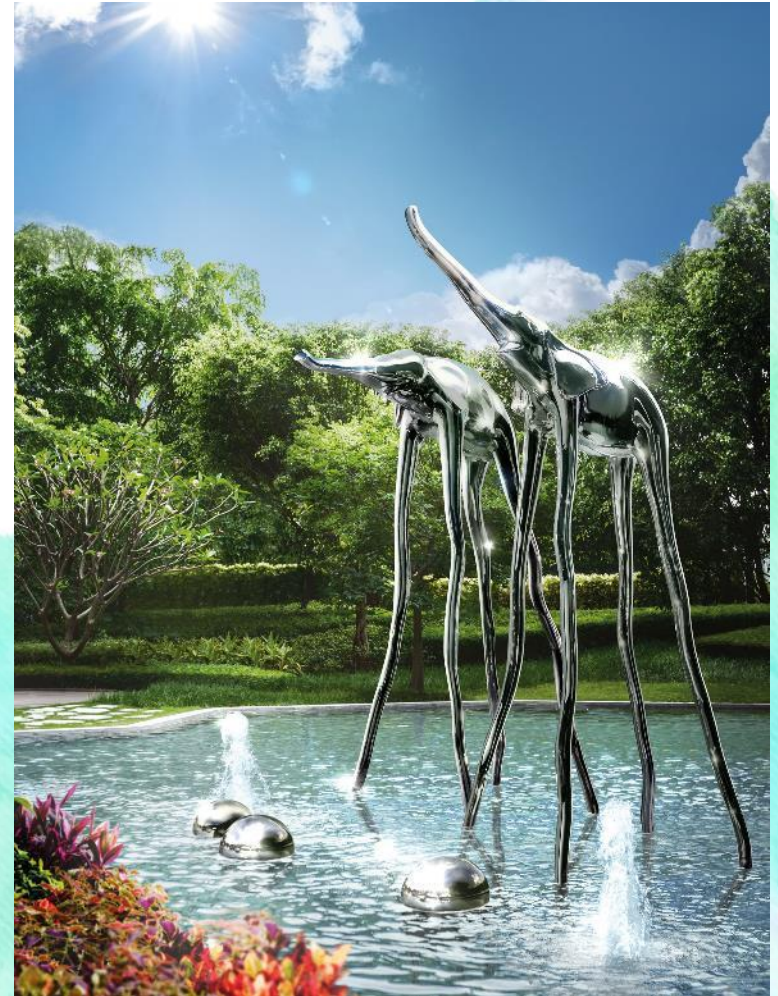


# 10

## Meet and exceed user's expectation

Expanding the livable spaces

Through green & sustainable environment and themed artwork setting



# 10

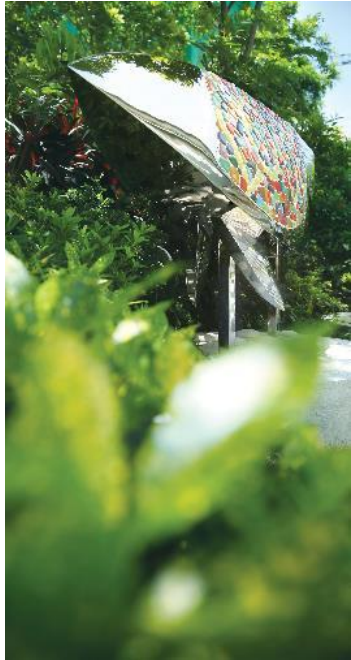
## Meet and exceed user's expectation

### 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 MIJUN 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

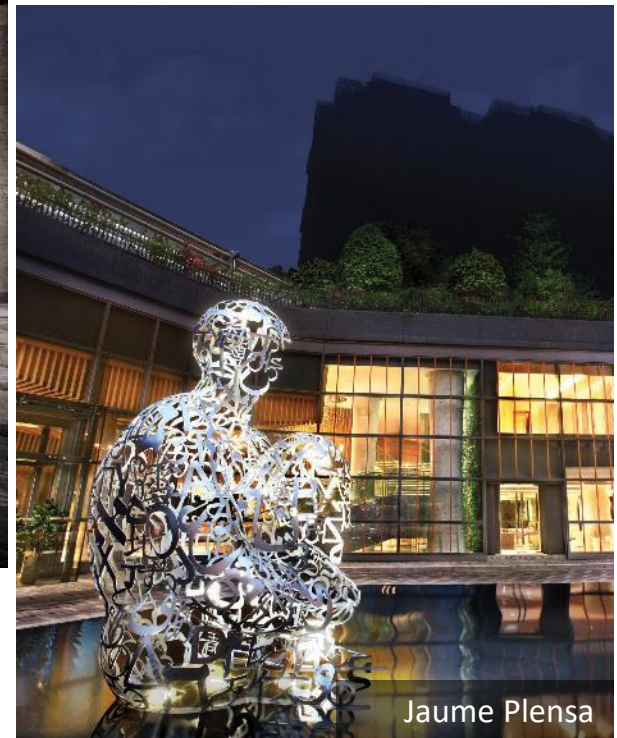
KUM CHI KEUNG GREEN JOY  
 MOON BYEONG DOO I HAVE BEEN DREAMING TO BE A TREE  
 CHEUNG WOOK JANG THE LONG JOURNEY - ELEPHANTS  
 SONG WOON CHANG I AM FINE  
 FREEMAN LAU HORSES BY THE SEA

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



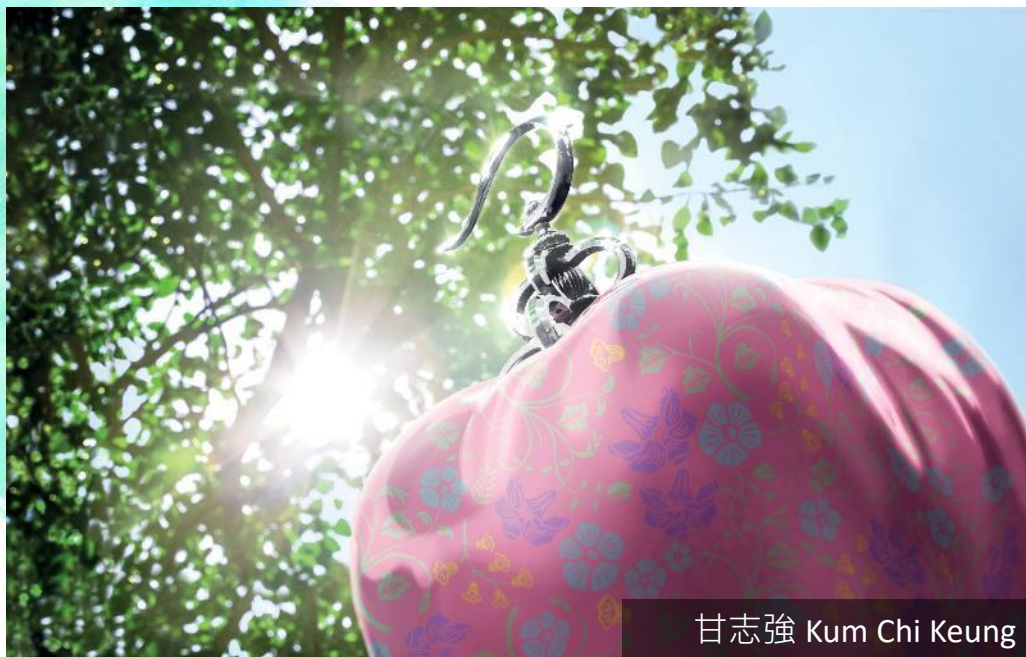


# 10

## Meet and exceed user's expectation

### Local Artists

Over 60%  
artwork by Hong Kong artists



TO BUILD A  
BETTER  
GREEN  
FUTURE...

THANK YOU



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HENDERSON LAND DEVELOPMENT COMPANY LIMITED