

# PGBC 2009 Winter Report

## Global & Local Perspectives 2009

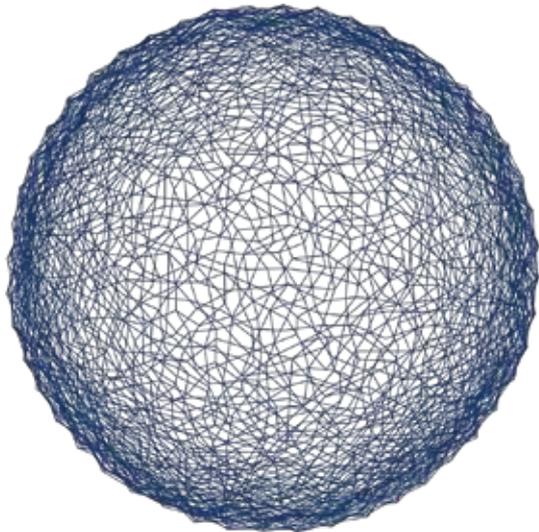
**Winter Solstice** is the darkest day of a year. Globally, it's one of the two days per year that the "Candle Light" initiative calls for light off, slow down and look forward. For Chinese, it's one of the "warmest" days for family reunion and dinner. Anyhow, it's a special day for us to do something special.

**Candle Light** ([www.candle-night.org](http://www.candle-night.org)) calls for turning off your lights for two hours from 8 to 10pm on the evenings of the summer and winter solstices. The proposal is:

- Do something special ...*
- Read a book with your child by candlelight.*
- Enjoy a quiet dinner with a special person.*
- This night can mean many things for many people.*
- A time to save energy, to think about peace,*
- to think about people in distant lands who share our planet.*
- .....
- Turn off the lights. Take it slow.*

2009 is a turning point, globally and locally. On one hand, the **Copenhagen Accord** 哥本哈根協定 is not an end but a stepping stone for something more significant and effective to come and address climate change - the challenge of our common future. On the other hand, we launched the **Hong Kong Green Building Council** - a milestone in the local history of green building movement.

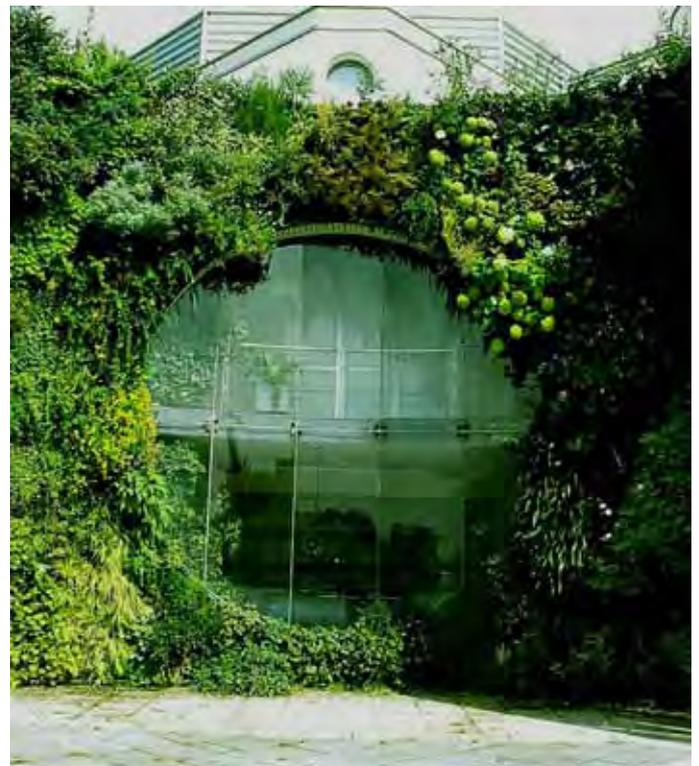
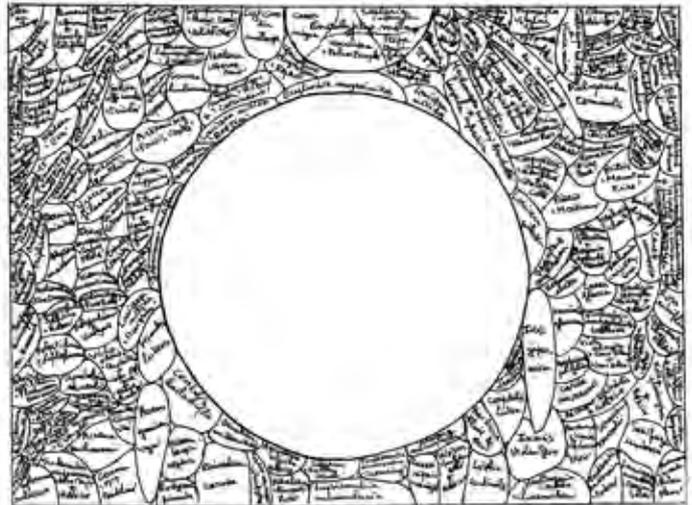
**K S Wong**  
 PGBC Chairman, 2009-10  
 HKGBC Founding Director  
[kswong@rlphk.com](mailto:kswong@rlphk.com)



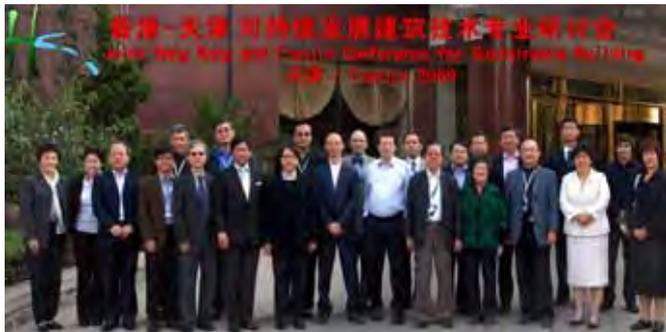
COP15  
**COPENHAGEN**  
 UN CLIMATE CHANGE CONFERENCE 2009

## Urban Climate + Urban Greenery 09 Symposium: 2009.09.26

The **UC+UG 2009 Symposium** was eye-opening for many among the over 200 audience. **Singapore's Dr Tan Puay Yok**, Deputy Director of Centre for Urban Greenery and Ecology (Research), National Parks Board, shared how a far-sighted vision of having a clean and green city benefits the environment, society and economy in the long run. Nowadays Singapore continues to invest on research and innovation, including the wide application of green roof and green wall in dense urban areas. The **French scientist Patrick Blanc** demonstrated how vertical greenery is natural, delightful and practical. Below shows one set of his elevation sketch and as-built photo, expressing biological diversity and visual fantasy. Thanks again to **Ir Victor C K Cheung**, PGBC Council Member, who led the organizing committee of this symposium.



**Joint HK-TJ Conference 09**  
 Conference: 2009.10.23-24



The **Joint Hong Kong-Tianjin Conference on Sustainable Building** 香港天津可持續發展建築技術專業諮詢研討會 is the fourth of its series with the first one held in Shanghai 2004, second in Guangzhou 2005 and third in Hangzhou 2007. Expert speakers from the five professional disciplines of architects, engineers, landscape architects, surveyors and town planners, along with local keynote speakers from Tianjin and Hong Kong and international keynote speakers, shared with the mainland audience their professional experience and know-how of sustainable building and development.

**Professor Edward Ng**, a keynote speaker from Hong Kong, gave an inspiring talk about the increasing significance of urban climatic research. The integration of **Urban Climatic Mapping** in the process of town planning and building design will be a key for sustainable design in our future cities.

Thanks for the **Tianjin University** 天津大學 in co-organizing this meaningful event.

Grateful acknowledgement is also made to Professor Stephen Lau, PGBC Council Member, together with Ms Grace Tang who coordinated this conference.



**Hong Kong Green Building Council**  
 Inaugural Conference: 2009.11.20



PGBC is one of the four founding members for the Hong Kong Green Building Council (HKGBC). Mrs Carrie Lam, Secretary for Development of HKSARG, highlighted four As in her keynote speech in the HKGBC Inaugural Conference: **Assessment, Accreditation, Advocacy and Award**. The board of 15 directors of HKGBC are:

- 陳嘉正 **Andrew K C Chan**, Chairman
- 顏樂德 Michael I Arnold
- 陳炳祥 Daniel P C Chan
- 陳佐堅 Kenneth J K Chan
- 趙雅各 James Chiu
- 張孝威 Cheung Hau Wai
- 朱沛坤 Reuben Chu
- 林和起 Lam Wo Hei
- 李啟光 Peter K K Lee
- 吳家賢 Agnes Ng
- 施萬富 Derek V Smyth
- 譚安德 Andrew L Thomson
- 唐振寰 Tong Chun Wan
- 黃天祥 Conrad T C Wong
- 黃錦星 K S Wong

Committees on labeling, standards and practice, education and research, and membership and events are being formed by HKGBC.





# PGBC UC+UG Symposium 2009

## [Urban Climate + Urban Greenery]

Franky Choi

### Guest of Honour

- Ms. Carrie Lam Secretary, Development Bureau of HKSAR Government
- Ms. Anissa Wong Permanent Secretary, Environment Bureau of HKSAR Government

### Keynote Speakers

- Mr. Patrick Blanc Initiator and Botanist of Vertical Green Design [France]
- Dr. P Y Tan Centre for Urban Greenery and Ecology, National Parks Board [Singapore]
- Mr. Evans Iu The Hong Kong Housing Authority, HKSAR Government
- Ir. Sidney Tong Hong Yip Service Company Ltd.
- Prof. Gerald Mills International Association of Urban Climate [Ireland]
- Dr. T C Lee Hong Kong Observatory, HKSAR Government
- Dr. L K Chan Hysan Development Company Ltd.
- Prof. Edward Ng School of Architecture, The Chinese University of Hong Kong



### Carrie Lam

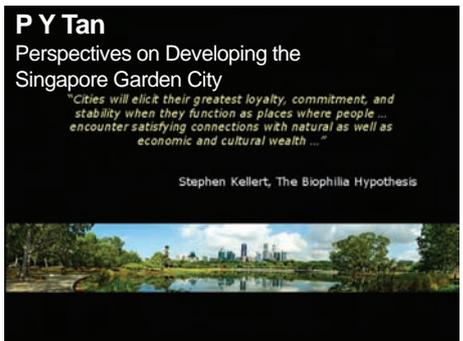
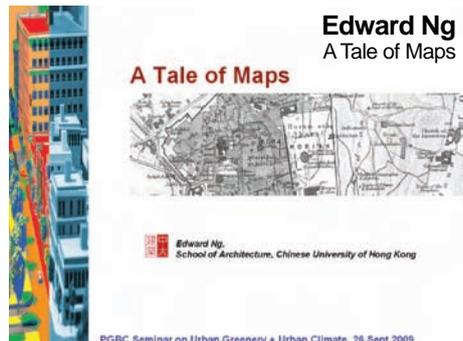
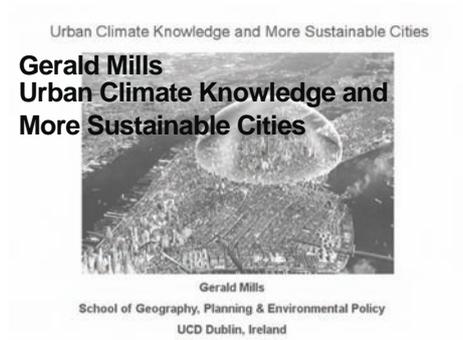
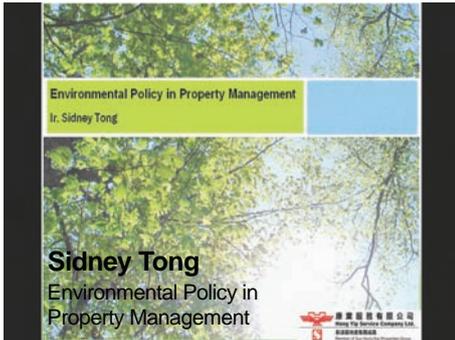
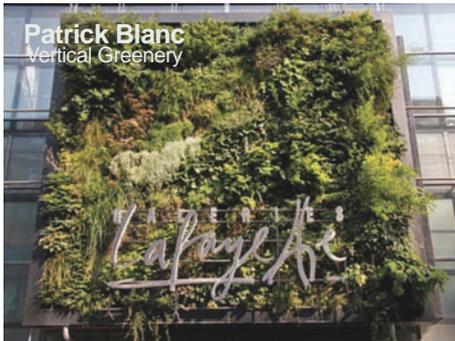
Lam recognises the necessity of including considerations of Urban Climate + Urban Greenery (UC+UG) in any future urban design developments. To promote a sustainable built environment of quality in Hong Kong, techniques including Urban Climatic Maps should be developed and used as a matter of course. All professionals should be encouraged to respond to the Sustainable Development Council's public engagement process. She stated that the HKSAR government is urging a quicker response from research initiatives so the results can be incorporated into government policy as soon as possible.



### Anissa Wong

Wong stressed the importance of the growing momentum to protect the green environment of Hong Kong, with a greater willingness by professionals to contribute by observing and working within sustainable development principles. Since initiatives to save energy and to adopt of new technologies are the key environmental charters, she advocates the incorporation of green values in all kinds of business at the level of both strategy and implementation to ensure that green concepts are understood and embraced by local communities.

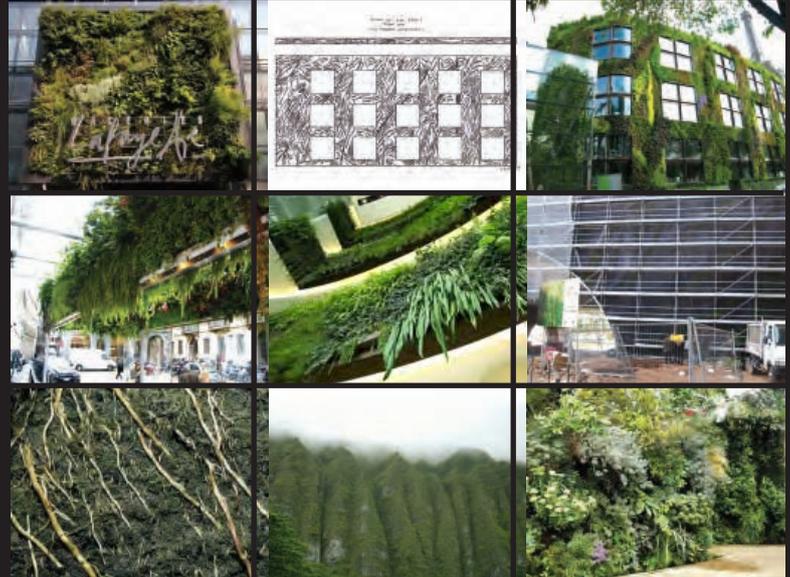




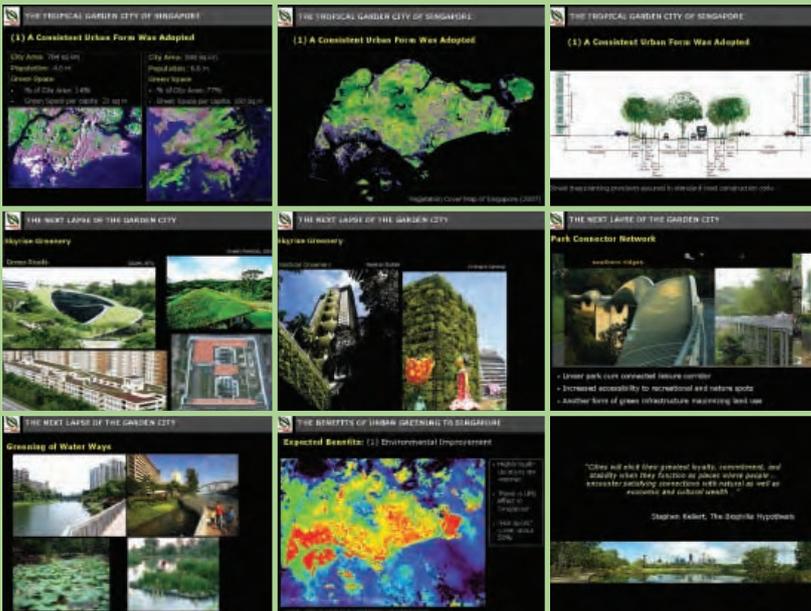
# Vertical Greenery

## Patrick Blanc

When Blanc realised that nature allows a wide variety of plant species to grow together in an organic random pattern on the vertical face of hill slopes, he began to explore the vision that urban greenery might grow vertically on buildings to resemble a natural scene. Moreover, the observation that plants inside the fish tank help to clean the impurities in water sparked the idea that this concept also applied to freshening the air on a building façade. Blanc sketches out the façade concept and allocates the right grouping of various plants based on his deep knowledge of plant species and climate. He applies easy-to-build technology as he emphasises that the basic parameters for the healthy growth of plants are simply water, minerals, light and carbon dioxide. Patrick's 'Vertical Green Movement' has swept around the globe to become one of the most fashionable and practical green design elements.



# Perspectives on Developing the Singapore Garden City



## P Y Tan

Tan explained that the next urban phase is to change Singapore's 'Garden City' into a 'City in a Garden' where greenery is seamlessly integrated into the work, life and play of all Singaporeans. Tree planting, verge planting and setbacks to accommodate street trees are the backbone of this garden city. The Centre for Urban Greenery and Ecology has been established to give strong focus to management and maintenance of urban planting. New initiatives include 'skyrise' greenery, park connector networks and the greening of waterways. In order to accelerate the adoption of skyrise greenery, plans are well-advanced to introduce incentive schemes and outreach programmes including publications and awards. Tan quotes Stephen Kellert's words in 'The Biophilia Hypothesis' that "Cities will elicit their greatest loyalty, commitment and stability when they function as places where people encounter satisfying connections with nature as well as economic and cultural wealth...".

# Vertical Greening Eastern Harbour Crossing Public Housing Site

## Evans lu

lu shared the HKHA's experience of the creation of green space. Traditionally green initiatives have been applied at exposed slope and retaining wall in which a special technique [Toyo Mulching System] is applied to the surface of rock slopes, and tailor-made greenery is grown on stone-pitched retaining wall. Collective green strategies are adopted to cater for widely different conditions: Green Hoardings, Green Roofs, Translucent Vertical Green Barriers and Integrated Vertical Green Panels forming prefabricated external cladding. Bio-technical studies are carried out to assess seasonal performance using various plant species related to orientation and soil profile, etc. to derive an optimal design, irrigation and maintenance regime. Green Education & Community Participation Programmes have been set up as the best means to promote urban greenery. To foster a wider sense of ownership by the public, workshops are being held and local design competitions mounted in which winning designs are to be implemented.



# Environmental Policy in Property Management

### Major Green Tasks

- Categories of Green Jobs:
  - Green Policy
  - Waste Management
  - Energy Conservation
  - Air Quality Monitoring
  - Green Procurement Policy
  - Green Education and Promotion

### (1) Green Policy

**Our Green Policy**

- Standardization of landscaping management by establishment of Technical Guide for Landscaping Management
- Establishment of inspection and Monitoring System

### (2) Waste Management

**Issue (Responsible recovery)**

- Try to reuse the materials before disposal, e.g. dismantled plastic → planer shavings, dressed plastic pipe → water collectors, etc.
- Create reusable goods and materials e.g. clothes, electrical and electronic equipments, etc. via collection boxes and waste recycling campaigns organized by property management company

### (3) Energy Conservation

Upon completion of "Energy Audit", the energy consumption measure is implemented as "Energy Management System (EMS)" in the energy audit report can be put into effect.

Issue: Energy Management System (EMS) has commonly failed to earn benefit, e.g. waste of energy due to manual operation and lack of detailed record of activities.

**Flow Chart of Energy Management**

### 12 IAQ Parameters

| Parameter                  | Unit  | Standard | Measurement |
|----------------------------|-------|----------|-------------|
| Carbon Dioxide             | ppm   | ≤ 1000   | CO2         |
| Carbon Monoxide            | ppm   | ≤ 9      | CO          |
| Formaldehyde               | ppm   | ≤ 0.1    | HCHO        |
| Benzene                    | ppm   | ≤ 0.1    | Benzene     |
| Toluene                    | ppm   | ≤ 0.1    | Toluene     |
| Xylene                     | ppm   | ≤ 0.1    | Xylene      |
| Ozone                      | ppm   | ≤ 0.1    | O3          |
| Ammonia                    | ppm   | ≤ 0.2    | NH3         |
| Sulfur Dioxide             | ppm   | ≤ 0.1    | SO2         |
| Nitrogen Dioxide           | ppm   | ≤ 0.1    | NO2         |
| Particulate Matter (PM10)  | µg/m³ | ≤ 500    | PM10        |
| Particulate Matter (PM2.5) | µg/m³ | ≤ 150    | PM2.5       |

### (5) Green Procurement Policy

- Clear environmentally responsible procurement policy in the tender and awarding process
- Provide reuse green products
- Provide green products or services with supporting notes
- Provide in-house (building) products
- Clear green requirement during tender and management of contracts
- Reputable or credible as green requirements when completion of projects
- On-site operators to evaluate their interests and responsibility for projects or contracts with the local contractors to green and other employees of environmental protection

### Green Products in Use

### Hong Kong Eco-Business Award

The Awarding for Eco-Business Award

**Requirements:**

- Environmental Protection Commission
- Department of Environmental Conservation
- Hong Kong Green Building Council
- Hong Kong Environmental Protection Department
- Hong Kong Sustainable Council

**Eligible Categories of Awarding:**

- Green Buildings
- Green Products
- Green Services
- Green Transportation
- Green Manufacturing
- Green Agriculture
- Green Retail
- Green Education
- Green Public Administration
- Green Finance
- Green Energy
- Green Information Technology
- Green Media
- Green Entertainment
- Green Sports
- Green Health
- Green Hospitality
- Green Logistics
- Green Telecommunications
- Green Transportation
- Green Utilities

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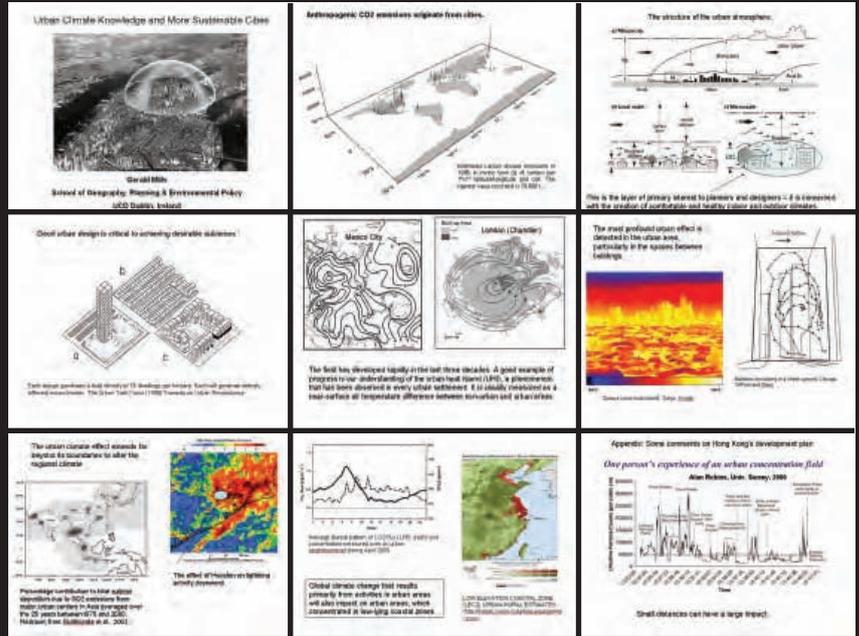
## Sidney Tong

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# Urban Climate Knowledge and More Sustainable Cities

## Gerald Mills

Mills points out Sustainable City Models include Self reliant Cities with intensive internalisation of economic and environmental activities, circular metabolism, bioregionalism and urban autarky; Redesigning Cities with plans for compact, energy efficient city regions; Externally Dependent Cities with excessive externalisation of environmental costs, open systems, linear metabolism and buying-in additional 'carrying capacity'; Fair share Cities with balancing needs and rights equitably, with regulated flows of environmental value and compensatory systems. The rapid urbanization results in a serious urban climate effect at all scales and good urban design is critical to achieving desirable outcomes. The Urban Heat Island [UHI] leads to the urgent concern of Climate Based Urban Design with buildings, building groups and settlement forming the matrix of comparison study on indoor and outdoor comfort as well as energy use status. Gerald advocates for more focus on the linking scales of urban design with global climate, through more scientific knowledge to be widely assessable for planning and design process so that global climate issue could be addressed in a sustainable manner.



# Urbanization and Hong Kong Climate

### Temperature trend in Hong Kong

### Global warming

"The observed increase in globally-averaged temperature since the mid-20th century is very likely due to the observed increase in man-made greenhouse-gas (GHG) concentrations"

**Urbanization:**

- changes in land use
- reduced ventilation
- local capacity of buildings
- construable land resource
- smaller sky view factor

### Urbanization - a snapshot in HK

### Besides temperatures, urbanization could also affect:

- wind speed (air ventilation)
- visibility
- evaporation
- solar radiation
- rainfall distribution

### Urbanization effect on wind speed, visibility and evaporation

### Wind Speed Trend in King's Park

### Implications on urban comfort?

Increase in temperature + Decrease in urban wind speed → **Hot and stuffy summer**

### The feedback loop

## T C Lee

Lee adopts a scientific approach to the analysis of changes to Hong Kong's climate. As stated by the United Nations Intergovernmental Panel on Climate Change, The greatest contributor of global warming is due to Greenhouse-Gas [GHG] concentrations. In the context of the streetscape of Hong Kong, the interplay of dense and tall development, small key view, outdoor air conditioners, street level heat exhausts, narrow streets, heavy traffic and near zero greenery all result in an environmentally negative urban phenomenon. Urbanization reduces ground wind speed & ventilation, visibility, evaporation and it affects solar radiation and rainfall distribution. All these have an effect on ground heat at street level. This in turn affects human comfort and adds to the need for more air conditioning (a negative cycle). A positive Feedback Loop is formed from 4 key parameters namely: Urban Development on City Planning and Building Design, Urban Environment and Local Climate, Urban Living and Comfort, and Public Demands. Lee shows the need to increase public awareness of the importance of "A Path to Green" in the future urbanization process.

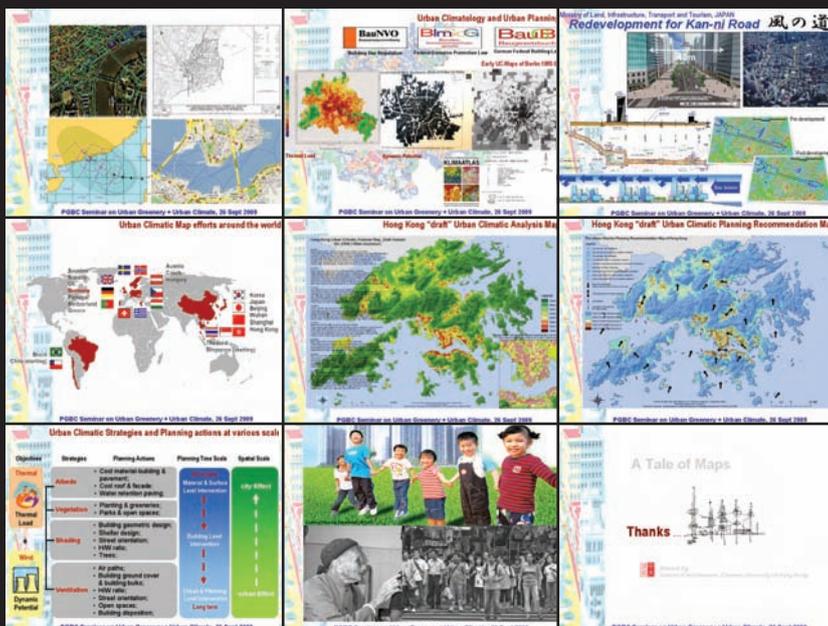
# Design for Sustainability - The Story of Hennessy Centre Redevelopment

## L K Chan

LK begins the story with a challenge to the prevailing 'iconic' design approach and starts searching for the most humane and sustainable design for the Hennessy Centre at Causeway Bay, one of the busiest districts in Hong Kong. Challenges like air pollution, competition for space, congested wall effects and the lack of green space become a design opportunity in her hands. Air Flow Dynamic studies are executed to assess the surrounding district as a whole, and with the concern of Heat Island Effect, a permeable design provides various scales of 'punch holes' staggering up the building with public and semi-public green sky-gardens. Design audit with reference to Hong Kong Outdoor Air Condition Distribution, natural ventilation and lighting studies are executed to verify the effectiveness of this sustainable design approach. With this tailor-made solution to Hong Kong climate, the building aims to achieve LEED Platinum. Chan strongly advocates that spatial and environmental considerations are of greater importance than form: 'Over-Design is Over!'



## A Tale of Maps



## Edward Ng

Ng showed examples of maps to demonstrate that graphic representation has commonly been the means of describing the changing city. Early Urban Climatology and Urban Planning Maps of Berlin indicated the thermal load and dynamic potential of the city. The Maps of Tokyo with Thermal Environmental Information show the areas designated for the implementation of measures against the Heat Island Phenomenon and Priority Area for Redevelopment and Urban Renewal. All these suggest that there is a need for the formation of Urban Climatic Map for the globe. Hong Kong published its draft Urban Climatic Analysis Map in Oct 2008 indicating classes of thermal load and dynamic potential. The draft Urban Climatic Planning Recommendation Map shows Urban Climatic Planning Zones with standards for wind environment. Urban Climatic Strategies and Planning Action plans should be generated with strategies on albedo/reflectivity, vegetation, shade and ventilation related to planning time and spatial scale. Edward reiterates that the ultimate goal is to create a sustainable 'home' for all families of future generations. Action immediately!



# Happy Birthday to 'archicentre@peelstreet'

## Chairman's Message

On behalf of the Board of Directors, I would like to thank all those who have contributed to the establishment & success of Hong Kong Architecture Centre.

With the present temporary shop front premise which the Urban Renewal Authority (URA) has kindly made available for us, we finally have a 'face' that can smile to many members of the public who pass by or drop in to visit us.

The Centre is very busy conducting tours & engaging the public to have a better understanding of our built environment and I thank our members all for their continuing support.

Dr. Ronald Lu, FHKIA  
Chairman  
Hong Kong Architecture Centre

|    |    |    |    |
|----|----|----|----|
| 01 | 04 | 07 | 08 |
|    | 05 |    | 09 |
| 02 | 03 | 06 |    |

- 01 Macau Tour
- 02 Tour to HKU
- 03 Lee Shau Kee SoC Tour
- 04 JCCAC Tour
- 05 CPS Tour
- 06 ADRG Talk Rex
- 07 Tai Tam Tour
- 08 - 09 Tai Tam Training



### The History of HKAC

Co-founded by the Hong Kong Institute of Architects (HKIA) and Professional Green Building Council (PGBC), organization work for Hong Kong Architecture Centre (HKAC) was formally kicked-off on 4th November, 2005. It was our honour to have the then Chief Secretary for Administration, the Honourable Rafael Hui, GBS, JP, as our Guest of Honour. In May 2006, HKAC is incorporated as a limited company, which is followed by a successful registration as a Charitable Institution of a Public Character on 13th November 2006. In October 2008, Urban Renewal Authority (URA) leased a property in Peel Street to HKAC. On 5th December 2009, HKAC moved to a new office at street level in Peel Street, Central.

Since the opening of a new multi-use space, namely 'archicentre@peelstreet' in Central, HKAC has been working even harder to promote local architecture to the general public. On the other hand, professionals also enjoy the better chance to communicate and learn from the local peoples. More students (both secondary school and university students) learned about HKAC and paid visit to Peel Street. Connections have been made between HKAC and the local groups, especially those based in Central & Western Area. All these proved the HKAC is making great use of the new space. Nonetheless, the relationship between HKIA and HKAC remain very close and friendly.

### Events & Activities

Since the opening of 'archicentre@peelstreet', HKAC has conducted a lot of talks. These talks include 「建聞築蹟－後記」 by Mr. Ng Kai Chung, "140 years of Making Hong Kong" by Mr. Bing Kwan, 「百年香港 千禧建築」 by

Mr. Dominic Lam, "Tradition and Vision: an Overview of History and Prospect of Central Business District of Hong Kong" by Mr. Edward Leung, 「社區參與」分享會 by Mr. Eric Choi, 「活化和昌大押」分享會 by Mr. Eric Poon, "The Architecture in Food" by Mr. Choong Yin Lee, "Design. Product. Architecture" by Mr. Ernesto Spicciolato, "Architecture Engaging The 'Public'" by Ms. Marisa Yiu, and "Architecture, Culture and the Language of Vision" by Mr. Eric Schuldenfrei. Noted architects Mr Raymond Fung, Professor Patrick Lau, and Mr. Rex Chan were also invited to share their knowledge and experience of practicing in the field of architecture with the general public.

From May to July, HKAC organized a series of talks and tours to the winning projects of the HKIA Annual Awards 2008. On the other hand, with the supports from the Development Bureau (DEVB), HKAC organized docent trainings and guided walking tours in the Central Police Station Compound from April to August and from October to December of 2009, and also in Tai Tam Waterworks Heritage Trail from October to December. The target audiences of all these tours were the general public, especially youths and students.

HKAC also conducted thematic tours such as "Architecture Tour to Macau", Old Shop tours in Sheung Wan district, and a tour in Central district for a group of East European students. Noted local artist Mr Alexis Ip fully supported HKAC in July through a host of two workshops about the making of Fotomo – a type of 3-Dimensional Photomontage; the venue sponsor of these Fotomo Workshops were the HKIA.

### Vision and Mission

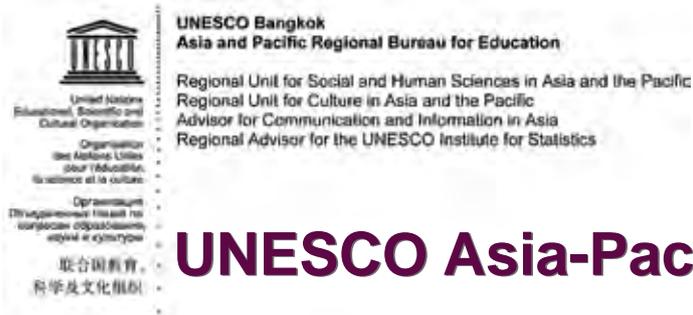
Upcoming the one year anniversary of 'archicentre@peelstreet' is also the big day of the Opening Ceremony of Hong Kong 2009 East Asia Games. I believe the clash of these joyful events indicates that Hong Kong is becoming a major cultural capital instead of being only an international centre of finance.

Hong Kong Architecture Centre (HKAC) is growing fast and is seeking a better place for further development. We are proud to carry on promoting the excellence of Hong Kong architecture to the general public, our future generation foreign counterparts. In order to so, we need the continuous supports from all the professional architects, engineers, surveyors, planners, and landscape architects. The missions of HKAC are to understand and appreciate architecture; to conserve environment, and to treasure our own culture. These missions are on-going challenges. We intend to keep up our good work for the years and years to come. Hopefully we could become as good as the ArchiCenter of the Chicago Architecture Foundation, if not better.

At this very moment, allow me to also acknowledge the inputs from all former and current directors and committee chairmen of HKAC, the supports from all staff of HKIA, and the hard works by former and current staff of HKAC. Without these people, none of the mastermind and great ideas could be materialized.

Last but not least, "happy birthday to archicentre@peelstreet".

**Platteen Tsang**  
Centre Manager  
Hong Kong Architecture Centre



# UNESCO Asia-Pacific Heritage Awards 2009



## Transformation of the Former Royal Air Force Officers' Mess into The Academy of Visual Arts, Hong Kong Baptist University

UrbanAge International Ltd., Architects

The Transformation of the Former Royal Air Force Officers' Mess into the Academy of Visual Arts, HKBU has been awarded Honorable Mention in the UNESCO Asian Pacific Heritage Awards 2009. The citation reads,

**“...the project has transformed an abandoned colonial heritage landmark into a vibrant university space and enlivening them with student activities. The project sets a noteworthy model for recycling obsolete public buildings and demonstrates the viability of reusing historical military structures in a modern institutional context.....”**

Located at a small hilltop overlooking the Kai Tak Air Field, the building that once housed the Royal Air Force Officers' Mess was constructed in 1935 as part of a twin complex supporting the then Royal Air Force Station, Hong Kong. As one of the few surviving works designed by the pre-war Royal Engineers Corps, the building exemplified a strong sense of tropical British colonial architectural style predominate of that period.

The complex was exclusively operated by the Royal Air Force before 1978. It was then

transferred to the Royal Hong Kong Police and converted into a Detective Training School and remained in use until 2001. As if by miracle, the exclusive use by the disciplinary forces has accidentally put the complex into a timeless mothball, preserving the original architectural style intact.

The establishment of the Academy of Visual Arts, HKBU, provided a unique opportunity to conserve and restore the historical military architecture once again. The University soon discovered that high ceilings, deep verandahs and large courtyards of the complex were perfect matches for the curriculum and inspirations required by the Academy of Visual Arts.

Conservation plans and redevelopment alternatives were studied in great detail to strive for a balanced adaptive re-use of the historical structure. The building complex has exhibited building techniques, materials and skills employed by the British Military in the Far East in between the Wars. The integration of vernacular architectural features and contextual elements with deep verandahs and louver windows gave a unique style to the building complex. The final design featured an elegant cultural institute within a historical setting reflecting a

significant chapter of the military presence in the former British Colony.

Taking more than four years from planning to completion in phases, the project has been receiving positive acclaims since. As the newest focus of visual arts education, the Academy has held regular courses for the University and also year round introductory programme for schools, students and the community, providing excellent facilities for learning and exhibitions. It has since been a great source of enjoyment to students, staffs and the public.

**Lead Consultant :**  
UrbanAge International Ltd., Architects

**Operator & Project Manager :**  
The Baptist University of Hong Kong

# Maosi Ecological Demonstration Primary School in the northeast Loess Plateau of China

Edward Ng and Mujun

School of Architecture, The Chinese University of Hong Kong



In northwest Loess Plateau of China, poverty, remoteness and limited choice of resources have long been the challenges for building design. How can we build a comfortable, eco-friendly, sustainable and affordable building in such an extreme physical environment? Maybe Maosi Ecological Demonstration Primary School Project can give you some hints.

The School building is harmonically embedded in its surrounding natural environment. The entire school was planned in two levels to follow its natural topography. A total of 10 south-facing classrooms were located in different buildings. Window size, spatial arrangement and spacing were designed to optimize its exposure to sunlight and enhance natural ventilation. To further improve its thermal performance and effectiveness, strategies like utilizing thermal mass with low

embodied energy, roof insulation, double glazed windows, semi-buried form of building, as well as direct-gain passive solar system were deployed. Stable and comfortable indoor room temperature can be maintained under extreme and tough weather conditions.

The design concept of the School is grounded on local building techniques and locally available materials. Key building materials are natural building materials including mud bricks, rubbles, straw and reed. Tiles on the roof were recycled from around the village. As the classroom form was derived from local traditional houses with timber structure, local villagers know how to build it with simple tools. Therefore the construction cost is much lower than conventional concrete building.

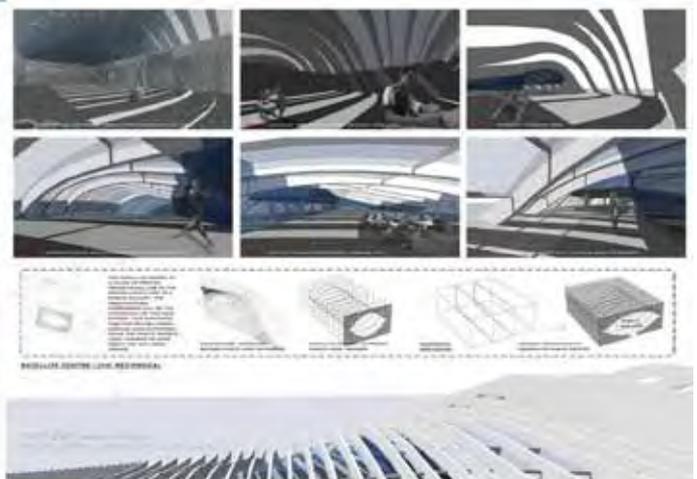
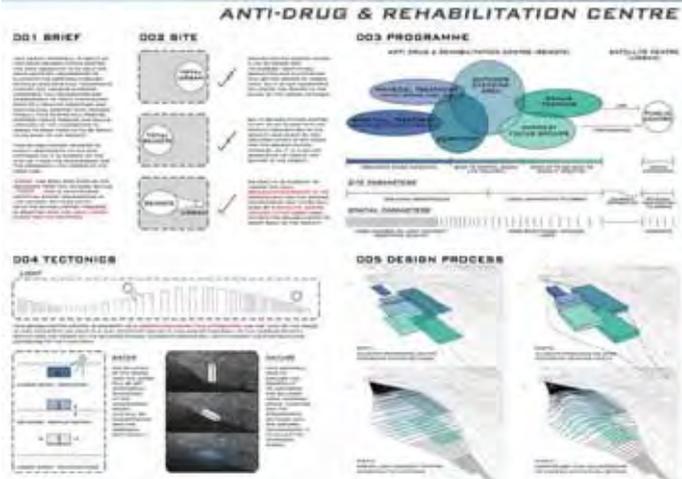
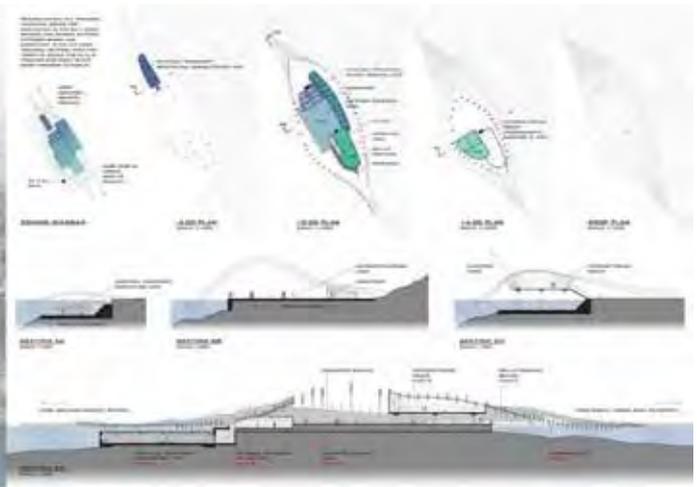
Despite its low technology principle, the project is scientifically sound with its scientific and transferable research methodology. Series of investigations, condition analysis, and TAS thermal stimulation experiments were conducted to determine design strategy. Meanwhile, site supervision during the construction stage was conducted to assure building quality and deliver skills to local villagers.

The School itself is a humble way to demonstrate how can local people build a comfortable, eco-friendly, sustainable and affordable building with their own hands. Maybe we can conclude its effectiveness with a quote from the School Principal: "Amazingly, we don't need to burn coal in winter! We can use that money to buy books for kids."



# HKIA Young Architect Award 2009

## Anti-Drug Idea Competition



|    |    |
|----|----|
| 01 | 02 |
| 03 |    |

01 From left to right:  
 Mr Tim Li [YAA 2001 Recipient]  
 Prof Bernard Lim [Professor, CUHK]  
 Mr Stephen Poon [HKIA Past President]  
 Mr Law Wai-tai [Representative from Hsin Chong K N Godfrey Yeh Education Fund]  
 Ms Anna Kwong [HKIA President]  
 Ms Michelle Vosper [Representative from Asian Cultural Council]  
 Mr Benjamin Yiu [Senior Programme Director, SPACE, HKU]  
 Mr Franky Choi [HKIA Young Architect Committee Chair]

02 Young Architect Award 2009 Presentation (From left to right):  
 Ms Anna Kwong [HKIA President]  
 Mr TANG Yiu Lun, Jason [Award Recipient]  
 Ms Joan Leung [ACC Representative]  
 Mr Edmund Leung [Hsin Chong K N Godfrey Yeh Education Fund Representative]  
 Mr Franky Choi [Young Architect Committee Chair]

03 Winner: TANG Yiu Lun, Jason  
 Design Panel of Young Architect Award 2009