

# Hong Kong Housing Authority (HA)

## Performance of HA Environmental Targets and Initiatives in 2013/14



# Background

- In **1999, the HA established its Environmental Policy** to promote healthy living and a green environment.
- In addition to complying with **environmental legislation and regulations**, the HA have developed a **strategic framework** and implemented **environmental management strategies** for the promotion of sustainable development on various fronts including planning and construction of new public housing estates, operation of existing estates and our office at work.
- With a view to **addressing environmental concerns and minimising environmental impacts**, we have incorporated environmental initiatives throughout our planning and design, construction and demolition, marketing and estate management activities, and developed relevant green procurement policies.

# Environmental Performance

- To **effectively manage** the overall implementation of the Environmental Policy, the HA will **establish environmental targets and initiatives** at the beginning of each fiscal year and review the performance quarterly.
- In 2013/14, we have set **40 targets** covering 6 environmental aspects on energy efficiency, water conservation, greening, waste management, control of hazardous materials as well as enhancement of environmental awareness and participation.

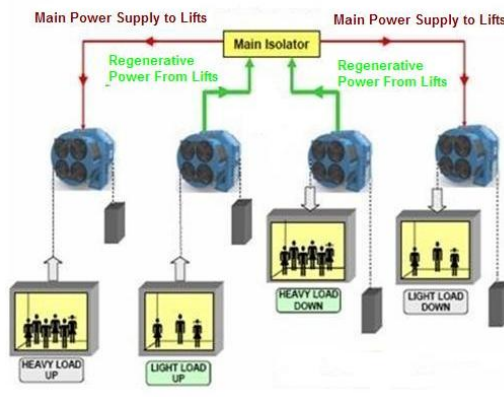
## **(A) Initiatives in Estate Planning and Construction**

- 1. Energy Efficiency**
- 2. Water Conservation**
- 3. Greening**
- 4. Waste Management**
- 5. Control of Hazardous Materials**
- 6. Environmental Awareness and Participation**

# (A) Initiatives in Estate Planning and Construction

## Energy Efficiency

1. We obtained energy certificates for all the newly completed public domestic blocks.
2. We explored and studied the use of more energy efficient equipment, including :
  - lift system with regenerative power
  - light-emitting diode (LED) bulkheads
  - environmental lighting controls using motion-sensors and push buttons at the communal areas of domestic blocks.

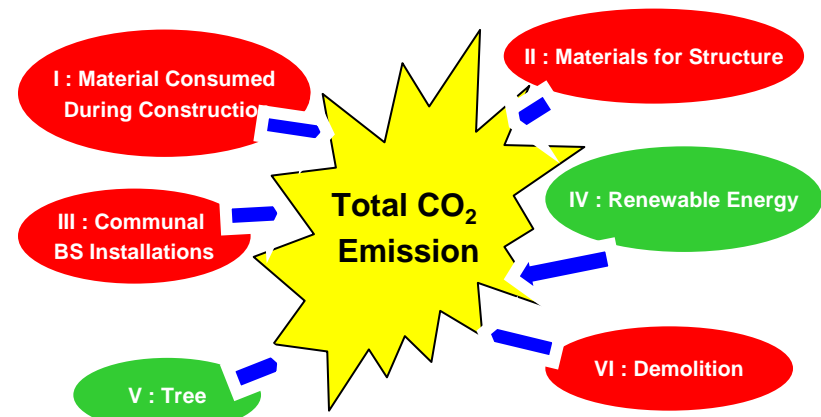
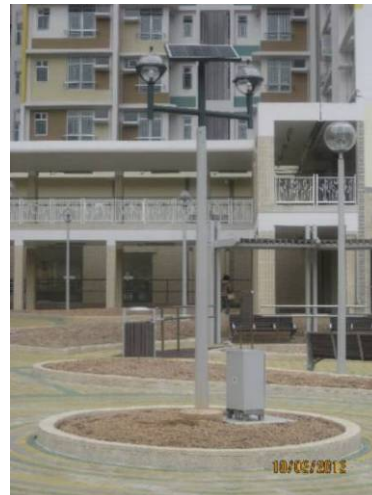


# (A) Initiatives in Estate Planning and Construction

## Energy Efficiency

3. We explored and studied the use of green design for building services equipment, including :

- photovoltaic (PV) panel system
- solar-powered lights
- conducting carbon emission estimation
- energy estimation

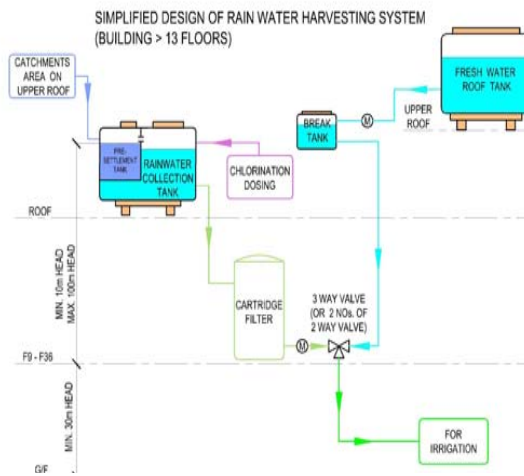


$$\text{Total CO}_2 \text{ Emission} = I + II + III - IV - V + VI$$

# (A) Initiatives in Estate Planning and Construction

## Water Conservation

4. We promulgated specification on dual flush system to reduce flushing water consumption.
5. We provided rain water harvesting system in new building projects to reduce irrigation water consumption.



# (A) Initiatives in Estate Planning and Construction

## Greening

6. All newly completed planting works met the minimum of 1 tree per 15 public rental housing (PRH) flats target, and all new estates achieved an overall target of 30% green coverage, with a minimum of 20% at planning brief stage.
7. We provided green treatment to all the newly formed slopes.
8. We engaged local residents and community to participate in the Action Seedling programme for early plant raising in new housing estates.
9. We encouraged community involvement in greening of our new PRH by reserving communal planting areas at the design stage in 3 new PRH developments.





# (A) Initiatives in Estate Planning and Construction

## Waste Management

10. We enhanced the use of green materials and components, including :
  - pulverised fuel ash
  - ground granulated blastfurnace slag
  - recycled rock fill
  - recycled subbase materials
  - recycled rock cores
  - recycled glass cum aggregates
  - recycled marine mud.
11. We promulgated specification for using softwood timber from sustainable source for all cores of timber doors in new PRH projects.
12. We promulgated specification requiring contractors to use timber from sustainable source and no virgin forest products for temporary works during construction.



# (A) Initiatives in Estate Planning and Construction

## Control of Hazardous Materials

13. We implemented asbestos abatement programme under the estate redevelopment programme and asbestos removal works in 5 domestic blocks and 1 factory block, to abate the remaining asbestos containing materials.



# (A) Initiatives in Estate Planning and Construction

## Environmental Awareness and Participation

14. We enhanced the environmental performance of contractors on site for all new building, demolition, piling and civil engineering contracts, by requiring the contractors to:

- implement environmental management plan
- use environment-friendly equipment and construction methods



## **(B) Initiatives in Existing Housing Estates**

- 1. Energy Efficiency**
- 2. Water Conservation**
- 3. Greening**
- 4. Waste Management**
- 5. Control of Hazardous Materials**
- 6. Environmental Awareness and Participation**

# (B) Initiatives in Existing Housing Estates

## Energy Efficiency

15. We completed the replacement of existing light fittings equipped with electromagnetic ballast by electronic ballast in 280 existing PRH blocks.
16. We conducted carbon audit in 14 typical PRH block types for monitoring and benchmarking purposes.



**Report Form 2 : Summary Information on GHG Emissions and Removals**

**Location** : Kwai Chung Shopping Centre

**Reporting Period** : 1 August 2012 to 31 July 2013

Description (by sources, areas, etc.)	Emissions by gas type (in tonnes of CO <sub>2</sub> -equivalent)					Total
	Carbon dioxide (CO <sub>2</sub> )	Methane (CH <sub>4</sub> )	Nitrous oxide (N <sub>2</sub> O)	Hydrofluorocarbons (HFCs)	Perfluorocarbons (PFCs)	
<b>Scope 1 Direct Emissions</b>						
<b>Stationary Combustion Sources (Table 1)</b>						
Emergency electricity generator (diesel oil) at shopping centre Gen-set Room	0.6090	0.000116	0.000534			0.610
<b>Mobile Combustion Sources (Table 2)</b>						

## (B) Initiatives in Existing Housing Estates

### Water Conservation

17. We studied the performance of the new rain water harvesting system for all commercial centres and PRH estates where the system was installed.



## (B) Initiatives in Existing Housing Estates Greening

18. We nurtured a green environment and promoted tenants' awareness and participation in greening by :
- organising tree planting days in 10 estates,
  - developing community gardens in 10 estates
  - providing greening activities in 20 estates in collaboration with the Estate Management Advisory Committees (EMACs).
19. We re-landscaped and upgraded the existing landscape facilities through :
- the Landscape Improvement Programme in 18 estates
  - setting up thematic gardens at Lee On Estate and Shun On Estate.
20. We improved the appearance of 10 slopes at 9 estates by providing planters along slope toe and/or improvement of slope surfaces with hydroseeding and shrubs.



## (B) Initiatives in Existing Housing Estates Waste Management

21. We promoted waste separation at source and green management initiatives by :
- implementing the Source Separation of Domestic Waste Programme in all estates
  - setting up collection counters in all estates to collect domestic recyclables through incentive scheme



- 22-25. We recovered for recycling in PRH estates :

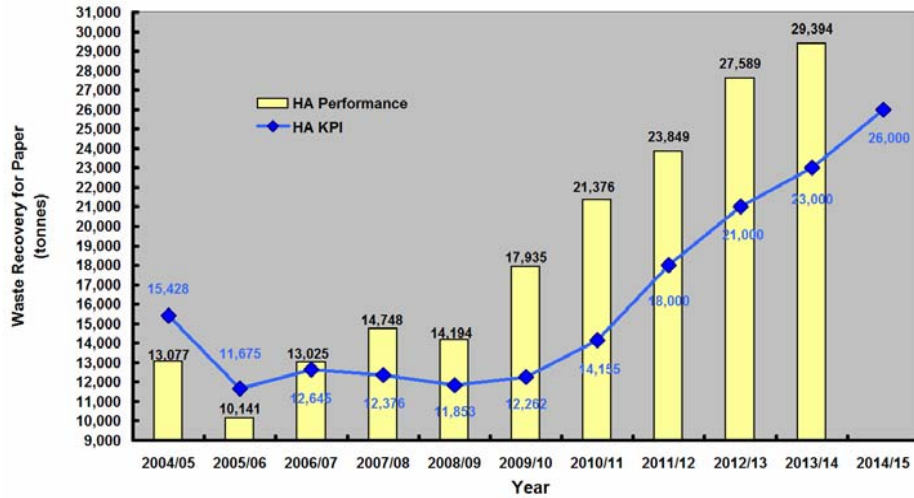
- about 29 394 tonnes paper
- about 1 359 tonnes aluminium cans
- about 1 812 tonnes plastic bottles
- about 1 053 tonnes used clothes



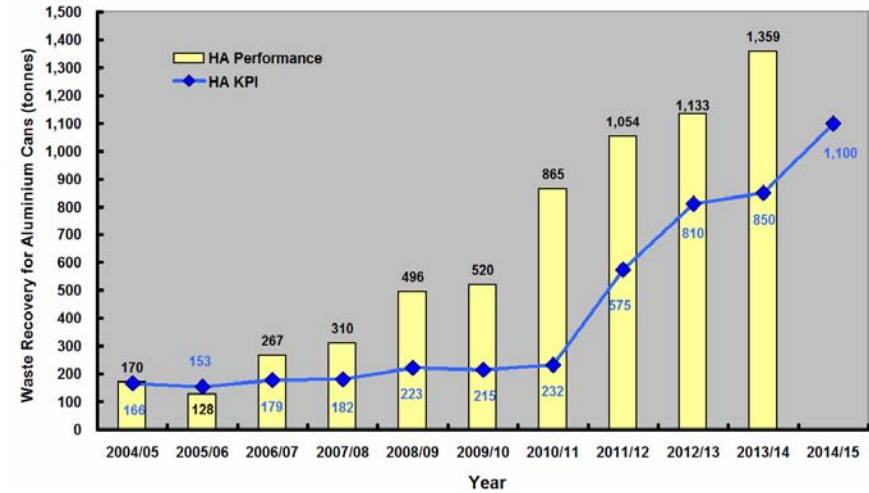


# (B) Initiatives in Existing Housing Estates Waste Management

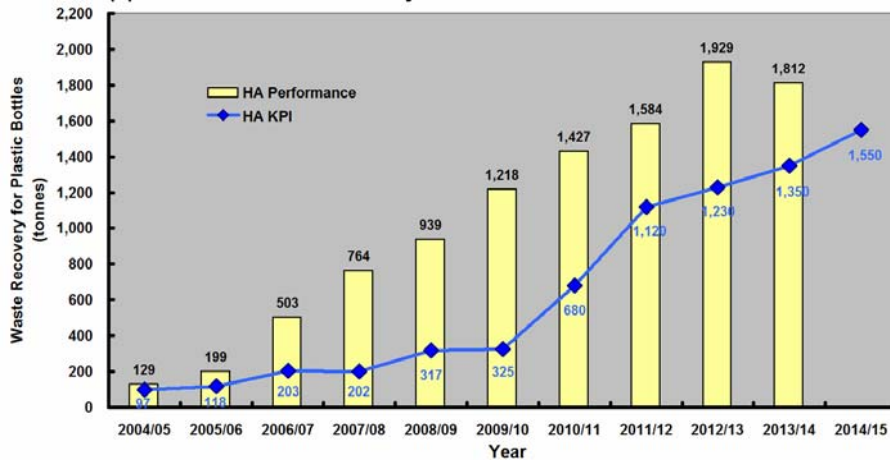
## 22. Paper



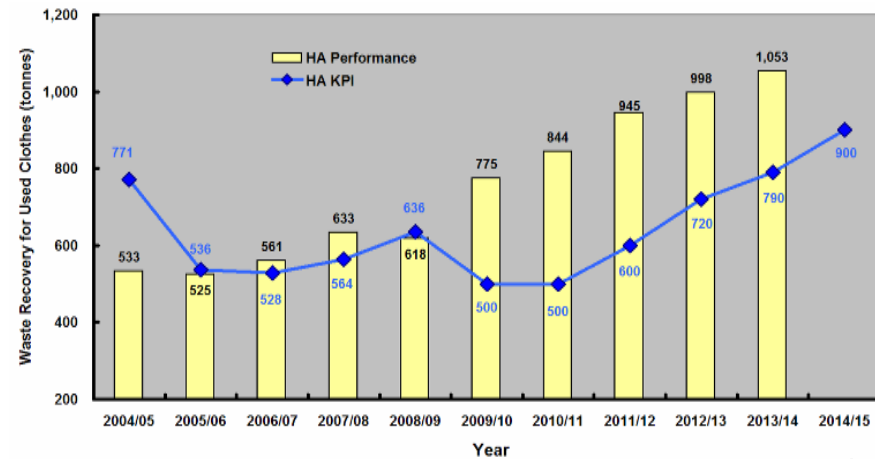
## 23. Aluminium Cans



## 24. Plastic Bottles



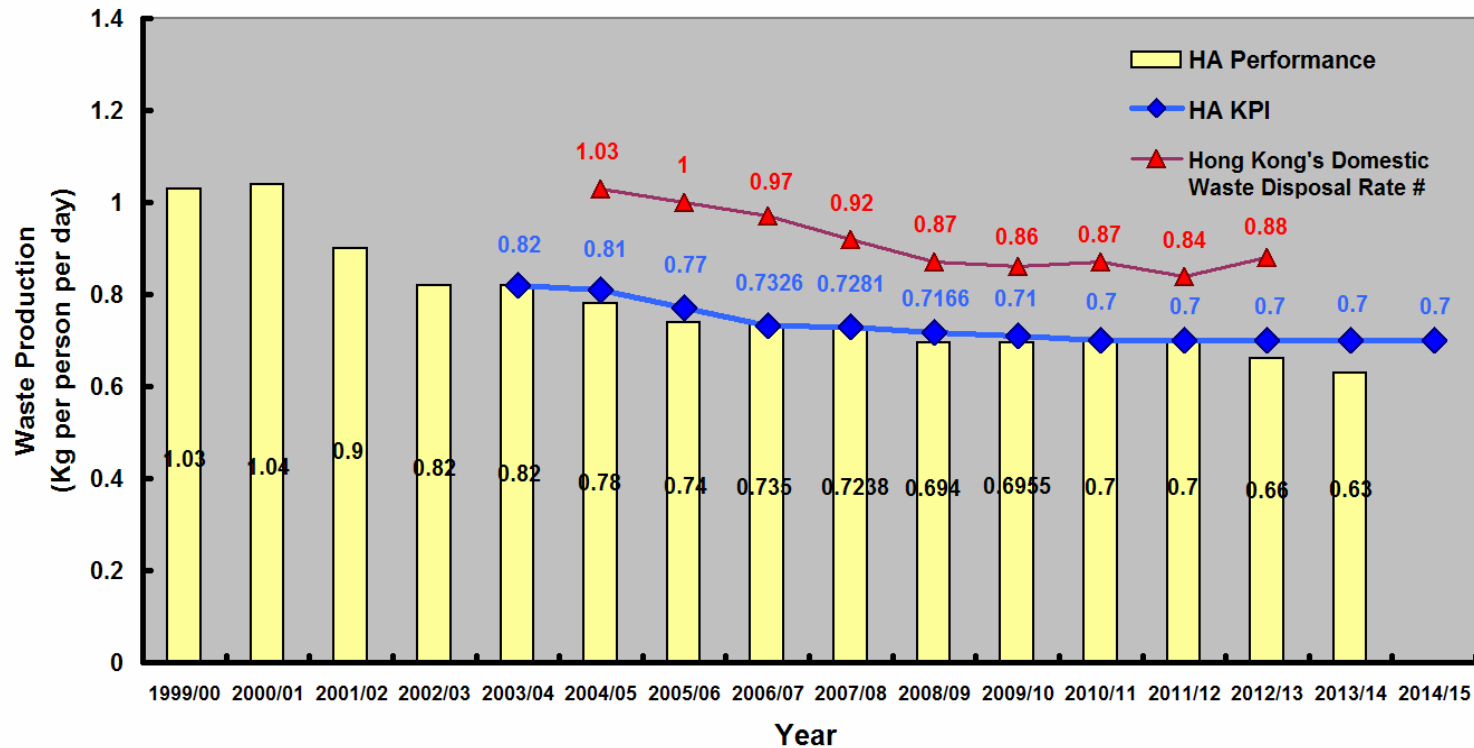
## 25. Used Clothes



# (B) Initiatives in Existing Housing Estates

## Waste Management

26. We achieved the average domestic waste production of 0.63 kg/person/day from our residents through the implementation of various waste recycling and recovery initiatives in PRH estates.



# Source : Environmental Protection Department (2014). *Monitoring of Solid Waste in Hong Kong - Waste Statistics for 2012.*

## (B) Initiatives in Existing Housing Estates Control of Hazardous Materials

27. We maintained the remaining asbestos containing materials in existing PRH estates in satisfactory condition by :

- conducting two condition surveys per year
- engaging a registered asbestos contractor for emergency repair of underground asbestos cement water-mains for all estates.



## (B) Initiatives in Existing Housing Estates Environmental Awareness and Participation

28. We collaborated with green groups to conduct the estate-wide environmental awareness campaign and education programme, namely the Green Delight in Estates programme in PRH.
29. We reviewed environmental awareness of the PRH residents by conducting survey on the residents.
30. We continued to enhance community awareness on environmental protection by organising programmes to promote environmental protection messages.
31. We promoted tenants' awareness and participation in waste separation at source, waste reduction and green management initiatives through various publicity channels.



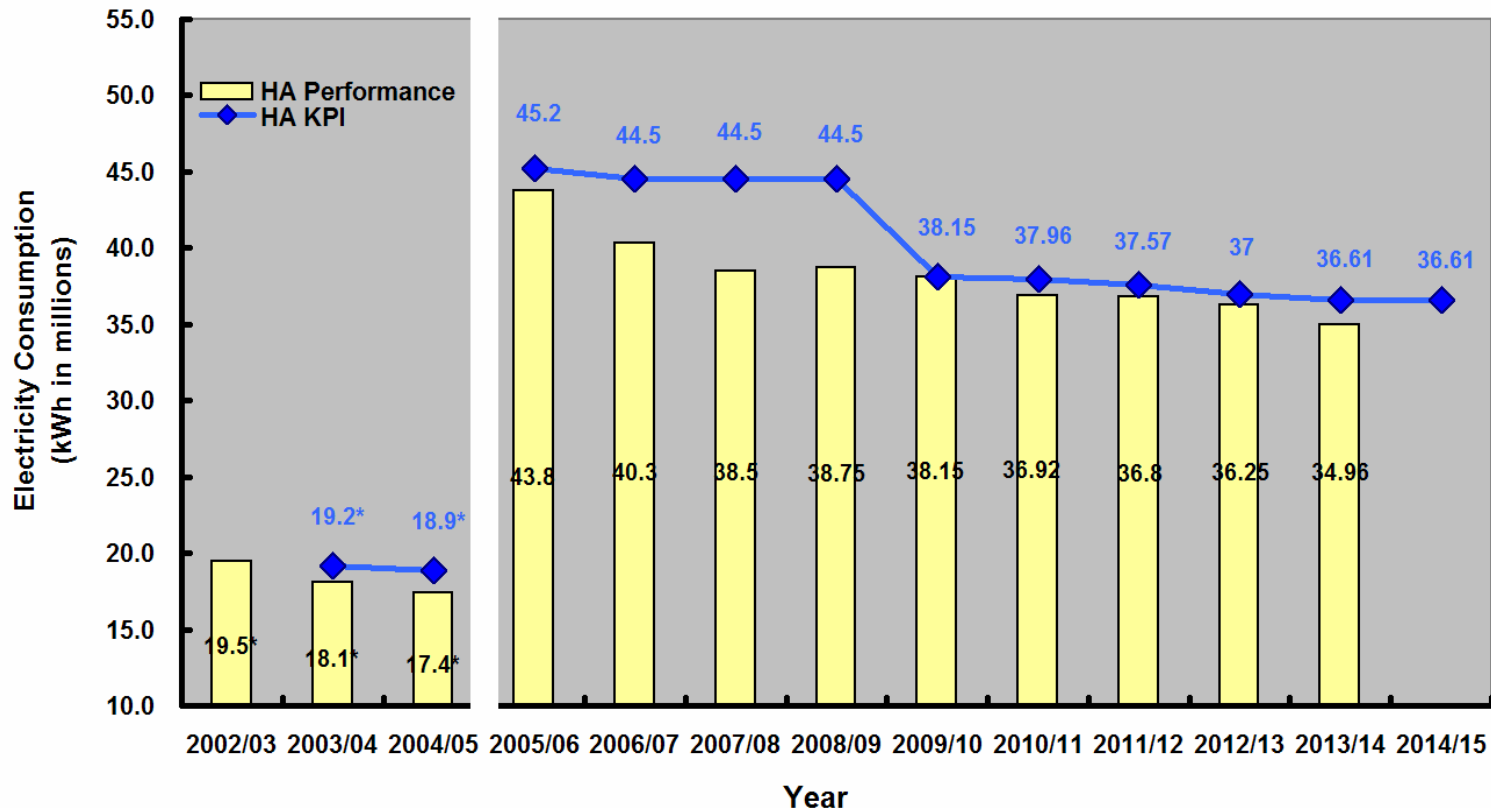
## **(C) Initiatives in Office at Work**

- 1. Energy Efficiency**
- 2. Water Conservation**
- 3. Greening**
- 4. Waste Management**
- 5. Control of Hazardous Materials**
- 6. Environmental Awareness and Participation**

# (C) Initiatives in Office at Work

## Energy Efficiency

32. We consumed a total of 34 957 181 kWh of electricity, which was reduced by about 9.3% when compared with the total electricity usage baseline in 2007/08.

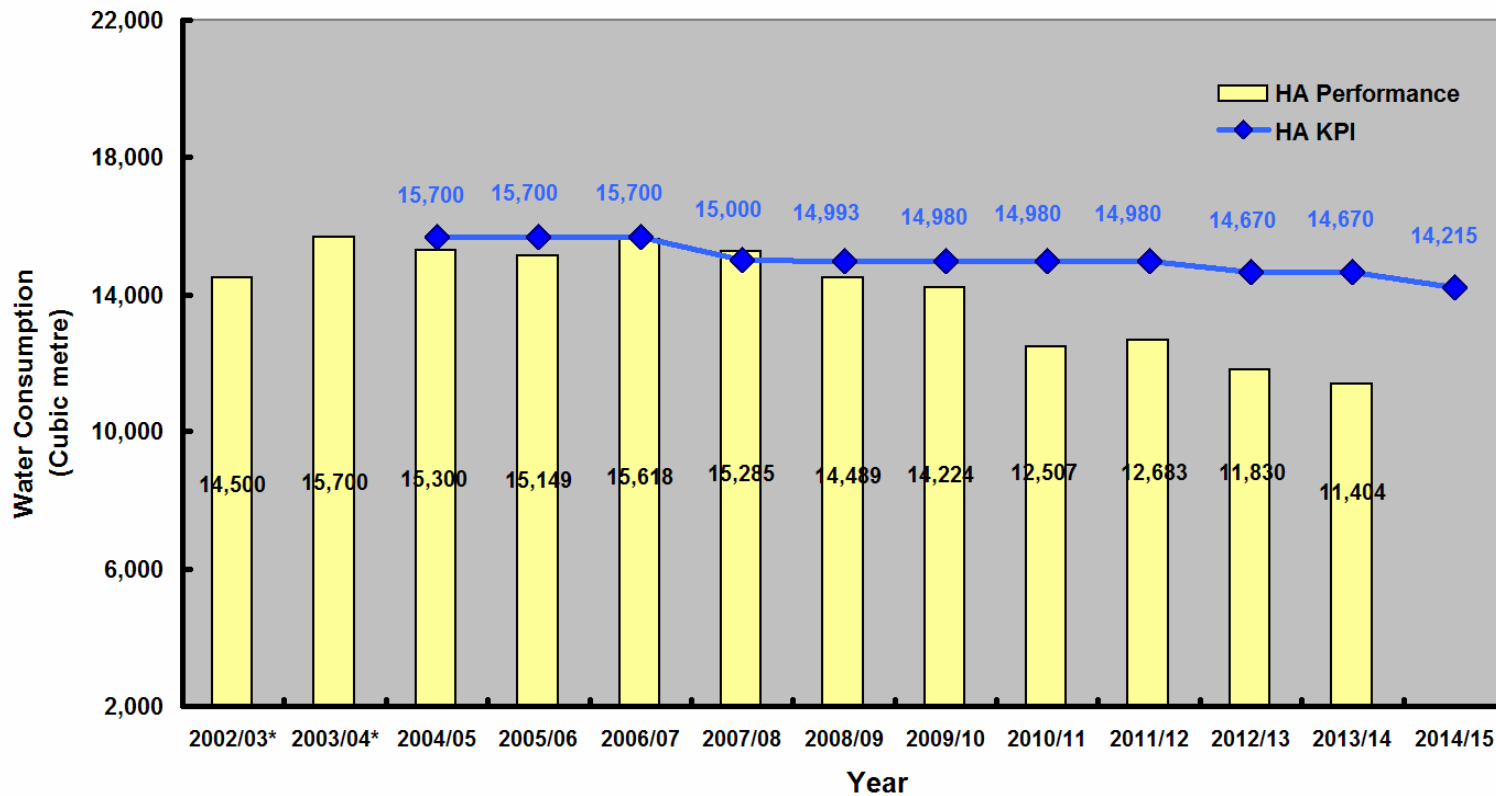


\*The HA KPI & HA performance have not included the HA Offices outside HAHQs. The corresponding KPI has been set up since 2003/04.

# (C) Initiatives in Office at Work

## Water Conservation

33. We consumed 11 404 m<sup>3</sup> of water in the HA Headquarters, which has decreased by 25.4% as compared with the consumption baseline of our offices in 2007/08.



\* No official target was set for water consumption in 2002/03 and 2003/04

## (C) Initiatives in Office at Work Greening

34. We promoted staff involvement in greening activities by arranging staff to participate in tree planting day.



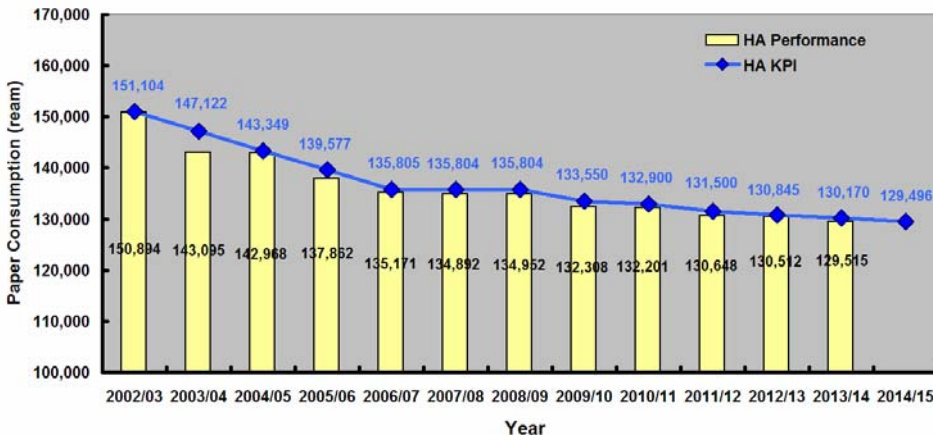


# (C) Initiatives in Office at Work

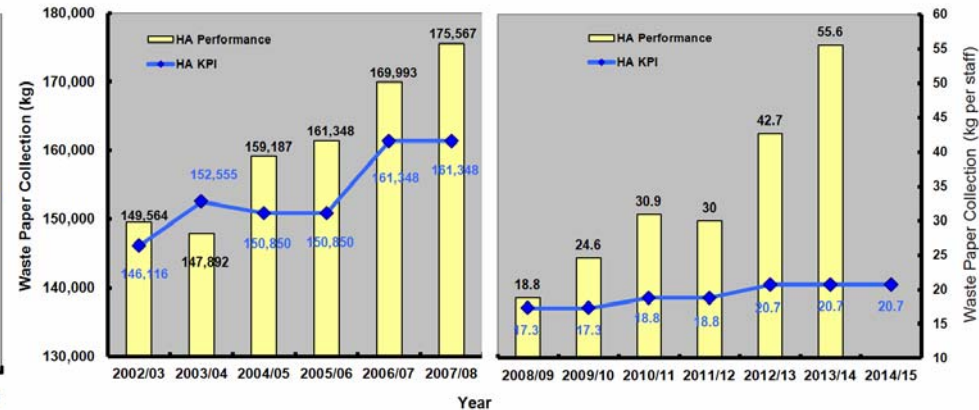
## Waste Management

35. We consumed 129 515 reams of paper representing a decrease of 4.0% as compared with the consumption baseline in 2007/08.
36. We collected 55.6 kg of waste paper per staff in our offices, which is higher than the target of 20.7 kg per staff.

Paper Consumption



Waste Paper Collection



Note: Since 2008/09, waste paper collection is calculated by weight per staff instead of the overall weight

37. We have been using environment-friendly paper as a prerequisite requirement in the printing of all publicity materials.

## (C) Initiatives in Office at Work Control of Hazardous Materials

38. We controlled hazardous materials by collecting all disposed mercury-containing lamps in HA Headquarters for special waste treatment.



## (C) Initiatives in Office at Work

### Environmental Awareness and Participation

39. We followed up the HA staff survey on environmental awareness and strengthened our training and publicity on environmental issues, including producing the HA Environmental Corporate Video.
40. We continued to enhance staff environmental awareness and knowledge by :
- organising seminars
  - displaying environmental issues at HA Headquarters
  - organising environmental campaigns



# Trial Scheme on Food Waste Recycling

- The HA has partnered with three green groups to conduct **food waste recycling trial schemes** in PRH estates since November 2012.
- 14 estates have joined in the scheme, namely Lai Kok, Tin Wah, Tin Tsz, Nam Shan, Ching Ho, Lam Tin, Grandeur Terrace, Lai On, On Yam, Sun Chui, Lei Muk Shue, Kai Tin, Tin Ching and Tsz Ching Estates.
- About 3 000 households have participated.



# Way Forward

We have set out challenging yet pragmatic targets to gauge our performance for 2014/15. We will continue our efforts to achieve various environmental, social and economic targets, with a view to maintaining a sustainable public housing programme for Hong Kong.





**Thank You**