

## Executive Summary

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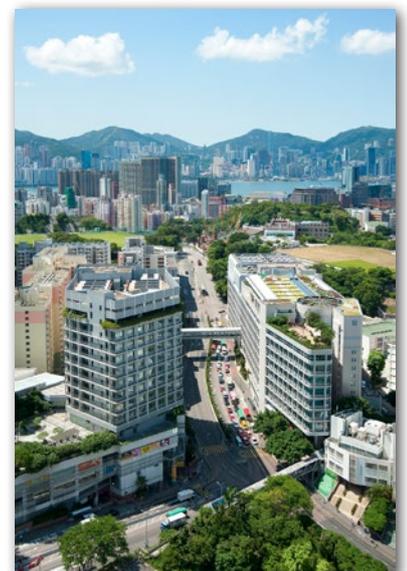
This Sustainability Report 2011/12, ***Shaping Our Sustainable Journey – Research and Development***, is the seventh sustainability report which highlights our commitments, efforts and performance in maintaining a sustainable public housing programme for Hong Kong. Our governance structure, management approaches, operations, initiatives and achievements are detailed in the report with respect to the key sustainability aspects in terms of economic, environmental and social performance. The future plans in providing local public housing in a sustainable manner are also mentioned in the report.

This Report presents the progress and achievements in the Hong Kong Housing Authority's (HA) sustainability performance from 1 April 2011 to 31 March 2012. It also describes our on-going sustainability objectives and targets in relation to the planning and construction of new housing developments, the management of public rental housing estates and our office operations.

This Report has been prepared with reference to the Global Reporting Initiatives (GRI) G3.1 Guidelines and the GRI sector supplement for Public Agencies to achieve the A+ application level.

## Our Vision and Management Approaches

The HA is a statutory body established in April 1973 under the Housing Ordinance. The HA supports the Transport and Housing Bureau in developing and implementing a public housing programme, with the Housing Department (HD) acting as its executive arm, to achieve the Government's housing policy objective of providing subsidised public housing to families who cannot afford private rental housing.



The HA Headquarters

## Our Services

We plan, design, construct, manage and maintain various types of public housing, including public rental housing estates, interim housing estates, and transit centres. We also own and operate some flatted factories, ancillary commercial and other non-domestic facilities.



Yau Lai Estate Phase 5

## Our Environmental Performance

We set 39 environmental targets for 2011/12, including awareness raising, energy efficiency, greening and landscaping, waste management, water conservation, material usage and control of hazardous materials. Among these targets, 38 were fully met. Our environmental performance for this year is outlined below:

### Initiatives in Planning and Construction of New Housing Estates

#### Carbon and Energy Management

- We adopted the Carbon Emission Estimation Tool in all our new development projects with domestic block design since February 2011.
- Our Development and Construction Division had established and implemented an Energy Management System in accordance with the ISO 50001 standard and obtained the certification in June 2012.
- In 2011/12, we obtained a total of 70 energy certificates for our building blocks.
- We carried out performance evaluation for the application of grid-connected photovoltaic system (PV) at two estates. Relevant design guidelines and specifications were established and included in our contracts to facilitate the application of such system for new PRH projects where applicable.
- We had evaluated the wind-solar hybrid energy lighting at Sau Mau Ping South Estate.
- We completed a trial study of installation of light emitting diode (LED) lighting at Lam Tin Estate Phases 7 & 8. A project involving monitoring and reviewing the performance of a prototype LED bulkhead light fitting had also been conducted at Tsz Ching Estate. Products with acceptable performance in this trial will be selected for a larger-scale installation at the Kai Tak Site 1A project.
- We completed the installation of lighting controls using motion-sensors and push buttons at five estates.



Prototype LED bulkhead light fitting at Tsz Ching Estate

- We incorporated an initiative of mixed/hybrid mode of ventilation in the shopping centre of Yau Tong Phase 4 project. Trial applications of such ventilation system had also been carried out in the Eastern Harbour Crossing Phase 6 & Choi Wan Road Site 2 retail/carpark block in order to evaluate its effectiveness on energy saving.

## Green Construction Methods

- By replacing cement with pulverised fuel ash in the concrete mixes, we saved 21 000 tonnes of cement in 2011/12.
- We examined and confirmed the technical feasibility of the application of synthetic macro-fibre reinforcement in on-grade slabs as a replacement for steel reinforcement.
- We successfully demonstrated the use of ground granulated blastfurnace slag in Shek Kip Mei Estate Phase 2 as a partial replacement of cement in precast façades.
- We conducted a pilot project involving an application of a trademarked technology, namely Excelicrete™, for non-domestic buildings in Kai Tak Development Site 1B in order to optimise the concrete usage.
- By adopting pre-cast concrete components, metal formwork and metal hoarding, we conserved 15 000 tonnes of timber from our construction projects in 2011/12.
- We widened the scope of our adoption of pre-cast components, including some volumetric elements such as bathrooms and kitchens, in selected projects at Kai Tak Sites 1A and 1B.
- We applied the use of hard paved construction method to all of our piling and building construction sites.
- We started to adopt reusable modular site hoarding to avoid wastage of construction in Shatin Area 52 Phases 3 and 4 projects.



Volumetric precast bathroom



Reusable modular site hoarding

## Noise and Water

- We continued to explore and apply various passive design measures in our public housing projects to minimise the road traffic noise impacts to our residents including the use of acoustic balconies, acoustic windows, architectural fins and noise barriers.



Acoustic window



Acoustic balcony

- We incorporated new specifications in building contracts which required the usage of plumbing fixtures registered under the Water Efficiency Labelling Scheme in order to achieve our water saving target of 20%.
- We installed rainwater harvesting systems in new public developments Tung Tau Phase 9 and Eastern Harbour Crossing Phase 5 to support irrigation.



Water saving faucets

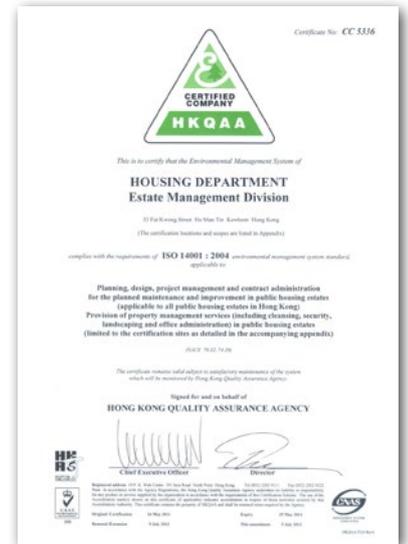
## Initiatives in Existing Housing Estates

### Certification

- We obtained ISO 14001 Environmental Management System certification for our planned maintenance and improvement works as well as property management for three selected estates in May 2011.

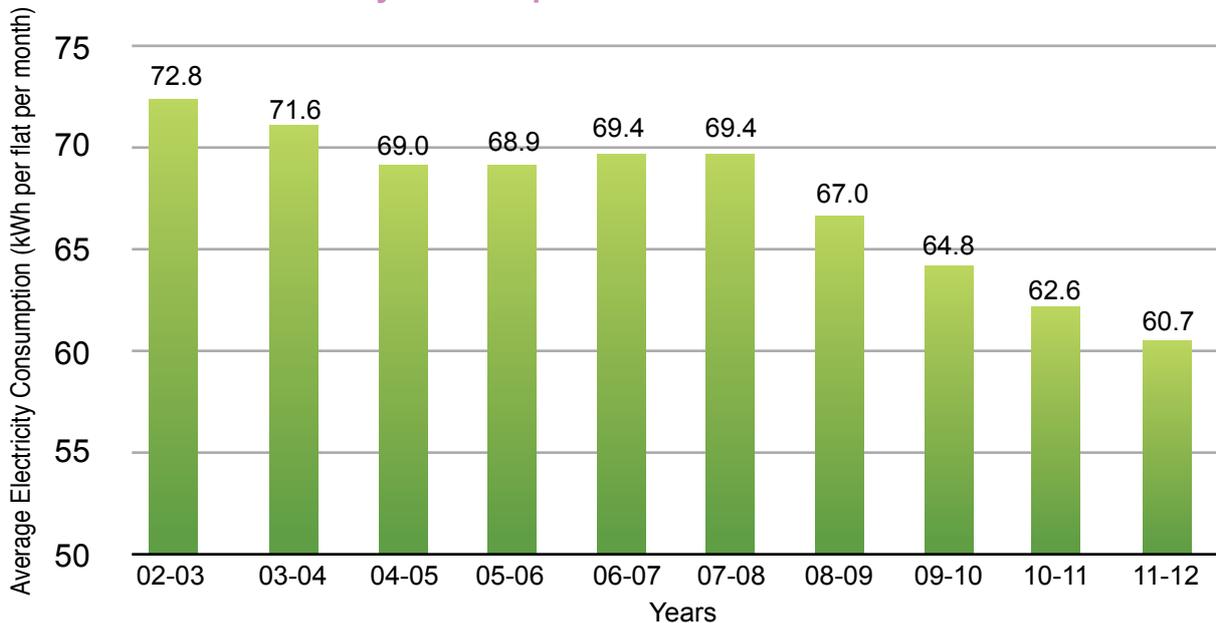
### Energy

- The electricity consumption of public areas of PRH blocks in 2011/12 was 60.7 kWh per flat per month, 3.0% lower than that of 2010/11 level.



ISO 14001 certificate received in May 2011

### Electricity Consumption in Public Area of Estates



- We started installing electric vehicle charging facilities at selected hourly parking spaces at Choi Tak Estate, Shui Pin Wai Estate, Yau Lai Shopping Centre and Kwai Chung Estate.

## Greening

- Since the introduction of green roofs, 11 green roofs had been installed for the retrofitting of Wo Lok, Fu Shan, Choi Hung and Fuk Loi Estates.
- We established two beautiful thematic gardens at Choi Wan (I) and Sha Kok Estates, while various levels of gardening works were also enhanced at 18 estates. We also established community gardens at 10 PRH estates.



Electric vehicle charging facilities



Thematic Garden at Choi Wan (I) Estate



Thematic Garden at Sha Kok Estate

- We had conducted Tree Risk Assessment works for all our construction sites and existing PRH estates. As at the third quarter of 2011, we had carried out remedial works for about 6 000 trees.
- We organised a number of training sessions and in-house seminars on tree management for our PRH residents and management staff. We recruited a total of 520 Estate Tree Ambassadors for introducing trees information to tenants across our estates.

## Waste Management

- We have been actively participating in the Government's Source Separation of Domestic Waste Programme across the PRH estates. We also set up waste collection counters in all the 160 estates for collecting domestic recyclables from tenants.
- We achieved an outstanding result by collecting about 23 849 tonnes of waste paper, 1 584 tonnes of plastic bottles and 1 054 tonnes of aluminum cans for recycling during 2011/12.



Source Separation of Domestic Waste Programme

- We conducted a trial scheme for recycling glass bottles at six PRH estates in the Kowloon East region and achieved a good result in collecting about 70 tonnes of glass bottles in 2011.

### Water

- We established a programme for installing water saving devices (e.g. sensor-controlled water tap, dual-flush toilet cistern and sensor-controlled urinal flush valve, etc.) in retrofitting toilets of 21 shopping centres.

### Initiatives in Office at Work

- Starting from February 2012, we had started to develop an Environmental Management System in accordance with the ISO 14001 standard for our Corporate Services Division to cover its property management functions including cleansing, security and office administration of the Housing Authority Headquarters Building (HAHQs).
- This year, we achieved a 3.1% reduction of paper usage as compared to our baseline consumption data in 2007/08.

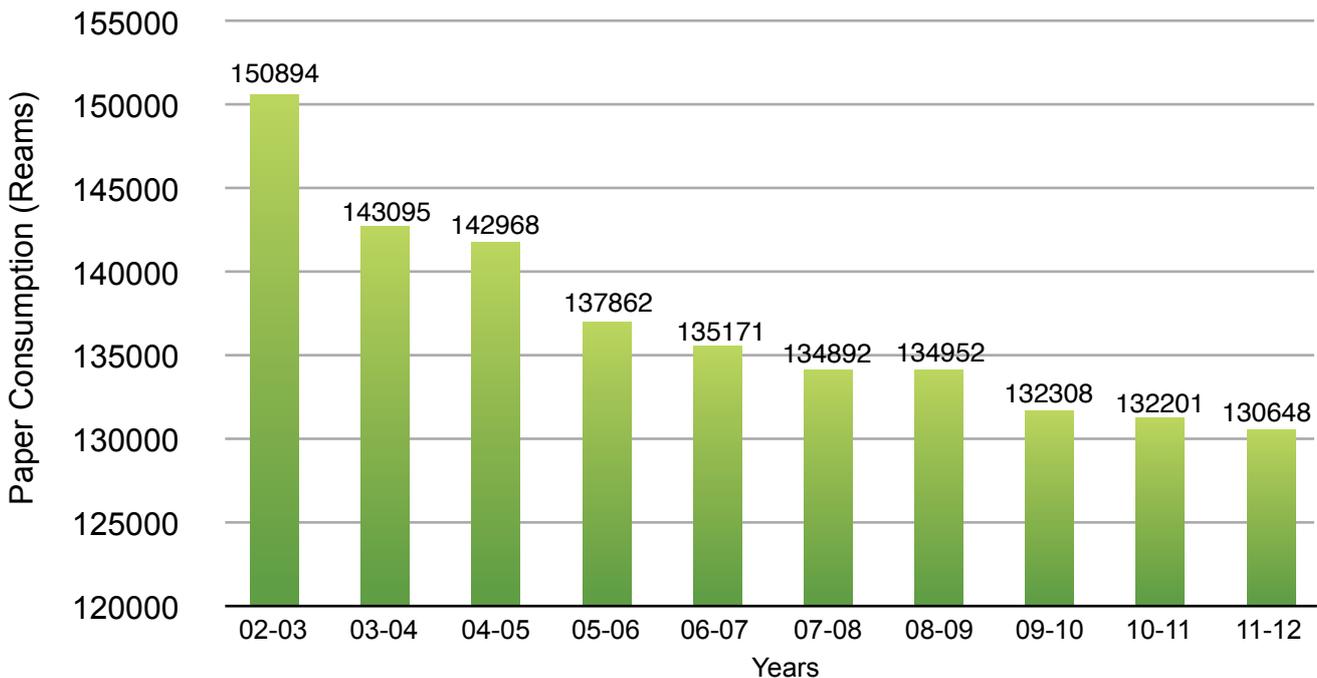


Collection facility for glass bottles



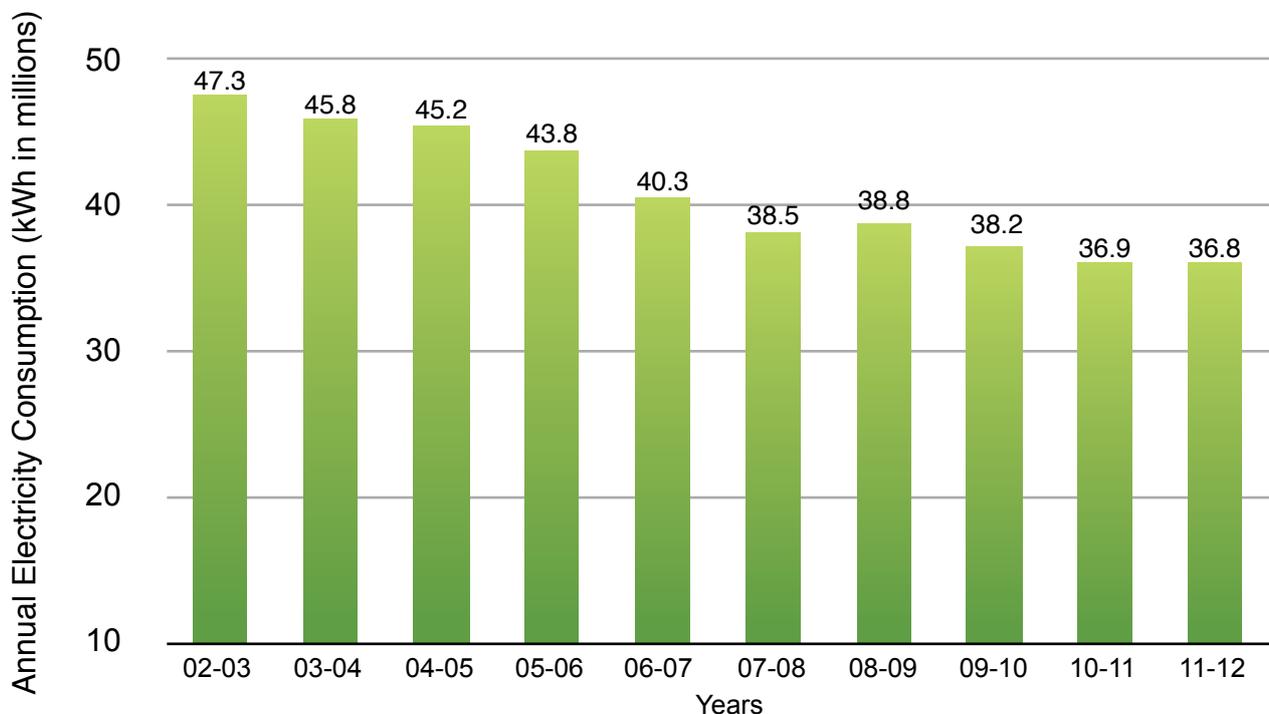
Sensor-controlled water tap

### Paper Consumption in the HA Offices



- We had achieved a collection of 30 kg of waste paper per staff, which significantly exceeded our target of 18.8 kg of collecting waste paper per staff.
- During the year, we had fully met the energy saving target by consuming a total of 36 803 499 kWh of electricity, which was decreased by 4.5% as compared with the baseline consumption data established in 2007/08.

### Annual Electricity Consumption in the HA Offices



- We have been carrying out carbon audits for five of our selected HA premises since August 2008.
- This year the total water consumption of the HAHQs was 12 683 m<sup>3</sup>, which was about 17% decrease of water consumption as compared with the baseline consumption in 2007/08.
- We had joined hands with the Community Recycling Coop of Industrial Relations Institute to launch the Environmental Collection and Recycling Campaigns and collected over four tonnes of reusable items including electrical appliances, clothes, shoes, bags, household items, bedding, books and toys, etc. for sale at affordable prices to low-income families in a community second-hand shop in Sham Shui Po.



The HA staff at the HAHQs (left), Lung Cheung Office (middle) and the Customer Service Centre (right) are enthusiastic in donating reusable household items to those in need

- Over 150 participants from our volunteer group, our staff and their family members joined a Tree Planting Day in Yuen Long, with the mission to restore an area which was devastated by fires.



The HD Volunteer Corp, the HD staff and their family members participated in the Hong Kong Tree Planting Day

- Our design featured a landscape of “Floral Tour” had won the Gold Award for Design Excellence (Landscape Display) in the annual Hong Kong Flower Show.



The HA's floral display, adorned with Hyacinth, the theme flower of the Flower Show, attracted a lot of visitors

## Our Social Performance

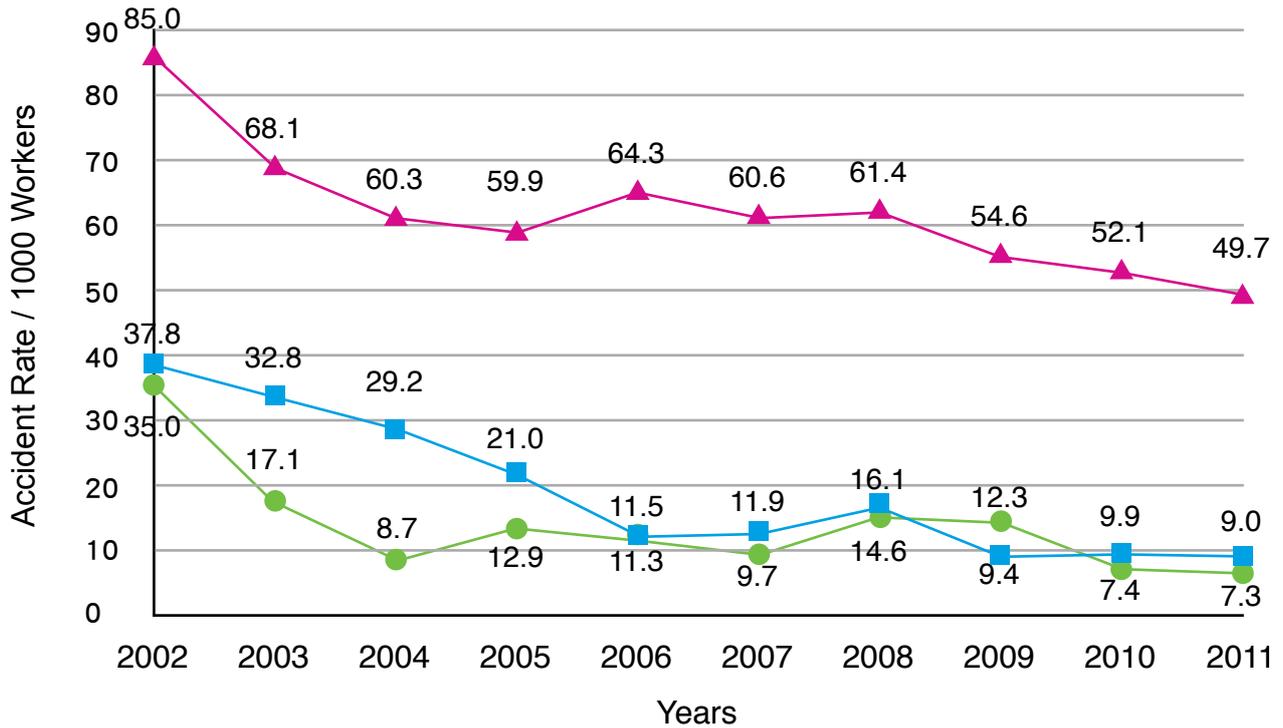
We set 16 social targets for 2011/12 including safety measures, marking scheme and encouraging staff participation. All of these targets were fully met. Our social performance during the year is highlighted below:

### Initiatives in Planning and Construction of New Housing Estates

#### Safety

- The accident rate for new works contracts stood at 9.0 per 1 000 workers (9.9 in 2010, 9.4 in 2009 and 16.1 in 2008), while that of maintenance contracts stood at 7.3 per 1 000 workers (7.4 in 2010, 12.3 in 2009 and 14.6 in 2008). Our rate is much lower than the average industry accident rate of 49.7 per 1 000 workers. There was no fatal case reported during the year.

### Accident Rate per 1000 Workers Compared to Local Construction Industry Average



▲ Local Construction Industry    ■ The HA New Works    ● The HA Maintenance Works

- We conducted review in close consultation with external stakeholders to enhance the effectiveness of the Pay for Safety, Environment and Hygiene Scheme.
- We completed the review of the effectiveness of surveillance checks under the Performance Assessment Scoring System and Independent Safety Audit System. We consulted stakeholders on the revised Housing Authority Safety Auditing System version 1.5 and introduced a surprise safety inspection programme for further enhancing surveillance checks.
- The Lighthouse Club and the Construction Industry Council granted the Golden Helmet Award to Ms Ada Fung, Deputy Director of Housing (Development & Construction), in recognition of her significant contribution to safety within the construction industry of Hong Kong.



Mr D W Pescod (seventh from left), Permanent Secretary for Transport and Housing (Housing), and Ms Ada Fung (seventh from right) pictured with colleagues at the award presentation ceremony



Ms Ada Fung, Deputy Director (Development & Construction), was granted the Golden Helmet Award by the Lighthouse Club and the Construction Industry Council

- We have improved site safety through implementing various new initiatives such as expanding contract specification to include new guidelines on lift shaft works and tower crane safety, and organising regular training activities, workshops and seminars on various safety topics as well as developing a Site Safety website to provide a wide range of site safety information and multi-media materials.

## Community Engagement

- We conducted a number of community engagement activities to present development proposals and to obtain feedback on planning and design of projects and undertook post-completion review workshops for eight projects during the year.

## Initiatives in Existing Housing Estates

### Safety

- To boost PRH tenants' awareness of fire safety, we have increased the frequency of fire drills in PRH estates from once every three years to once every two years and encouraged more participation by integrating promotional fire safety activities into the drills and giving out souvenirs to participants as well as providing tenants with clear and easy to understand information about how to respond to a fire and use fire fighting equipment properly.
- We retrofitted all our existing lifts at PRH estates with 2-in-1 infrared lift door safety sensors to control the re-opening of lift door upon sensing passengers movement at the entrance and installed voice synthesiser in the lift to remind users "stand clear of the doors/ doors closing".
- We started to install a retractable fall arrestor system in phases to protect workers against unexpected falls when they are working in lift pits.



Retractable fall arrestor in use

### Care for the People

- In 2011/12, a total of 4 540 households benefited from the implementation of various harmonious families schemes.
- We launched a 330-million-dollar retrofitting programme to improve barrier free access facilities in all our PRH estates. Under the programme, we completed a number of small-scale enhancement works in about 230 existing HA properties during the year.



Handrails and tactile warning strips

### Estate Maintenance

- We rolled out the second five-year cycle of Total Maintenance Scheme in early 2011. By the end of March 2012, we had conducted in-flat inspection programme in 28 PRH estates, and inspection and repair services at 14 PRH estates.

- As at the end of March 2012, we have rolled out Responsive In-flat Maintenance Services in 204 estates to provide responsive, professional, and customer-oriented in-flat maintenance service to our PRH tenants.
- We launched a lift addition programme to improve pedestrian access at 29 old estates.
- We monitored and reviewed the Wage Monitoring System (WMS) to enhance effectiveness in the implementation of wage payment to workers under works and services contracts.
- To take care of mental patients living in PRH estates, we have participated in the Task Group led by the Food and Health Bureau to provide assistance to tenants with suspected mental illness.
- We also support the provision of communal services for neighbouring communities by sponsoring venues for different communal events. During the year, we provided commercial venues free of charge for conducting 31 communal services events.
- We are currently upgrading the entire CCTV system to improve the security of our PRH estates. Up to end of March 2012, we have completed the relevant works in 720 blocks in 111 PRH estates.



New lift and escalators at Shek Lei Estate



LCD monitors in guard counter

## Initiatives in Office at Work

### Caring Organisation

- Our contributions to the social well-being of our stakeholders are recognised by the Hong Kong Council of Social Service (HKCSS) for awarding the “5 plus Consecutive Years Caring Organisation Logo”. It is the sixth consecutive year for the HD to receive the “Caring Organisation Logo” from HKCSS.



The HD received the “5 plus Consecutive Years Caring Organisation Logo”

### Safety

- In 2011/12, we recorded 17 injury-on-duty cases related to the HA / HD employees. Our injury rate per 1 000 employees was 2.0, which is lower than the injury rate of 14.6 per 1 000 employees in all economic activities in Hong Kong in 2011. There was no fatal or occupational disease case reported during the year.
- During the year, we organised a diverse range of internal occupational safety and health training courses and seminars in order to raise awareness and establish a “safety culture” across the HA.
- In 2011, we completed the improvement and security enhancement works for the enquiry counters and interview rooms of the HA Customer Service Centre to ensure safety of our estate management staff.

## Communication

- During the year, we issued 35 press releases and conducted 36 press briefing sessions to publicise or announce major housing issues. We also replied 902 enquiries directed from the media and 616 queries or complaints brought to us via the media regarding various housing issues.
- The HD Integrated Communication Centre received and answered about 1.2 million telephone calls in the past year, that is around 3 300 per day on average. The Centre also handles enquiries and requests made by email, letters and faxes. During the year, we received and handled around 43 600 enquiries and 600 complaints.
- During 2011/12, we arranged a total of 105 visits to our HA Exhibition Centre and PRH estates and sites for local, Mainland and overseas delegations, including one of our distinguished state leaders, Mr Li Keqiang, Vice Premier of the State Council.
- We conducted a revamp exercise of the HA / HD website to improve its user-friendliness. The new website was launched in November 2011 with a simplified site structure and improved design for easier navigation to a huge amount of useful housing information.
- We have gathered feedback and views on issues of staff concerns through regular focus group meetings, goodwill visits, counseling/staff interviews, meetings and tea gatherings with staff associations.

## Staff Development

- In 2011/12, our staff received an average number of training hours of 31.2, which is extremely well compared with the average private sector training hours of 19.1 per employee<sup>1</sup> in 2012.
- We continue to implement our Employee Wellness Programme to provide physical, emotional, social and occupational support to our staff.



Hiking activity at Clear Water Bay Country Park

## Our Economic Performance

We set 4 economic performance targets for 2011/12 including rent adjustment, vacancy rate minimisation, tenancy abuse prevention and preventive maintenance, restoration and improvement. All of these targets were fully met. Our economic performance in this year is highlighted below:

### Initiatives in Planning and Construction of New Housing Estates

#### Planning and Design

- Our new estates have been planned in a comprehensive manner, taking into consideration the local community and the Government requirements, with an aim to providing the essential facilities while optimising the development potential.

<sup>1</sup> From *2012 Training and Development Needs Survey* conducted by the Hong Kong Institute of Human Resource Management.



Kwai Luen Estate (left) and Shatin Pass Estate (right) incorporating non-standard design

- In 2011/12, we have constructed about 11 200 PRH flats, 1 500 square metres of gross floor area for retail facilities, and 460 car / lorry parking spaces.
- We continuously work with all concerned Government departments to identify suitable sites for future public housing development.
- The HA's largest integrated commercial centre Domain, a new landmark in Kowloon East, is scheduled to launch by end of 2012 to offer a great variety of attractions for the public.
- We widened the application of the Building Information Modelling in all disciplines for better planning, design and construction of selected projects.

## Procurement Practices

- To continue improving procurement practices and raise service standards through tendering scoring measures, we have employed a two envelop tendering system for complex building and piling contracts.
- We have started to conduct writ search during short listing and tender assessment for the lowest three tenders or top three scorers of works contracts since 2009, in order to ensure financial capability of contractors or service providers.
- We participated in the Construction Industry Council Task Force on domestic sub-contract documentation, to develop a draft regarding the standard domestic sub-contract conditions for general application to major trades and domestic sub-contracts.

## Construction

- To strengthen the upstream quality control of building materials and components, we have implemented product certification in stages, including timber doors, panel wall partitions, tile adhesives, ceramic tiles, repair mortars, aluminum windows, and cement products.
- We have included the application of Radio Frequency Identification in new building contracts to help tracking the logistics and workflow on a number of key building components.

## Initiatives in Existing Housing Estates

### Optimising Resources Use

- As at the end of March 2012, the average waiting time (AWT) for general Waiting List applicants (excluding non-elderly one-person applicants under the Quota and Points System) was 2.6 years, while the AWT for elderly one-person applicants was 1.3 years.
- A total of about 820 overcrowded families moved into larger size units, which reduced the total number of “overcrowded” households to 3 190 (0.45% of all PRH households) by 31 March 2012.
- About 5 160 families benefited from the Internal Transfer Scheme (within the same estate) and Special Transfer Scheme (between different estates).
- In 2011/12, the Public Housing Resources Management Sub-section conducted thorough income and assets checks on some 5 800 households and investigated about 8 500 occupancy-related cases to combat tenancy abuse.
- We conduct a review of the PRH rent every two years.
- There were close to 11 800 families receiving assistance from our Rent Assistance Scheme by the end of March 2012.
- The standard tenancy agreements for commercial premises were strengthened to tackle cases of non-trading during normal business hours as well as abate abusive use in retail premises.
- The HA has conducted a number of strengths-weaknesses-opportunities-threats (SWOT) analyses on the retail and car parking premises to identify room for improvement and optimise their resources.

### Operation with Cost-effectiveness

- As part of the efforts to maintain aged PRH estates, we performed the comprehensive structural investigation in three estates, i.e. Hing Wah (II), Cheung Ching and Nam Shan in the year.



Cheung Ching Estate

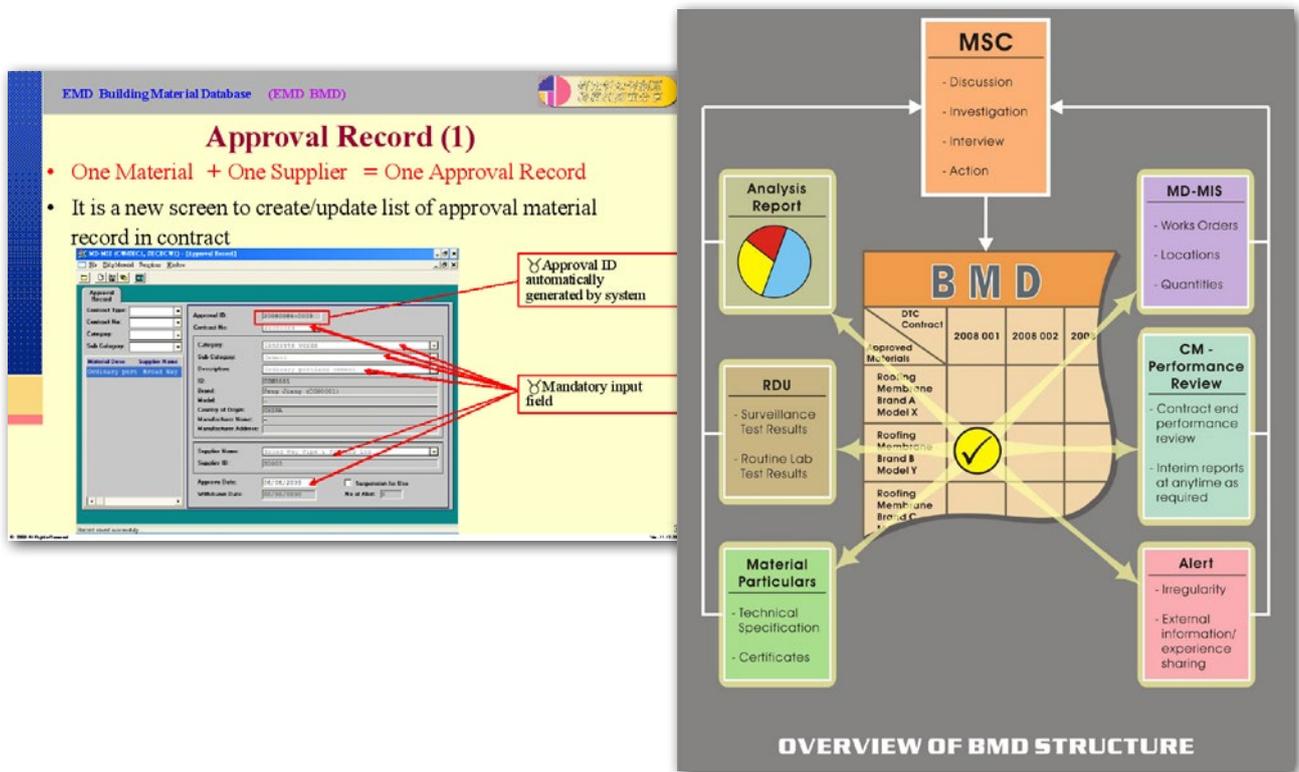


Hing Wah (II) Estate



Nam Shan Estate

- The Building Materials Database System, an enhancement to the Maintenance Division Management Information System, was launched in June 2011.



Building Materials Database System

## Initiatives in Office at Work

- As at 31 March 2012, the HA's available investment funds stood at HK\$ 69 235 million, a decrease by HK\$190 million as compared to 31 March 2011.
- During the year, the recurrent expenditure of the HA was HK\$ 12 807 million, i.e. 1 796 million lower than 2010/11.
- We regularly review the manpower plan and human resources management policy, making suitable re-deployment where practical to meet the additional staffing requirements arising from implementation of new initiatives and changes in service needs.
- We applied various new initiatives on information technology (IT) to improve operational efficiency and enhance customer service such as developing an interface to connect the Enterprise Resource Planning and the Housing Construction Management Enterprise System to enhance the functions of budgeting, payment and knowledge management.
- We benchmarked our implementation of the best practices in the management of IT operations and service delivery with the requirements of the relevant international standards, and performed the external audit for ISO 20000 certification in March 2012.

## Way Forward

As a Government agency to develop, implement and oversee public housing programme in Hong Kong, we strive to meet our quantitative flat production target and enhance the sustainability of the local public housing. Every year, we set challenging yet realistic environmental, social and economic targets in pursuit of sustainability excellence. In 2012/13, we have set 60 targets to gauge our performance. Our key targets are outlined below:

### To promote sustainability issues

- We will launch a wide range of programmes to promote environmental awareness to our staff, construction partners, tenants and the community.
- We continue to conduct various initiatives to have active communication with our staff and our stakeholders to obtain feedback to enhance operational effectiveness.

### To improve energy efficiency

- We continue to adopt the Building Energy Codes to design new building services installations and implement a number of electricity saving measures as well as conduct carbon audit.
- We continue to promote applications of more energy efficient equipment and green design for building services equipment, including conducting carbon emission estimation and energy estimation for projects with domestic blocks at detailed design stage.

### To enhance greening and landscaping

- We will increase the greening areas in estates gradually by introducing green treatments in different areas; and organising green programmes or activities such as tree planting and hydro-seeding.
- We will incorporate various green and landscaping design into our housing development projects.

### To conserve material usage and control hazardous materials

- We will enhance the use of “green” materials and components including the use of softwood timber from sustainable source.
- We continue to control hazardous materials to minimise harm to the environment.

## To maintain our waste management practices

- We continue to facilitate and encourage more residents to separate their waste for recycling by implementing the Source Separation of Domestic Waste Programme in PRH estates.
- We will organise more publicity campaigns in estates to reduce domestic waste generation and increase recovery rate of paper, aluminium cans, plastic bottles and used clothes.

## To reduce water consumption

- We will reduce flushing water consumption by conducting research on materials and standards and recommending way forward.
- We will reduce irrigation water consumption by providing rain water harvesting system in new public housing developments.

## To uphold our social contribution

- We continue to implement the Marking Scheme for Estate Management Enforcement in all PRH estates and non-domestic premises to enhance the living and business environments.
- We continue to actively communicate with the stakeholders to promote better understanding of our policies and initiatives.

## To lessen site safety risk

- We continue to tighten monitoring of contractors with high accident rates as well as the control measures for high-risk operations on site through procurement strategy and performance monitoring mechanism to improve the safety of operations which are with potential health and safety risks.
- We continue to raise site safety awareness through stakeholders' engagement in training and promotion events.

## To enhance our economic performance

- We continue to minimise the vacancy of PRH estates as well as carry out tenancy control and education campaign to combat tenancy abuse.
- We will conduct the assessment of the conditions of old estates to enhance their preventive maintenance and restoration.