

Legislative Council Panel on Housing

Environment-friendly Designs and Green Measures implemented in Public Rental Housing Estates



6.12.2010

Background and Purpose

Background

- In December 2007, November 2008 and November 2009, the Hong Kong Housing Authority (HA) presented to Members the progress of the environment-friendly measures.

Purpose

- To brief Members on the progress of the implementation of environment-friendly designs and green measures in public rental housing (PRH) estates by the HA in 2009/10.



Content

▣ Progress Report on Environment-Friendly Designs and Green Measures

I. During the construction of new PRH estates:

- A. Environment-friendly Designs
- B. Green Construction Techniques
- C. Waste Management
- D. Energy Conservation
- E. Greening Work
- F. Other Measures

II. Green measures implemented in existing PRH estates:

- A. Domestic Waste Disposal and Recovery
- B. Energy Conservation
- C. Estate Greening
- D. Other Measures



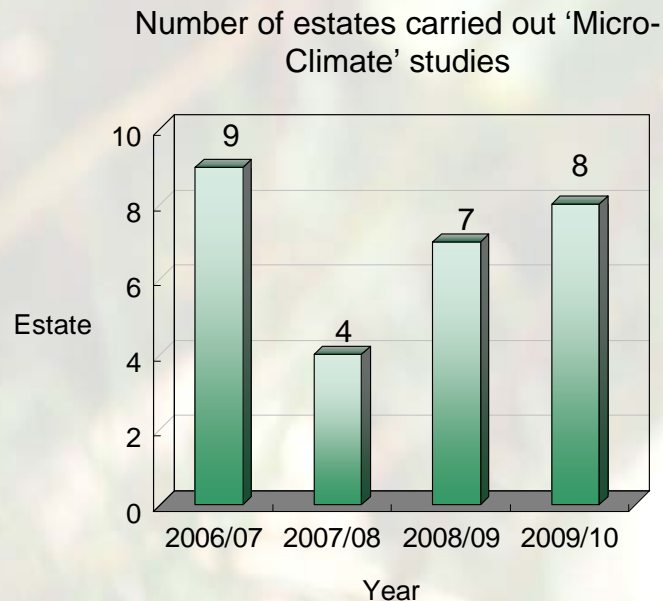
(I)

**During the construction
of new PRH estates**

(I)A. Environment-friendly Designs

A1. 'Micro-Climate' Studies

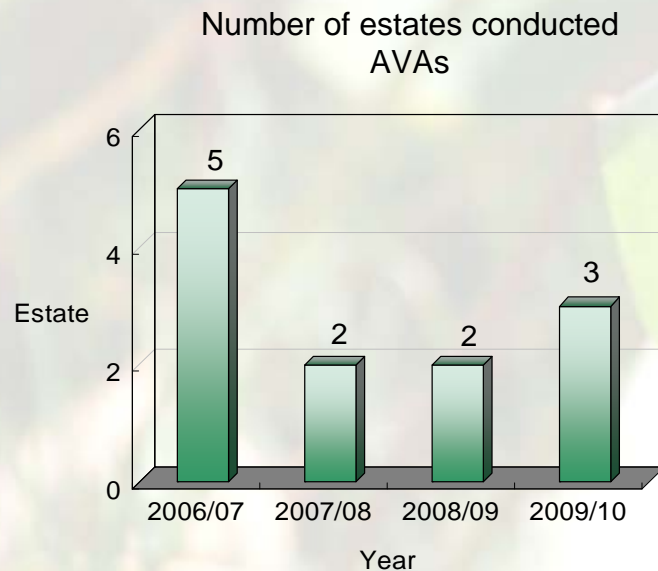
- Since 2004, computational fluid dynamics technology is employed to **evaluate environmental performance** and to **enhance design**, orientation and disposition of the housing blocks in all newly-designed estates.



(I)A. Environment-friendly Designs

A2. Air Ventilation Assessments (AVA)

- For **major estates** planned and designed after July 2006, great care was taken in considering whether the developments would pose any restriction to air flow. The HA would also select the estate disposition with the best environmental effects.



(I)B. Green Construction Techniques

B1. Modular Design and Component Prefabrication Techniques

- ▣ The techniques would enhance building quality, site safety, and reduce the environmental impact of construction sites.



(I)B. Green Construction Techniques

B2. Hard-paved Construction Method

- The use of precast concrete slabs and other materials to provide hard paving at all construction and piling sites to **minimise** the generation of mud and dust and its **impact on the surrounding environment and air quality**.

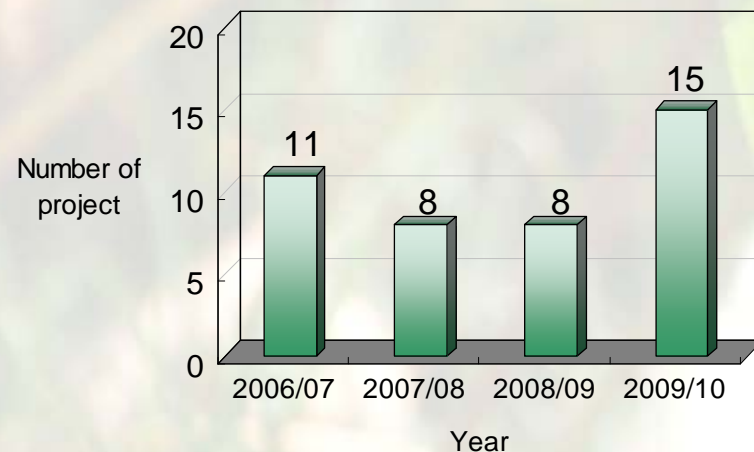


(I)B. Green Construction Techniques

B3. Environmental Management Plan in Construction Works Contracts

- All contractors are required to carry out on-site sorting of construction and demolition materials/waste.

The specification has been incorporated in construction works contracts



(I)B. Green Construction Techniques

B4. 'Life Cycle Assessment' and 'Life Cycle Costing' method

- Applies 'Life Cycle Assessment' and 'Life Cycle Costing' method in new projects. It is aimed at **minimising the need for future maintenance and the impact on the environment.**



(I)C. Waste Management

C1. Refuse Handling System

- Adopts a 'Central Compactor System' inside a central refuse collection point or a separate, small scale 'Distributed Compactor System' in each building.

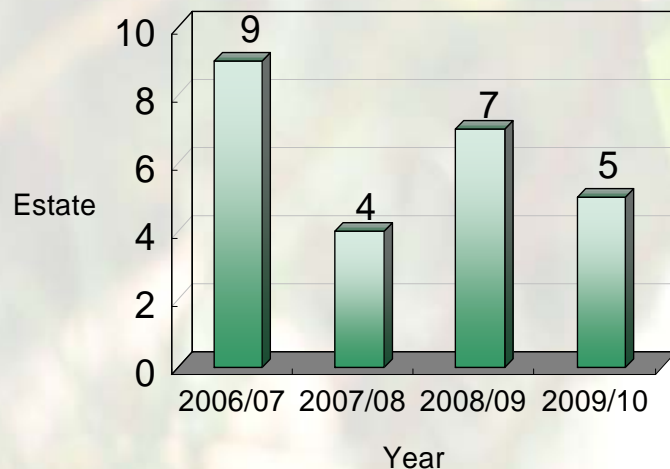


(I)C. Waste Management

C2. Refuse Storage and Material Recovery Rooms

- ▣ Provides refuse storage and material recovery rooms on typical domestic floors to promote **source separation**.

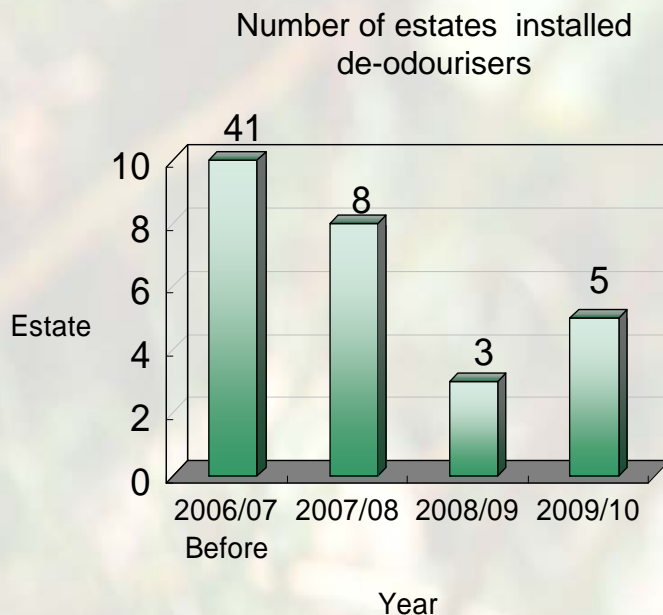
Number of estates reserved space for recycle bins



(I)C. Waste Management

C3. Installation of De-odourisers at the Covered Refuse Collection Points

- Since 2003, new de-odourisers are installed at covered refuse collection points in newly-completed estates, where **bio-chemical technology is employed to contain the odour.**

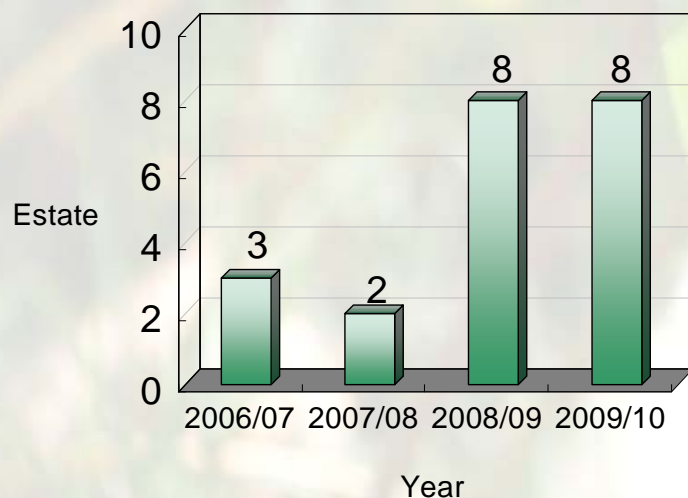


(I)D. Energy Conservation

D1. Designing new estates according to the Building Energy Codes

- Ensures the buildings meet the energy efficiency requirements on lighting, electricity, air conditioning, lift and escalator installations **in accordance with the Building Energy Codes**.

Number of estates/shopping centres obtained energy efficiency registration certificates

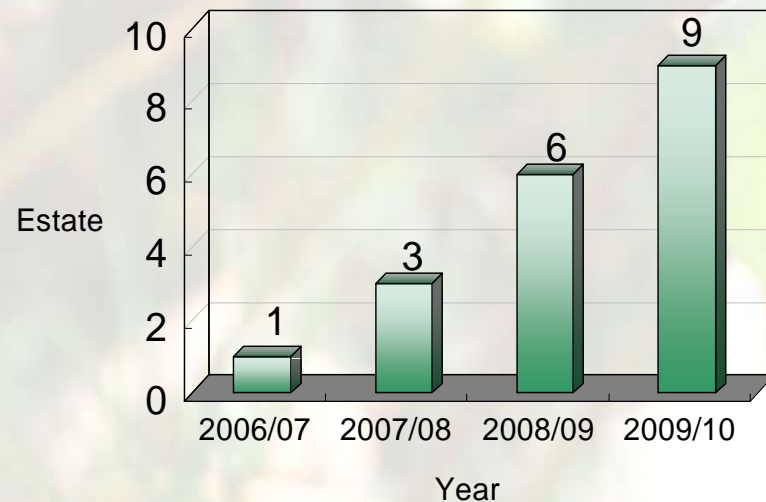


(I)D. Energy Conservation

D2. Trial use of renewable energy in PRH estates

- Uses renewable energy in PRH estates as far as possible and to install **renewable energy lighting** in the external areas of new estates.

Number of estates with renewable energy lighting installed

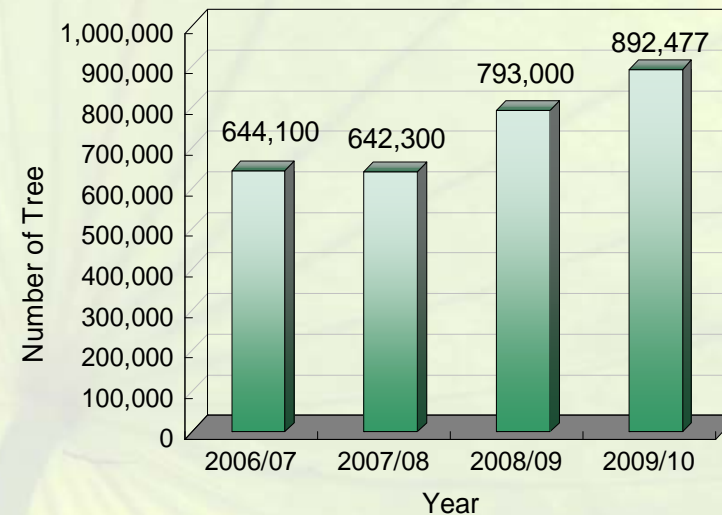


(I)E. Greening Work

E1. Estate Greening

- Intends to attain the planting target of **at least one tree** for **every 15 flats** in new estates.
- Increases the **greening ratio** of all new estates to **at least 20%**.
- Grows plants, sets up plant nurseries and install **vertical green panels** on the **rooftops** and **external walls** of public facilities.

Number of trees, shrubs and annual plants planted



(I)E. Greening Work

E2. Action Seedling

- The Community Participation Scheme is introduced to engage tenants, contractors and the local communities in **greening activities at the construction stage**. Seedling plants will be given out by the HA and the building contractors to participants who will nurture the plants at home until they are fit for transplanting into the planters of the new estates.



(I)F. Other Measures

F1. Common W-Trap System

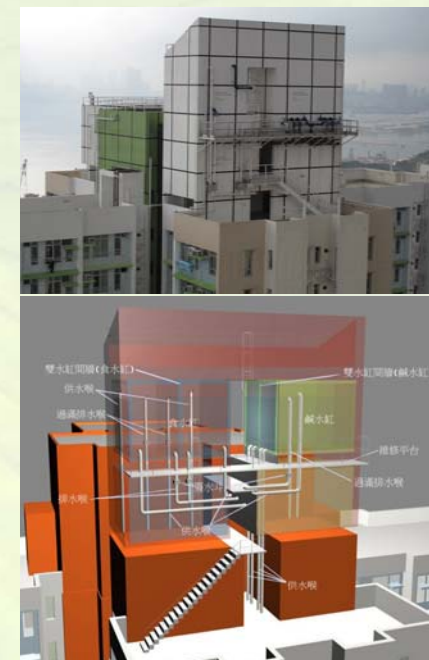
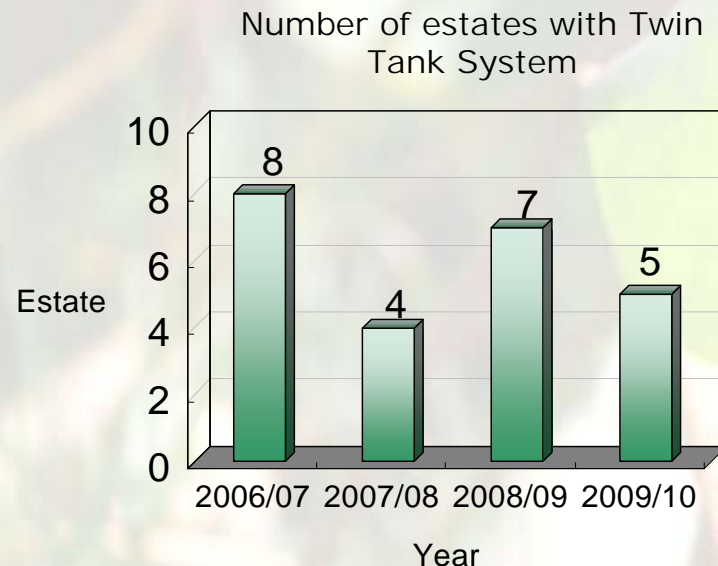
- Improves the design of drainage systems in new estates. By diverting waste water from wash basins and shower areas to floor traps, the System can help **prevent the drying up of floor traps** of new estates.



(I)F. Other Measures

F2. Twin Tank System for the supply of fresh / flushing water

- Adopts the new Twin Tank System in the design of rooftop fresh water tanks and flushing water tanks. The System provides tenants with continuous supply of fresh/flushing water and **reduces the inconvenience caused by water tank cleansing and repairs.**



(I)F. Other Measures

F3. Green Station at G/F lobby

- Provides each domestic block with adequate wall space for bulletin boards to display environmental messages to tenants.





(II)

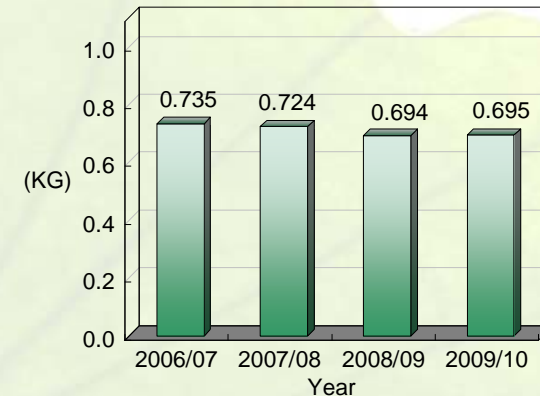
**Green measures implemented
in existing PRH estates**

(II)A. Domestic Waste Disposal and Recovery

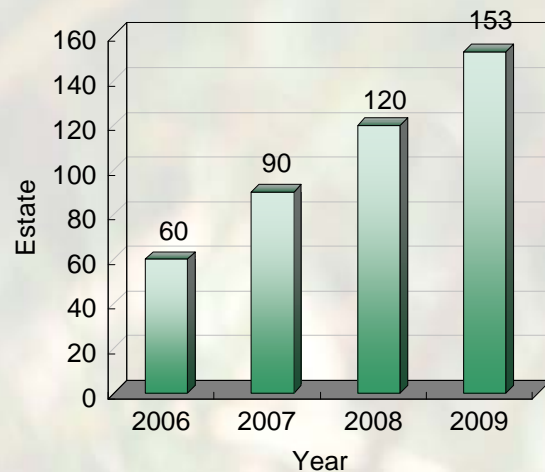
A1. Domestic Waste Disposal

- Implemented in phases the **Source Separation of Domestic Waste (SSDW) Programme** in all PRH estates since 2005 so as to increase the rate of domestic waste recovery and reduce wastes for disposal.

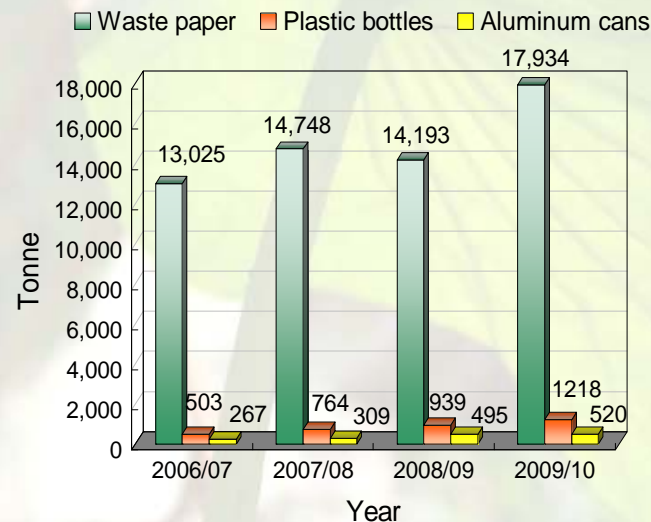
Daily rate of domestic waste disposal per capita:



Number of estates participating in the SSDW Programme



Domestic waste collected

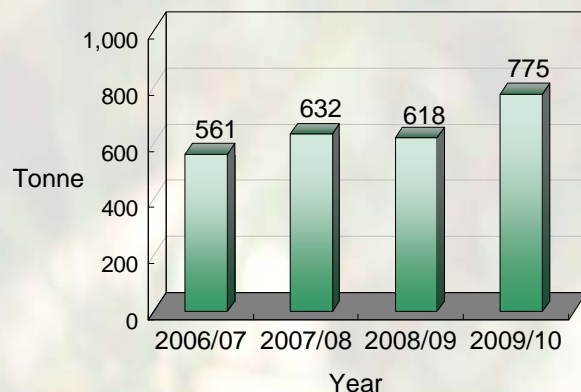


(II)A. Domestic Waste Disposal and Recovery

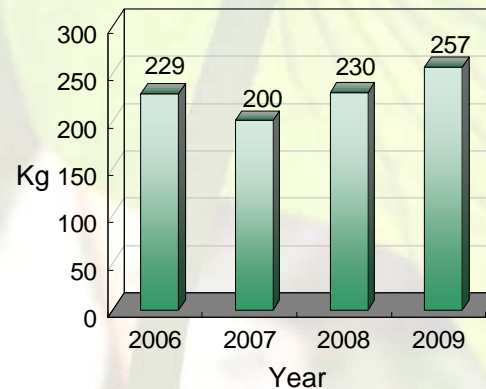
A2. Waste Recovery Activities

- To join hands with charitable and non-profitable organisations to organise various waste recovery activities such as collection of **used clothes**, **rechargeable battery** recycling programme, collection of **compact fluorescent lamps** and **fluorescent tubes**, **waste electrical appliances / computer** recycling programme and **mooncake tin box** recycling campaign, etc.

Used clothes collected:



Rechargeable batteries collected:



(II)B. Energy Conservation

B1. Energy Saving Scheme

- Held 'Dim-it 6.21' and 'Earth Hour' Campaigns, the HA switched off the non-essential external lightings in PRH estates to show its support for energy saving.



(II)C. Estate Greening

C1. Thematic Gardens and Green Roofs

- Thematic gardens are built at selected estates to **enhance estate landscape**. The greening programme helps enhance the rooftop landscape, **reduce temperature** and **save energy**.

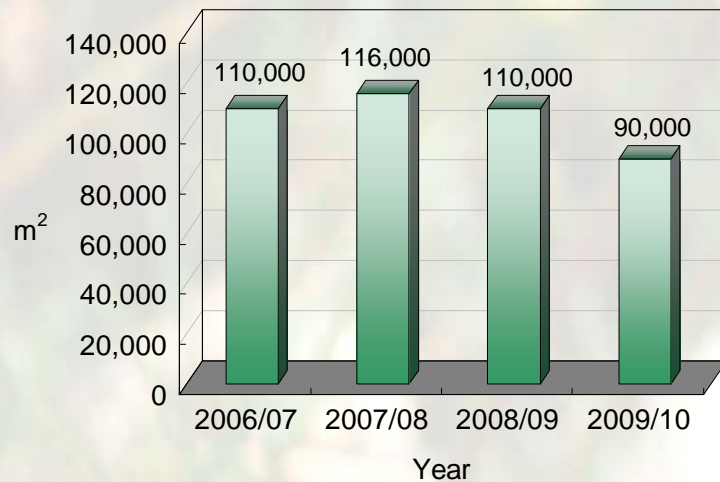


(II)C. Estate Greening

C2. Landscaping

- ▣ The existing landscape of selected estates is upgraded by soft landscaping under the Landscape Improvement Programme.

The landscaped areas



(II)C. Estate Greening

C3. Green Delights in Estates

- The HA continues to organise a **community environmental protection programme**, ‘Green Delights in Estates’, in conjunction with three green groups. The programme has been extended to 120 estates and will be rolled out in phases to cover all PRH estates in Hong Kong.



(II)D. Other Measures

D1. Housing Channel

- ▣ The HA continues to make use of the **Housing Channel** at the ground floor lift lobbies of PRH blocks to **disseminate green messages** to tenants and encourage them to lead a **green life**.



Conclusion

- All 2009/10 targets have been met.
- The HA will continue to provide a healthier and better living environment for PRH tenants through various environment-friendly designs and green measures
- Together with contractors and tenants, we jointly protect the environment and improve the quality of life in the community, contributing to the sustainable development of Hong Kong.





Thank You