

SEMINAR SERIES ON

“NEW HORIZON IN GREENING

– SKYRISE GREENERY”



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Seminar Series on Skyrise Greenery

Series No.1

Overview and Perspectives on Skyrise Greenery

9 November 2010

Series No. 2

Experience Sharing in Design & Construction, and Recent Researches

2 December 2010

Series No. 3

Experience Sharing in New and Retrofitting Design Projects

20 December 2010



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Topics & Speakers – 2 December 2010

“Green Roof Research in Hong Kong: Key Findings and Their Applications to Policy and Practice”

- Professor Jim Chi-yung

“Green Roof and Vertical Greening Study in Drainage Services Department”

- Mr. Tsui Wai

“Greening Initiatives in Public Rental Housing Estates”

- Mr. Dennis Yip



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Topics & Speakers

“Sky Woodlands in CLP Power Hong Kong Limited’s 132kV Substations”

- Mr. Y. H. Choi

“Greening in Urban Renewal Projects”

- Mr. Daniel Ho

“Designing Landscape – Integrating Greenery into Architecture”

- Mr. Thomas Lau



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Aim...

- **To achieve sustainable development of a quality and greener environment**

With...

- **The knowledge and expertise of skyrise greening**
- **New initiatives on sustainable building design**
- **Institutional framework for promotion of skyrise greening**



Development of Skyrise Greening in Hong Kong



Need to improve the **QUALITY** of urban environment



How far have we achieved in Hong Kong?



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What is Skyrise Greening?

- Closely associated with human habitants/ **integration of greening and buildings**
- An old idea – hanging gardens of Babylon (around 500 BC)
- Greening at the buildings or other structures **beyond the ground level**, including **roof greening, vertical greening, sky gardens, terrace planting, etc.**
- Roof greening and vertical greening



Hong Kong Wetland Park

Source: Architectural Services Department



What is Skyrise Greening?

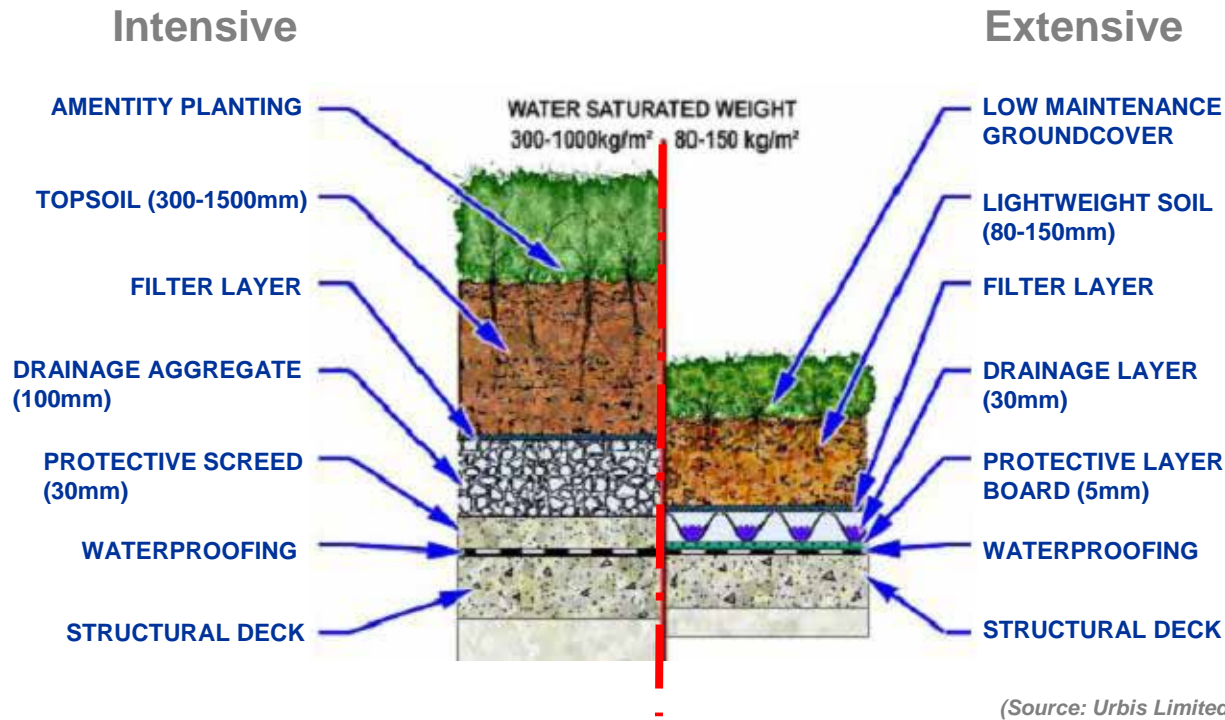
Roof greening

- **Vegetated space** that is structurally integrated on top of a man made structure
- **non at-grade planting**, with main focus on the **horizontal** dimension



What is Skyrise Greening?

Intensive Green Roof vs Extensive Green Roof



What is Skyrise Greening?

Green 'roof' not confined to top of building; also includes:

- **Podium Garden**
- **Sky Garden**
- **Green Terraces**



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What is Skyrise Greening?

Vertical Greening

- formed by either planting **at-grade** or planting on **elevated planters**, aiming at creating greenery mainly on **vertical surface** of associated structures

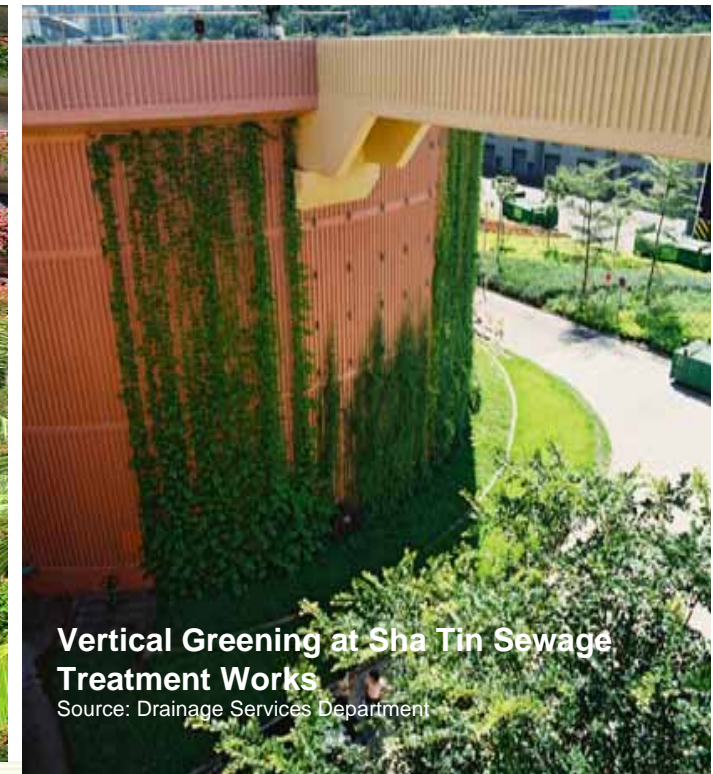


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Opportunities for Innovative Design

- **Skyrise greenery** - provide additional greenery / design tools in congested urban environment; but not limited to planting by itself
- should be considered in the **planning stage - adequate soil volume and space, sustainable design**
- **linkage with the surrounding open space**



Vertical Greening at Sha Tin Sewage Treatment Works

Source: Drainage Services Department



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Good Design Principles

ARCOS at Fukuoka, Japan

- *an outstanding example of skysrise greenery*
- *integrate building and greening*
- *integrate with adjacent open space*
- *greening consideration at planning stage*
- *simple and sustainable planting design*
- *accessible and vibrant urban green spaces*



Source: TK NG



Opportunities for Integrated and Holistic Design

Key issue -

- to integrate skysrise greenery in
quality building design
- as a part of a quality and
holistic urban design / cityscape
- a **means** but not an end itself
- **right design for the right place**



Integrated Approach

Integration of recreational and functional requirements



Source: TK Ng

Millennium Park,
Chicago –
The park is a roof
garden with car park
below



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Issues in Hong Kong

Problems with urban fabric:

- abundance of hard surface - heat island effect
- limited space

Potential areas for improvement:

- explore greening opportunities beyond ground levels
- make good use of existing spaces
- integrate with urban design



Source: TK Ng



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Development of Skyrise Greening in Hong Kong

Skyrise Greening Projects - Government's projects

Roof Greening

Year	Cumulative total up to Oct 2010	In progress	under planning
New Project and Retro-fit Project no.	159	62	32



Vertical Greening

Year	Cumulative total up to Oct 2010	In progress/ under planning
Project no.	45	28



Sources: Progress Report Of Works and Maintenance Committee On Greening, Steering Committee on Greening



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Development of Skyrise Greening in Hong Kong

Building/ open space projects

Hong Kong Wetland Park



Sources: www.eco-asia.info



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Development of Skyrise Greening in Hong Kong

Infrastructure



Development of Skyrise Greening in Hong Kong

Residential Development



Sau Mau Ping Estate

Source: Housing Department



Source: TK Ng



Yau Lai Estate

Source: Housing Department



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Development of Skyrise Greening in Hong Kong

Schools/ Training Institutes



Cumberland Presbyterian Church Yao Dao Primary School

Source: SP Ng



Hong Kong Design Institute

Source: TKK Ng

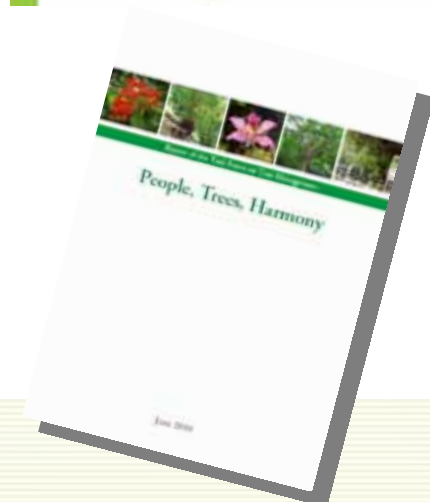


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Impetus for Change – ‘Green Building Movement’

- **Council for Sustainable Development (SDC)**
“Building Design to Foster a Quality and Sustainable Built Environment”
- **Hong Kong Green Building Council (HKGBC)**
 - **Building Environment Assessment Method**
BEAM Society and BEAM Plus (Ver 1.1)
 - **Government Buildings – BEAM Plus – April 2009**
- Holistic approach to greening, landscape and tree management advocated in “**Report of Task Force on Tree Management**” and establishment of **Greening, Landscape and Tree Management Section** in DEVB
- **New policy initiatives in 2010-11**



Impetus for Change – ‘Green Building Movement’

Time Line

2011

Apr New administrative means for submissions to Buildings Department

Oct Government Response to the SDC Report

Jun SDC’S Report on the Public Engagement Process

2010

Apr Green building label:
BEAM Plus for New buildings (version 1.1)
BEAM Plus for Existing buildings (version 1.1)



Mar Greening, Landscape and Tree Management Section under DEVB



Source: http://www.susdev.org.hk/download/ir_eng.pdf

2009

Nov Hong Kong Green Building Council (HKGBC)



Jun - Oct Council for Sustainable Development (SDC)
Public engagement process entitled “Building Design to Foster a Quality and Sustainable Built Environment”



Source: http://www.susdev.org.hk/download/ir_eng.pdf



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Impetus for Change – ‘Green Building Movement’

Building Department : Consultancy Study on Building Design that Supports Sustainable Urban Living Space in HK

- **Site Coverage of Greenery and other recommendations**

Proposed **greenery coverage** in the IR document

>1,000 m² a minimum of **20% site coverage of greenery**

>2 ha a minimum of **30% site coverage of greenery**



Building Design to Foster a Quality and Sustainable Built Environment

- A public engagement process launched by the **Council for Sustainable Development** (SDC) in collaboration with the **Development Bureau** (DEVB) and **Environment Bureau** in December 2008
- Strong **public aspirations** for a **quality** and **sustainable** built environment



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Impetus for Change – ‘Green Building Movement’

Building Design Foster a Quality and Sustainable Built Environment

Recommended new measures:

- (a) To promote **building setback** as a means to provide better pedestrian environment
- (b) **Building separation** to avoid **ventilation** blockage and wall – effect of buildings
- (c) More **site coverage of greenery (20% - 30%)** in buildings to mitigation against urban heat island effect and to improve the environment



The **Government responded** to the **SDC recommendations** –

- outlined implementation details where there are call for immediate action
- **administrative means**, such as issuing **Practices Notes** for building professionals by Building Department – **April 2011**



Impetus for Change – ‘Green Building Movement’

New administrative measures:

New requirements from April 2011

- require **BEAM Plus** green building certificate as **prerequisite for certain gross floor area concessions in new building development**
- publish **BEAM Plus** rating of these developments after completion on **Building Department’s website**
- include provisional **BEAM Plus** rating of uncompleted new private residential development in **sales brochures**



Impetus for Change – ‘Green Building Movement’

2010-11 Policy Agenda

Chapter 2 : Quality City and Quality Life

New initiatives -

*“Introduce a package of measures to enhance **building design** to foster a **quality and sustainable built environment**”*

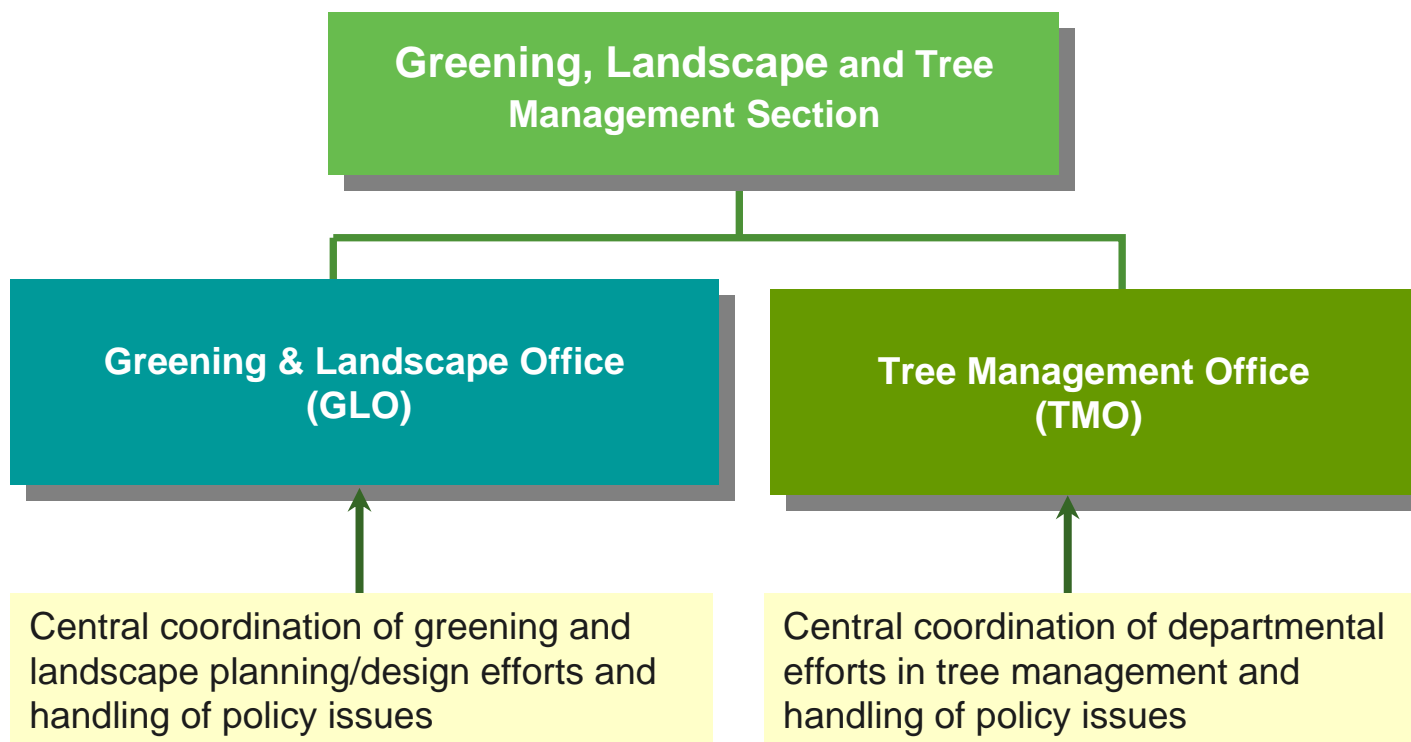
On-going initiatives -

*“Continuing to improve the **greening, landscape and tree management** regime through the adoption of a **holistic approach** embracing quality landscape planning and design in the **upstream** to professional vegetation management in the **downstream**, effective steer and co-ordination across departments in tree management, enhancement of professional expertise and increased community involvement”*



Holistic Approach & Establishment of GLTMS under DEVB

- The Greening, Landscape and Tree Management (GLTM) Section was established in DEVB in March 2010





- **To achieve sustainable development of a quality and greener environment**
- **Participation and collaboration of all relevant parties is needed**

DEVB's Greening website
<http://www.devb.gov.hk/greening>

Thank you

Hong Kong Wetland Park

Source: Architectural Services Department



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