

# Environmental Report 2002/2003

Long-term Goal of Sustainable Housing

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To achieve our **long-term goal of sustainable housing**,  
the Hong Kong Housing Authority is working to –

- provide and improve the quality of the living environment for our residents and the community given the high-rise and high-density nature of Hong Kong;
- facilitate, through building design and community events, greater positive and inclusive social interaction for the benefit and well-being of our residents and tenants;
- recognize and address the needs of tenants in special need such as the elderly and persons with disabilities;
- encourage our residents, commercial tenants, and all our suppliers and contractors to be more environmentally conscious in their actions;
- ensure that our staff are aware of their responsibilities and impact of their actions on the environment;
- develop a more “customer-focused” approach in the provision of our developments; and
- design, build, manage, maintain and demolish our developments with the most cost-effective use of our resources.

# Environmental Policy

The Hong Kong Housing Authority (**HA**) is committed to continually improving the environmental standards in the provision of public housing and related services. In achieving this objective, the HA has adopted the following environmental principles –

- **To promote healthy living and a green environment.**
- **To develop a strategic framework and implement environmental management for the promotion of sustainable development.**
- **To strictly comply with and fully implement all relevant environmental legislation and regulations.**
- **To address environmental concerns and incorporate environmental initiatives in planning and design, construction and demolition, marketing and estate management activities.**
- **To minimize environmental impacts (air, dust, noise, waste and water) to residents and public from the HA's operations.**
- **To develop procurement policies to minimize the use of resources and achieve cost effectiveness.**
- **To promote environmental awareness and participation among staff, residents and contractors through education and publicity programmes.**
- **To review and seek continual improvement on the implementation of an environmental management system.**

As from July 2002, the Permanent Secretary for Housing, Planning and Lands (Housing) cum Director of Housing, supported by the Housing Department Environmental Committee (**HDEC**), is responsible for ensuring that all HA's business operations follow the relevant environmental policy objectives.

Our Environmental Policy is made known to all our staff and business partners, such as contractors, consultants and suppliers.

# About This Report

**Our Environmental Report is one of the most important reports we produce**

This Environmental Report, "Meeting Environmental Challenges for a Sustainable Future", covers our environmental performance for the 12 months from 1 April 2002 to 31 March 2003. In this report, we show you the many steps we have been taking in addressing the environmental issues concerning our operations. We also set out the way forward with future initiatives for moving towards greater sustainability.

Our Environmental Report is one of the most important reports we produce. The first report was published in 2000 and since then we have produced one every year. This year's report is therefore our fourth. And for the first time, we have not printed our environmental report in hard copy. Instead, we have opted for production on CD-ROM and on our website. This is an illustration of how our response to your feedback has resulted in further efforts to reduce environmental impact.

The wide target audience for this report includes residents in our estates, our business partners, our staff and other interested parties such as green groups, legislators, other government departments, the media and educational institutions. We aim to provide a right balance of information for our many stakeholder groups. We have given serious consideration to feedback received on the previous report (see **Annex A**) and encourage you to take a minute in sending us your valuable comments on this report.

## Theme

Throughout this report we have put emphasis on environmental sustainability. This is to reflect our recognition of the importance of contributing to sustainable development and our firm commitment and vision to improving our environmental performance for this purpose.

## New Reporting Initiatives

Each year, we make a concerted effort to improve the relevance and transparency of our environmental reporting. This year, for instance, we try to explain our environmental performance with the help of benchmark information. This is to show you how our efforts match the key environmental issues facing Hong Kong and to show how our achievements compare with others'. To collect this additional information, we have researched the local and international literature available in the public domain; mainly other environmental reports and government information. At our request, our counterparts in other government departments and similar organizations have provided us useful data.

To benchmark our achievements, we have focused our research on the following key areas –

- Compliance with legal and other accepted standards.
- Best practice in government and housing development related business.
- Background information to place our performance data into context.

Because environmental reporting by government and by organizations similar to ours is in its relatively early stages, we encountered some difficulties in gathering targeted information. In the years ahead, we intend to further strengthen our benchmarking as more information relevant to our environmental reporting becomes available.

# Message from the Chairman



Achievements made  
in environmental  
protection give me  
good cause  
for optimism for  
our future development

The Housing Authority endeavours to find practical as well as innovative solutions to the environmental challenges that it faces in its operation. In addition to providing affordable and quality homes for those in need, the Authority protects the local and adjoining environments of the housing estates for the well-being of the residents and the community at large.

The achievements we have made with concerted efforts in environmental protection give me good cause for optimism for our future development. I am confident that we are now in a better position than ever to make optimum use of our resources and to operate with even greater contribution towards sustainability. In this regard, I would like to express my heartfelt gratitude to our stakeholders for their active participation and strong support.

This report tells what we have done in our business operation to attain the distinguished results in environmental protection and to insure continued success. I am certain that the efforts we have made in meeting the environmental challenges of today will bring numerous benefits to the community and our environment in the future.

A handwritten signature in black ink, which appears to read "Michael Suen". The signature is fluid and cursive.

**Michael SUEN Ming-yeung**

Chairman

# Message from the Permanent Secretary



We always balance the objectives of providing quality products for our tenants as well as safeguarding the environment

Throughout the years, the Housing Authority has worked hard to provide public housing for the people of Hong Kong and our achievements are acknowledged by all. In the course of implementing our building programme, we have been mindful of the need to protect our environment.

From planning to scheme design of our housing estates and from estate management to maintenance, the Housing Authority has adopted the guiding principle of minimizing waste and maximizing resources. We have always balanced the objectives of providing quality products for our tenants as well as safeguarding the environment.

The provision of a sustainable living environment is the Authority's commitment and long-term goal and is demonstrated in this report. We would continue to adopt a pragmatic and proactive attitude in translating our commitment into tangible benefits for our next generation.

A handwritten signature in black ink, appearing to read 'LEUNG Chin-man', with a stylized flourish at the end.

**LEUNG Chin-man**

Permanent Secretary for Housing, Planning and Lands (Housing)

# Business Overview

## and Environmental Management Structure

We are the largest residential developer and landlord in Hong Kong

### Our Role

Our business is to meet the public housing needs of Hong Kong. Through our staff of 10 800, we plan, build and manage public housing and associated amenities such as shopping centres and recreational facilities. As such, we are the largest residential developer and landlord in Hong Kong. With this large role comes a large responsibility to provide a quality living environment and ensure progress towards environmental sustainability.

### Housing Stock

As at 31 March 2003, our housing stock was 1 051 600 flats. Of these, 61% were for public rental housing. We also owned 1.42 million m<sup>2</sup> of commercial premises and operated 100 600 car park spaces. Our premises cover about 14 km<sup>2</sup> of land. This is about 8% of the developed land in Hong Kong or about a quarter of the total land used for residential areas. (SOURCE: PLANNING DEPARTMENT)

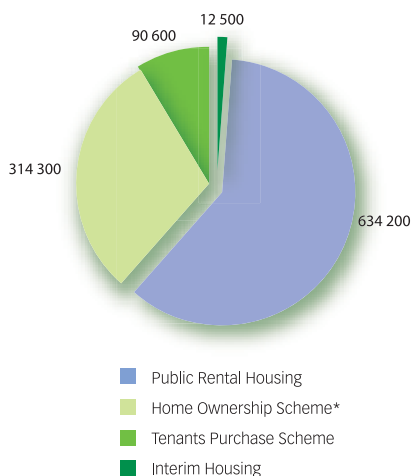
In 2002/2003, we produced 29 000 flats, mostly for public rental housing. This was about 40% of the total number produced in Hong Kong in the same period. (SOURCE: CENSUS & STATISTICS DEPARTMENT (CSD))

### Housing Provision

Nearly half (44.7%) of Hong Kong families live in homes rented or bought from us. As at 31 March 2003, 608 600 households (28% of Hong Kong families) lived in HA rental housing estates<sup>Note 1</sup>. Another 356 400 families (17%) resided in homes purchased through our various subsidized home ownership schemes<sup>Note 2</sup>.

Note 1 – Including Interim Housing but excluding Tenants Purchase Scheme sold flats.  
 Note 2 – Including flats sold under Tenants Purchase Scheme.

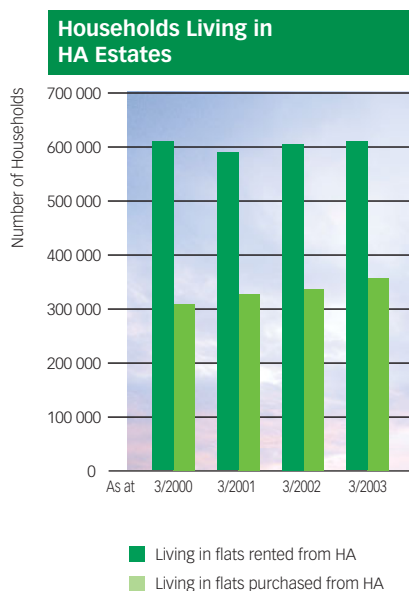
HA Housing Stock as at 31/3/2003 (Number of Flats)



\* Refers to Private Sector Participation Scheme / Middle Income Housing Scheme / Buy or Rent Option Scheme / Mortgage Subsidy Scheme flats including those that are re-saleable in the open market



## Environmental Management



A major consideration in our operations is ensuring that all the environmental aspects of our activities are handled properly. We work hard to ensure effective environmental management and to seek continual improvements in our environmental performance. In 2000, independent specialists audited our Environmental Management System (EMS). In line with their recommendations, the basis of our EMS is that each of our divisions has strong responsibility for environmental control over its own functions and activities.

Environmental management is led by the HDEC, which is supported by Division Environmental Committees and Specialist Working Groups. Our Environmental Management Unit coordinates activities within this environmental management structure. The purpose of the Specialist Working Groups is to address cross-divisional issues and provide specialist advice such as on air quality, noise and energy.

## EMS Improvement

We place great importance on continually enhancing our EMS. We recognize that strong environmental management drives environmental performance. For this reason, we will arrange another external audit of our EMS by independent specialists in the coming year. We will use this opportunity to enhance our EMS to be more consistent with the ISO14001 International Standard.



## Housing Department Environmental Committee

The HDEC is made up of the top management staff from each division to oversee and direct environmental management activities. By keeping a close watch on the environmental performance of the Housing Department, the HDEC ensures the necessary improvement initiatives are implemented.

The Chairman of the HDEC is the Deputy Director of Business Development. The HDEC reports on the status of our environmental performance to the HA.



**Seated from left** Mr Vincent Tong, Chairman, Deputy Director of Business Development  
Mr TC Yuen, Member, Deputy Director of Allocation and Commercial

**Standing from left** Mr MK Yung, Secretary, Senior Manager, Environmental Management  
Mr Daniel Lee, Assistant Director (Development) representing Member,  
Deputy Director of Construction  
Mr Sardara Dillon, Assistant Director (Administration) representing Member,  
Deputy Director of Corporate Services  
Mr KH Lau, Member, Deputy Director of Estate Management

# Significant

# Environmental Aspects

At each stage of our business, our operations interact with the environment. To ensure effective control, we need to understand and monitor our environmental impacts. Therefore, we regularly examine our operations and have a dedicated system under our EMS for identifying and evaluating our environmental impacts. Information on our environmental aspects is carefully documented in a central register under our EMS.

We maintain key information concerning our environmental aspects on an electronic Environmental Information System (**Envis**). This central resource is an interactive tool to allow managers to track environmental improvement initiatives. In the past year, each Division Environmental Committee has further enhanced these records.



# Performance Review



Our improved environmental performance contributes to a better environment for Hong Kong

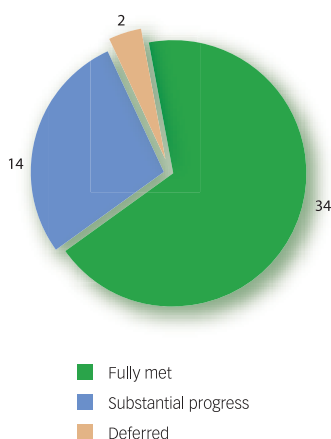
Over the past year, we have continued to translate our environmental commitment and vision into actions. Through implementing environmental improvement initiatives and reducing the environmental impacts of our operations, we are also contributing to a better environment for Hong Kong. We recognize that to meet the environmental challenges and to achieve greater environmental sustainability means working together with our stakeholders, including our residents and business partners. In this chapter, we show you how our joint concerted efforts have led to improved environmental performance.

## Meeting Environmental Targets

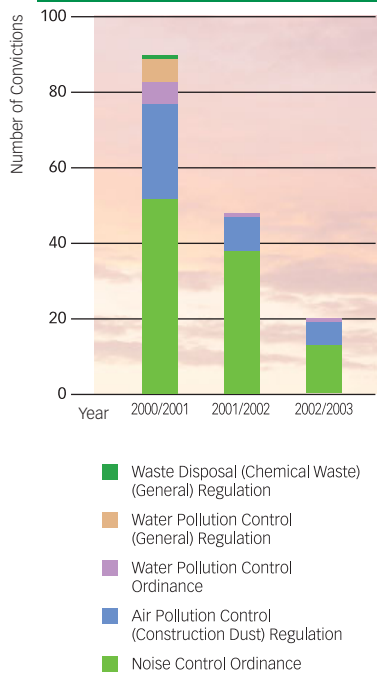
In our drive for ever better environmental performance and enhanced sustainability, each year we set ourselves a range of challenging environmental targets. We also introduce and develop new initiatives in line with our overall environmental improvement strategy.

In our last environmental report, we set out 53 targets for 2002/2003. Of these, we fully met 34 and made substantial progress with work nearing completion on a further 14. Due to some unforeseen complications and factors outside our control, we had to defer two. Another three targets set last year were discontinued owing to fiscal or other constraints. Overall, this means we fully or nearly met 96% of our ultimate environmental targets. This represents another step forward on our journey to better environmental achievements. For a closer look at how well we met each of our targets, we present the details in **Annex B**.

Achievement of Environmental Performance Targets



### Environmental Convictions against HA Construction Sites



## Legislative Compliance

Contractors we hired have continued to strengthen pollution controls on our construction sites. Last year convictions for environmental offences on our construction sites fell to 20. Most (about two thirds) were for breaching the Noise Control Ordinance. This is a drop of more than half compared to the number of offences committed in the previous year. It also means contractors committed only one offence for every 1 470 flats produced, which is a big improvement over one offence committed for every 840 flats produced in the previous year.

Compared with the local construction industry as a whole, contractors on our construction sites have shown better improvement in their rate of compliance with environmental regulations. Convictions against Hong Kong’s construction industry have fallen 56% from the historic high of 726 in 2000 to 317 in 2002. (SOURCE: ENVIRONMENTAL PROTECTION DEPARTMENT (EPD)). By comparison, over a comparable period, our contractors committed 78% less environmental offences (from 90 down to 20).

We also keep a close watch on our Property Management Agents (PMA). In the past year, none were prosecuted for breaking environmental laws and no complaint on environmental issues was received by EPD.

## Building Environmental Performance

The Hong Kong Building Environmental Assessment Method (HK-BEAM) is a tool to measure, improve and label the environmental performance of new building developments in their planning, design, construction and commissioning. To achieve a HK-BEAM rating, developments must perform well over their entire “life-cycle”. In 2002/2003, we were pleased to be one of the first developers to achieve HK-BEAM certification for residential developments. In August 2002, our Yu Chui Court in Sha Tin, together with a residential development of a private developer, was the first ever to receive this certification (one of three certified in 2002/2003). Our office headquarters are also certified (one of the 30 existing office premises certified in Hong Kong). We continue to work toward HK-BEAM rating for more of our new projects, and in the past year, we have enrolled a further seven non-standard developments for pilot assessment against the HK-BEAM building performance standard.

# Water



*Conserving water resources is an important way we can contribute to greater environmental sustainability*

## Safeguarding Potable Water Quality

To protect and enhance the quality of tap water reaching our residents, we have continued to replace the galvanized iron piping in our older estates. As these original pipes get older, they can sometimes discolour the water that flows through them. Our solution is a proactive one and involves a systematic programme for replumbing entire housing blocks using modern copper or uPVC-lined water pipes. In the past year, these replumbing works were completed for another 65 blocks. This makes a total of 683 blocks replumbed so far.

## Fresh Water Quality Scheme

To offer our residents better peace of mind on potable water quality in our estates, we have decided that all our housing estates (on an individual block basis) will join the 'Fresh

Water Plumbing Quality Maintenance Recognition Scheme' run by the Water Supplies Department (**WSD**). This Scheme involves regular monitoring of each block's water supply system with water analysis done in accredited laboratories. We have made plans to enter our housing blocks in three batches and expect the first batch (a third of our housing blocks) to be independently certified by the end of March 2004.

## Reducing Water Wastage

Only about a quarter of the Hong Kong water supply is from local rainfall while the rest is piped in from Guangdong. Furthermore, more than a third of the fresh water supply in Hong Kong is lost through leakage before it reaches the consumer (SOURCE: THE UNIVERSITY OF HONG KONG). So conserving water resources is an important way we can contribute to greater environmental sustainability.

*Systematic replumbing programme to cut down water leakage and pipes bursting*



In the past year, we have continued our work to help save water and prevent water wastage on our premises –

- We worked with our contractors to ensure large volumes were saved on our construction sites by using water recycling systems for bored piling works (a construction method with high water demand).
- Over the past year, 50% of our piling sites used water recycling systems, compared to 20% in the previous year. We are also continuing to work with the Hong Kong Construction Association (**HKCA**) on widening the use of water recycling systems.
- We completed a review on the effectiveness of waste management plans on reducing water wastage in building, demolition and piling works.
- In our estates, we have continued our replumbing programme to cut down on leaks and pipes bursting. We also installed isolation valves and check meters in another four estates (or 149 estates to date). In the past year, we recorded a 0.61% reduction in freshwater consumption from outlets under our control.
- We have continued our research on water saving devices and fittings and are arranging trial installations of innovative new products in our existing estates to find out in more detail their performance.
- All our shopping centres built last year were fitted with self-stopping taps (now a mandatory requirement from WSD).



Waste water recycling system on a construction site



Waste water recycling system for bored piling



Performance Review



*We recorded a **0.61%** reduction in freshwater consumption from outlets under our control*

# Environmental Hygiene

*We continue our full support and efforts for a clean living environment in our estates*

## Anti-Mosquito Measures

In the past year, we stepped up anti-mosquito measures to help keep dengue fever at bay. To guard the community from this mosquito-transmitted disease, we ask all estate management and site supervision staff to conduct daily inspections. We are also sending our managers to visit estates and shopping centres to ensure staff there are alert and are taking all the necessary preventative measures. In late 2002, our Task Force Inspection Teams were brought into action to conduct weekly checks of our premises and construction sites to make

sure that preventative measures are in force. All our anti-mosquito efforts are co-ordinated with the Food and Environmental Hygiene Department (**FEHD**). For instance, we held two briefing sessions and invited experts from the Department of Health and FEHD to update estate management and site staff, contractors and property management companies on preventive measures. About 300 staff attended. The estate managers are also regularly updated on FEHD's Ovitrap surveys and special attention is paid to areas with a high mosquito breeding index. We also distribute leaflets and posters to estates and construction sites and provide all front-line staff with inspection checklists and guidance information to ensure our efforts for FEHD's territory-wide Anti-mosquito Campaign 2003 are effective.

## Other Measures for a Clean Living Environment

We recognize the importance of paying close attention to maintaining cleanliness on our estates. Our property managers continue to monitor the performance of cleansing contractors against the contract requirements so as to ensure an acceptable standard of cleanliness in public areas.

We also routinely conduct site audits on our construction sites. These inspections include checking on hygienic conditions such as proper



*Deputy Director, Construction accompanied by the Anti-mosquito Task Force Inspection Team inspected the preventive measures at a construction site in Kwai Chung (2002)*



sanitary facilities for construction workers are maintained.

In the coming year, we will give our full support to territory-wide efforts by Team Clean for maintaining a clean and healthy environment.

## Automatic Refuse Collection Systems

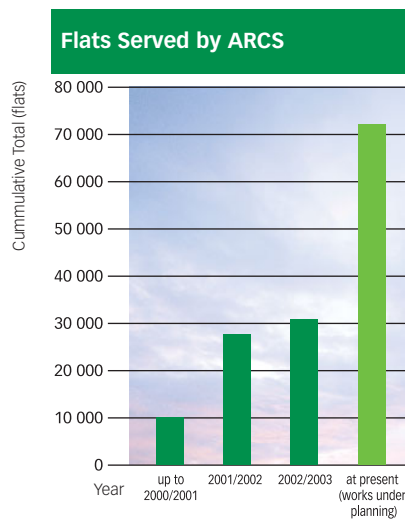
Last year we finished installing Automated Refuse Collection Systems (ARCS) in two new projects serving another 3 195 flats (or a total of 30 500 flats to date). The ARCS is a high technology solution to making refuse collection and segregation in buildings easier and more hygienic for everyone. A further 19 projects are being planned that on completion will increase the number of flats served by about another 41 100.



Central refuse collection station in operation



"Operation Tai Ping Tei 2003" launched by Assistant Directors of Estate Management Division at Choi Hung Estate In January 2003



Performance Review

Regular application of environmentally friendly pesticide into drains to ensure a clean living environment in housing estates



# AIR

*We made modifications in our existing shopping centres to improve indoor air quality*

## Enhancing Indoor Air Quality

We are fully aware that tracking and maintaining indoor air quality is an integral part of good building management. After all, on average, people in Hong Kong spend about 70% of their time indoors. Last year, we began tracking indoor air quality at our shopping centres, and we made some modifications in our existing shopping centres to improve indoor air quality. The application of a desiccant dehumidifying system in Hin Keng Market with central air-conditioning was awarded the certificate of merit under the "Green Innovative Practice"



*Improvement in air quality of wet market after installation of deodorizing and disinfectant lighting system*



*Installation of gas desiccant dehumidification system*



in the 2002 Hong Kong Eco-Business Awards. In the coming year, we will plan for necessary air quality enhancement actions based on Indoor Air Quality standards. The standards (i.e. the Guidance Notes for the Management of Indoor Air Quality in Offices and Public Areas) were endorsed by the Indoor Air Quality Management Group of Environment, Transport and Works Bureau (ETWB) and launched in September 2003.

To carry forward our air quality enhancement initiatives, our Air Working Group is tasked with establishing policies and procedures for air quality inspection, certification and maintenance of our existing premises including shopping centres and markets.

We have continued to enhance the design of our new shopping centres to protect air quality. In the past year, we adopted EPD's advisory guidance notes in our Commercial Centre Design Guide for better protecting against nuisance from oily fumes and cooking odours from restaurants and other food outlets. We also made use of new biological technology (BioTech) for odour abatement. BioTech systems have been installed in large refuse storage areas at several housing estates in which the prevailing odour problem has been

effectively resolved. Packaged-type deodorizers that harness the latest technologies in our purification are also deployed to some small refuse storage areas of our estates for the same purpose.



Performance Review



Configuration of BioTech system

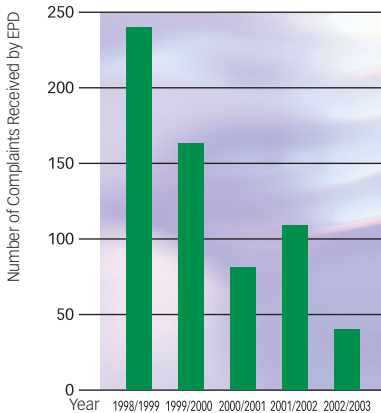


Green Innovative Practice Award for application of desiccant dehumidifying system was presented at the HK Eco-Business Awards Ceremony

# NOISE

*We pay close attention to ensuring our residents and the public receive protection against noise nuisance*

**Noise Complaints Against HA Construction Sites**



## Noise Complaints

We continually track our contractors' environmental performance. In 2002/2003, the public lodged 40 complaints concerning noise from contractors on our construction sites. This was less than half the number received in the previous year and the lowest in the past five years. This figure also represents about 1.5% of the noise complaints against the construction industry recorded in 2002 (SOURCE: EPD).

The reduction in noise from our construction sites was also reflected by better compliance with noise control legislation. In 2002/2003, our contractors incurred about 66% less noise convictions than the previous year (13 compared to 38). By comparison, between 2001 and 2002, the construction industry as a whole incurred 19% less (195, down from 240).

## Hydraulic Pile Jacking

We continue our efforts to reduce noise from our construction activities. In 2001/ 2002, we worked with contractors to test hydraulic pile jacking, and in the process set a record by jacking the biggest pile load ever. Instead of hammering piles into the ground, which generates a lot of noise, hydraulic piling literally presses down the piles with very little noise or vibration. We aim to bring this new technology into wider use and will continue to test its performance under real site



*The trial of hydraulic jacking method at redevelopment of Un Chau Estate in 2002 was successful and cost effective in noise reduction*

conditions and find ways to overcome any remaining technical issues. We will continue to liaise with the Buildings Department (**BD**) on wider use of the technology. In the coming year, we plan a full-scale test of hydraulic pile jacking on one of our construction sites.

## Hydraulic Crushers

Using hydraulic crushers for demolition works is an effective way for reducing noise nuisance to our residents and the public. Instead of using a breaker to hammer at concrete, this method clamps and crushes, which is much quieter. We are phasing in this quieter demolition technology. And in the past year, we made it mandatory for the contractor to use this technique on a project identified as having high noise nuisance concern. We plan to get our contractors to use it more as new demolition projects arise.



*Hydraulic concrete crushers significantly reduce noise nuisance from demolition works*

## Prefabrication to Reduce Noise from Construction Sites

Manufacturing prefabricated building elements is a good all-round way for removing environmental impacts from our construction sites. Among the main



*Prefabricated building elements in motion*

environmental benefits is avoiding noise that may otherwise occur on-site during concrete compacting activities. In the past year, our use of pre-cast building elements included bathrooms for new developments. We are also extending the use to kitchens for some projects. About 17-20% (by volume of concrete) of our newly built housing blocks consist of pre-cast building elements. In the coming year, we will continue to work with contractors to increase the use of pre-cast elements. We have also arranged to fund research into using self-compacting concrete that would reduce the need for carrying out noise-generating concrete compacting works.

## Guarding against Noise on Estates

In designing and maintaining our estates and shopping centres, we pay close attention to ensuring our residents and the public receive protection against noise nuisance. For instance –

- We conduct noise assessments for all our projects, which means adjusting our building plans and layouts to better guard against surrounding noise such as from roads.
- We use the latest EPD guidelines for installing noise barriers for protecting residents from traffic noise.
- All noisy equipment on our premises such as emergency power generators and air conditioning chillers are housed inside acoustic enclosures and have noise silencers.
- We hold regular inspections of building services plant rooms that include checking noise.

In the past year, our work to minimize pump room noise on estates has continued. This programme involves replacing the existing 3 000rpm water pumps with quieter 1 500 rpm ones. We completed these replacement works for another 28 water pumps (110 pumps replaced since 2000/2001). Monitoring of these pumps shows they are performing well.



*Air conditioning chillers housed in acoustic enclosure with noise silencer*



## Noise Abatement Notice

During the past year, EPD issued us three noise abatement notices telling us to fix noisy building services equipment (two for shopping centres and one for an estate). We completed all the corrective measures in the required time.

*Regular noise checking for protecting our residents from traffic noise*



# Energy

We continually seek ways to improve energy efficiency

## Measures on Energy Efficiency

Over the past year, we have implemented the following measures to increase energy efficiency and enhance energy management of our premises –

- We continued efforts to make lighting in communal areas more energy efficient. We have been studying ways to lower the illumination levels in lift lobbies, corridors and staircases to in line with those commonly adopted in private developments.
- We revised our domestic block design to incorporate photocell lighting control for communal areas where applicable. With this control system, lights will be switched off if there is sufficient daylight.
- We completed a trial on using photocell control of external public lighting in eight estates.
- We changed the specification for interior fitting-out of lifts so that they are lighter and require less energy to operate.
- We conducted an energy efficiency study on five of our shopping centres. This study involved setting benchmarks on energy efficiency by taking account of practices in the private sector. In the coming year, we will use the results to optimize energy efficiency for our air-conditioning, lighting and building designs.
- We completed a review to see how well two pilot projects with non-standard buildings complied with Building Energy Codes.
- We enhanced the energy efficiency of a further 13 of our car parks by fitting the lighting with electronic ballast. We also completed a trial on electronic ballast installation in our headquarters' carpark.



Auto lighting using photocell control system for external area in Oi Man Estate (2002)



Design of lift lobby optimized with natural lighting



## Renewable Energy

For the long term and for greater sustainability, our Energy Working Group will continue looking into the feasibility and practicality of adopting more energy efficient equipment in public housing estates. In seeking greater energy efficiency, we will monitor the development of applications of renewable energy in Hong Kong and ensure initiatives adhere to government policies on energy saving.

## Hong Kong Energy Efficiency Registration Scheme for Buildings

Through our efforts in 2001/2002, the standard block designs we now use are accredited with energy efficiency certification for lighting and electrical installations. We have established design guidelines for implementing Building Energy Codes in new development projects and registering the installations in the Scheme.

In the past year, we have further strengthened energy-saving features in the design of our new domestic blocks. By adopting Building Energy Codes, our new domestic blocks of 2002/2003 will use an estimated 6% less electricity than the designs used in 2000. In addition, two of our retro-fitted shopping centres were certified under the Scheme for lighting installation.

## Electricity Consumption

Though we are continuing to develop and implement more energy saving and management initiatives, our overall electricity consumption in the past year has increased by about 10% to about one billion kWh. This is about 2.6% of the total electricity consumption in Hong Kong in the same period (SOURCE: CSD).

Building installations (such as lifts, water pumps and lighting) for domestic properties are our biggest consumers of electricity (about 52% of the total in 2002/2003). Inevitably, this consumption continues to increase as we produce and service more flats and because new residential blocks are taller and use more energy for lifts and pumping water to reach the top floors.



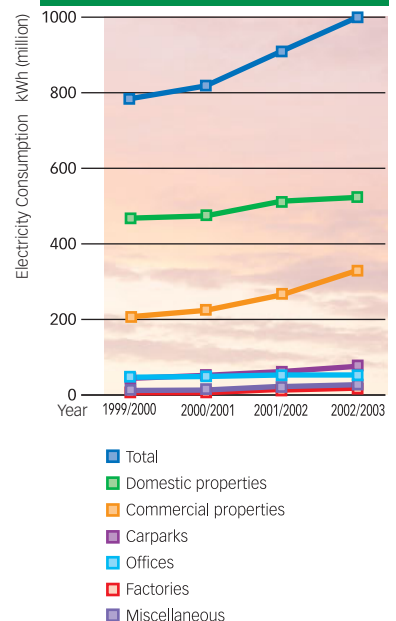
Electronic ballast in HAHQs carpark

In addition, energy requirements for buildings have risen in line with BD's Design Manual on Barrier Free Access. In spite of these reasons for seeing higher energy consumption for domestic properties, the increase in 2002/2003 was relatively small (66.77 to 67.89 kWh/flat/month or a 1.68% increase, which is less than that of the previous year). Similarly, energy consumption in our commercial properties has risen as we provide better services for enhancing the indoor environment (such as air-conditioning in shopping centres and wet markets). Energy consumption by our office operations fell 0.4%.



Performance Review

### Electricity Consumption in Public Areas and Offices



# Hazardous Materials

*We continue to make good progress in eliminating and controlling hazardous materials*

## Asbestos

Over the past year we have continued to make good progress in eliminating asbestos from our estates. We removed another 3% of asbestos. Since the start of our asbestos abatement programme in 1989, a total of 93.7% of known asbestos-containing materials has been removed. Work to remove asbestos is strictly controlled and carried out by professionally trained personnel according to the requirements of the Air Pollution Control Ordinance. We will continue to closely monitor the condition of the remaining asbestos until ongoing abatement works are complete.

Since 1999, we have been working closely with EPD to investigate the extent of asbestos in schools in our estates. A total of 255 schools have been surveyed and asbestos materials with potentially greater risk were completely removed. Last year we finalized asbestos management procedures for each school. As at 31 March 2003, EPD has given approval to the asbestos management plans for 64 schools. In the coming year, we will continue to work hard to finalize the rest. Our efforts to keep our schools safe from asbestos are in parallel with the same programme being conducted by the Architectural Services Department, which maintains all other government schools.



*Snapshots of trained workers removing asbestos-containing materials*



## Mercury-containing Lamps

In support of government-wide efforts to safely dispose of spent fluorescent lighting strips and other mercury-containing lamps, we have previously conducted run-through trials on their collection. In the past year, we have been making the further necessary arrangements for sending these lamps to EPD's Chemical Waste Treatment Centre at Tsing Yi for recycling. This has included opening accounts for each estate and arranging licensed contractors to pick up and transport the waste lamps. We will begin sending our mercury containing lamps when the facility is ready to take them in late 2003.

## Staying Safe

Since 2000, it has been a requirement for all contractors working on our construction sites to submit comprehensive waste management plans. These plans include procedures for ensuring all chemical or contaminated wastes are handled, stored and disposed of properly. In 2002/2003, as was the case in the year before, no offence by our contractors was recorded.

In the coming year, we plan to conduct a study to identify any hazardous processes in factory estates. Through this study, we will assess if there are potential risks of adverse environmental impact arising from the normal activities or accidents in the existing factories and how they can be better controlled and managed.



Performance Review

## No offence by our contractors was recorded



*Trials on collection and packaging of used fluorescent lighting tubes and transportation to the Chemical Waste Treatment Centre in Tsing Yi for recycling (2003)*

*Research to control the potential environmental hazards in flatted factories is underway*



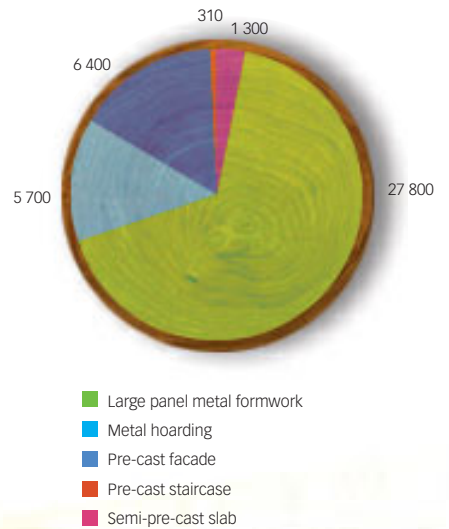
# Conserving Natural Resources

*We minimize our consumption of timber and other natural resources*

## Timber

We are fully aware that most timber used in the local construction industry comes from forests that are not managed for sustainability. Thus, for many years we have made a sustained effort to minimize our timber consumption. This includes insisting our contractors to use reusable metal hoardings, metal formwork and prefabricated building elements. These practices have saved about 41 510 tonnes of timber in the past two years (or about 1 066 510 tonnes of timber since the late 1980s). We have also started a trial to see if we can extend the use of metal formwork in trenching works. In addition, we have been devising more strategies for reducing our use

**Timber Savings by Construction Practice in 2002/2003 (tonnes)**



Reusable metal hoardings and metal formwork

of timber, especially tropical hardwoods. We have already started modifying specifications in contracts and intend to explore alternative materials. In the long term, we hope that our timber needs can be supplied from accredited sustainable sources.



## Pulverized Fuel Ash

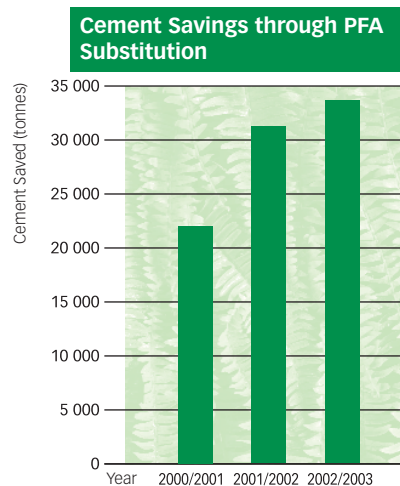
Using pulverized fuel ash (PFA) as a cement substitute has a twofold benefit for the environment. It is a way of recycling waste from Hong Kong's coal-fired power stations and it also reduces the demand for environmentally costly quarrying. Since 1990, every development we built has used PFA as a partial cement replacement in structural concrete for foundation works. We allow contractors to use up to 35% PFA for cement replacement in foundation works and 25% in certain superstructure elements, which saved about 33 600 tonnes of cement last year .

## Recycled Aggregates

Using recycled aggregates (RA) derived from existing construction and demolition (C&D) waste instead of from quarries is another step towards greater sustainability. Using RA reduces the amount of C&D waste disposed of at landfills and public fill. We have recently informed contractors that RA can be used in various external and non-structural works and as granular material in civil contracts. We have also conducted a study to investigate how we can increase the use of RA in our construction works. During the past year, our contractors used about 680 tonnes.



Samples of recycled aggregate



# Waste Reduction & Recycling



*We are actively promoting waste reduction, reuse and recycling throughout our operations*

## The Landfill Problem

A critical problem facing Hong Kong is that the landfills are filling up faster than expected. Landfills occupy 270 ha of land, cost HK\$6 billion to build and HK\$400M a year to operate. They could all be full within the next 10 years. Every year in Hong Kong, the construction industry as a whole produces about 14 million tonnes of C&D waste, most of which is reused in public fill and reclamation projects. On average, Hong Kong landfills take in six million tonnes of waste a year of which, about 38% is C&D waste (SOURCE: EPD). Records for our demolition and piling works showed we produced about 0.73 million tonnes of C&D waste in 2002/2003.



*Sorting of construction and demolition waste on site*

## Reducing Construction and Demolition Waste

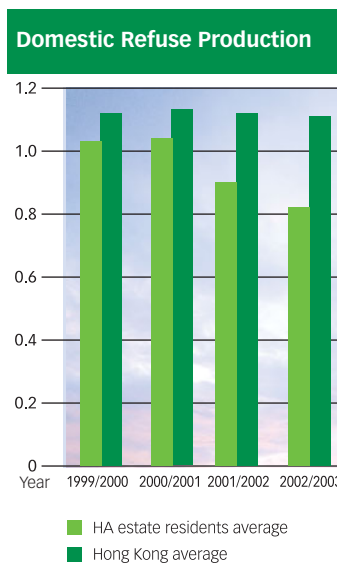
To help tackle this situation, we are making considerable efforts to minimize the amount of C&D waste our operations generate, and expand opportunities for its reuse and recycling as follows –

- All our contractors must carry out on-site sorting of C&D waste for easier reuse and recycling. On-site sorting is mandatory for all government demolition projects and became mandatory in 2003 for all other government project works.
- We are allowing greater use of RA and are conducting trials for extending its use.
- We use prefabricated building elements, which are produced off-site, to minimize on-site waste. To cut down concreting works on site, we are also investigating “volumetric pre-casting”.
- We have completed a study on the effectiveness of waste management practices in building and demolition works and have identified further ways for increasing reuse and recycling.
- For the coming year, we have arranged a trial on selective demolition for three school blocks. We will use the trial to look into the technical issues of enhancing collection of recyclable materials and minimizing potential contamination of inert demolition wastes to increase the amount that can be reused.

## Waste Reduction and Recycling in our Estates

Reducing and recycling the waste produced at home is a big help to reducing the amount of waste going to landfill. In addition, recycling leads to a reduced demand for natural resources needed to make new products. In the past year, we have continued to pursue waste reduction and recycling initiatives in our estates. Our residents have also continued to give their valuable support and again made substantial contributions for a better environment.

In the past year, each resident in our estates generated about 0.82 kg of refuse a day. This is about 8.9% less than the previous year, and is about 26% less than the Hong Kong average (SOURCE: EPD).

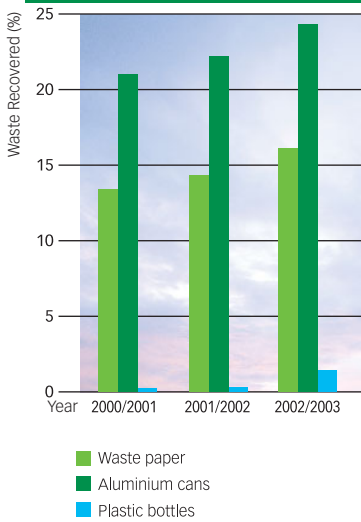


Performance Review



Waste Recycling Campaign in housing estates

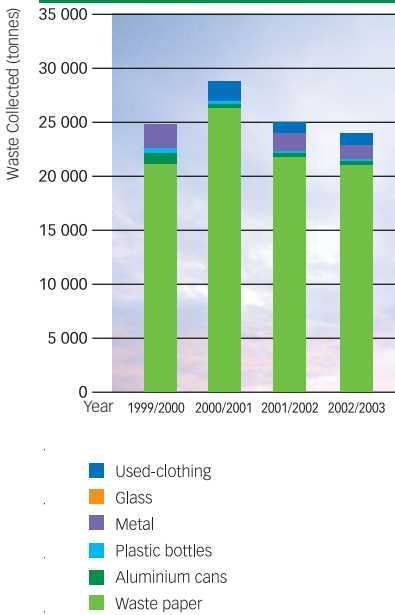
Waste Recovery Rate in HA Housing Estates



Our figures for 2002/2003 also show our residents have continued to increase the proportion of waste paper, aluminium cans and plastic bottles they put in the waste recycle bins. Also, of the clothes our residents threw away, about a third (31.3%) were donated to charities and green groups via collection bins in our estates<sup>Note 3</sup>. We continue to set challenging targets for further improving recovery rates for recyclables and will continue to work with our stakeholders to encourage and help our residents achieve even better results in future.

Last year our residents set aside a total of 24 000 tonnes of waste for recycling (about 3.8% less than the year before). The decline was partly due to residents' waste minimization effort so they had less waste to recycle. Also, as was the case last year, six more estates joined the Tenants Purchase Scheme. These estates, no longer under our management, joined the Waste Recycling Scheme for the private sector and so their recycling results are not reported here.

Recyclable Waste Collection



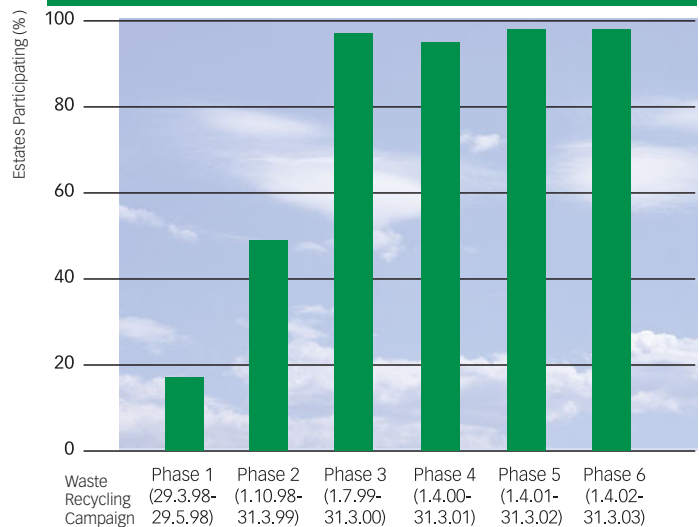
Earning Support

We continue to push for greater recycling in our estates by coordinating our efforts with the Environmental Campaign Committee (ECC) and EPD.

The participating schemes included –

- 154 of our occupied public rental estates joined Phase VI of the Waste Recycling Campaign coordinated by the ECC.
- 71.4% of our estates joined EPD's Regional Plastic Collection Scheme, compared to 61% the year before.
- We assisted EPD in a trial to recover plastic shopping bags from residents using convenience stores nearby our estates. The results have been good. In the coming year, we plan to extend this scheme.

Participation in the Waste Recycling Campaign



In addition, we launched Phase II of our Waste Reduction Credit Scheme for all households in our rental housing estates. This year-long competition is aimed at reducing domestic waste. Each household in the winning estates will be awarded a souvenir when the results are known.

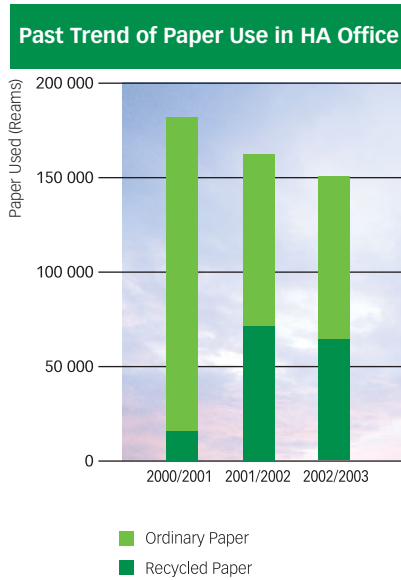
<sup>Note 3</sup> The charities and green groups are Kittiwake Social Service Association, Salvation Army, Friends of the Earth and The Conservancy Association.

## Convenient Access to Waste Recycle Bins

It is easier for our residents to use the waste recycle bins if they are close by. Following the success of trials in two estates, in the past year we have put specially designed waste recycle bins on each floor in another six estates. As at 31 March 2003, 26 300 families had convenient access to waste recycle bins.



Recycling bins placed in all estates



## Waste Reduction and Recycling in Offices

Each of our staff has continued to give strong support to waste reduction and recycling and other green initiatives in our offices. Over the past years, our employees have cut paper consumption to 12.1 reams of paper per staff (down from 12.3 in the previous year). Waste paper collected from our staff for recycling also went up by 4.4% (from 143 251kg to 149 564kg in the previous year).



Performance Review



The overall amount of paper used in our offices in 2002/2003 fell by 6.8% (down to about 150 600 from 161 700 reams in the previous year). Overall, our paper use is about 8% of the total amount used in Hong Kong Government offices as a whole (SOURCE: GOVERNMENT LOGISTICS DEPARTMENT (GLD)). In 2002/2003, 42.5% of the paper we used was from recycled sources compared to 21% used in government overall (SOURCE: GLD).



## Wastewi\$e Scheme

Over the past year, our staff have continued their efforts under the Wastewi\$e Scheme. This scheme, run by EPD, was launched in 2000 for encouraging all workplaces to get more involved in reducing waste. In 2001/2002, the HA was the first ever to be awarded a Gold Wastewi\$e Logo for the environmental efforts. At the end of 2002, 450 businesses and organizations were participating and 51 of these had received Certificate of Wastewi\$e Logo for meeting targets (SOURCE: EPD). In light of our continuing achievements under the Scheme, we were re-awarded the Gold Logo in the past year. For 2002/2003, achievements in our offices have included –

- Recycling toner cartridges (79% recycled).
- Switching to using pencils made with recycled materials instead of wooden ones (4 700 recycled pencils used).
- Using recycled paper to produce 53% of Estate Management Advisory Committee (EMAC) newsletters.

## Environmentally Friendly Publication

In the past year, all our corporate communication and publicity materials were produced using recycled paper. For sales and marketing publications, we were able to cut the amount of paper consumed for HOS brochures by 80% by making the information available on the HA Website. Of the HOS brochures that were printed, 48% were produced with environmentally friendly paper. Similarly, 90% of Tenant Purchase Scheme brochures and 50% of Home Assistance Loan Scheme brochures were printed on recycled paper.



## Paperless Operations

We have been further reducing paper use in our office work. Following the initiative of the then Government Supplies Department (now is merged under GLD) who launched their electronic tendering system in 2000, we also started last year developing e-access to full details of commercial premises available for tender and on-line tendering.



HA Website for public access



# Greening

*We continue to provide more greenery and landscaping in our estates and surrounding slopes*

In a dense urban environment such as Hong Kong, having more green open spaces is important to make the living environment more attractive and comfortable. We continue our extensive efforts to provide more greenery and landscaping in our estates and to enhance the surrounding slopes for the benefit of residents. For our existing estates, in the past year, we planted –

- Annuals, shrubs, and trees covering 113 000m<sup>2</sup> (up from 110 700 m<sup>2</sup> the year before or about 37.7% of the landscape area upgraded by the Leisure and Cultural Services Department (**LCSD**) in 2002) (SOURCE:LCSD).
- 970 trees.
- 90 000 seasonal flowers including 20 000 put on display at festival times.



Greening improvement in Oi Man Estate



Bamboo garden in Wang Tau Hom Estate (2002)



We are also continuing to enhance the appearance of slopes by providing green treatment to 14 800m<sup>2</sup> of 20 newly formed slopes through measures such as hydroseeding. In addition, 70 slopes in existing estates were greened (20 more than the year before). This represents a sizeable portion of all slope visual enhancement works carried out in Hong Kong over the same period. By comparison, the Civil Engineering Department (**CED**), who has the biggest responsibility for slopes, upgrade about 250 slopes each year and has plans to upgrade 300 slopes under the 10-year Landslip Preventative Measures Programme (SOURCE: CED).

In addition, we greened 6,500m<sup>2</sup> in existing estates of areas selected by EMACs. We also provided special theme gardens at four selected estates. For all our new developments built in the past year, we planted trees and achieved a ratio of 1.7 trees for every 15 flats built (excluding slope areas) or 5.1 trees for every 15 flats built (including slope areas). In the coming year, we intend to see how we can enhance the hard paved areas, podiums and covered walkways in our estates with more greenery.



Hydroseeding on estate slope



2002 Hong Kong Flower Shows and Prize Presentation Ceremony

## Coordinating Our Efforts

We share our progress on our greening programmes with the Steering Committee on Greening previously chaired by the then Permanent Secretary for Environment, Transport and Works (Transport and Works) (now the Permanent Secretary for Environment, Transport and Works (Works)), which coordinates the overall strategy and implementation of planting programmes to make a green Hong Kong. Like other government departments and partners in the private sector, we are committed to contributing to the sustainable greening of Hong Kong's urban landscape.



Hong Kong Government Tree Planting Day in April 2002 participated by our previous CHA, Dr Cheng Hon-kwan and some of our HA members

# Environmental Procurement

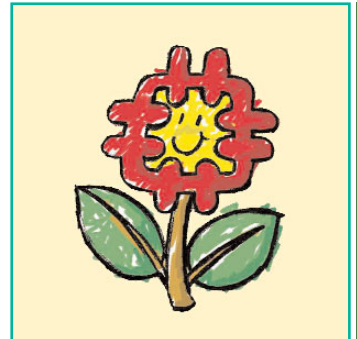
*A more environmentally sustainable alternative*

## Buying Green

Buying green is a major strategy we have adopted to make our operations more environmentally sustainable. It is also a way we can influence our existing and potential contractors, suppliers and service providers to conduct business with more regard for environmental protection. We have made substantial progress in enhancing our systems to enable us to fully apply our Environmental Procurement Policy.

## Cleansing Contracts

In the past year, we have completed a study on environmental procurement of cleansing services. We asked consultants to study cleansing products commonly used by our contractors and to examine the relative environmental friendliness of their contents and usage. Using these findings, we have introduced our contractors to information on how to judge the environmental-friendliness of cleansing products. We will also issue guidelines to cleansing contractors on the use of cleansing materials for reducing environmental impacts. In our new contract arrangements, we specify that contractors have to show us Environmental Management Plans (EMPs) on how they will conduct the service. The scoring system for tenders will be used for contracts commencing December 2003.



*Horticulture work has to comply with all regulations on environmental protection and prevention of nuisance from noise, water, dust, mosquito breeding, etc*

## Horticulture Contracts

We have completed changes to our horticulture contract tendering system to incorporate new environmental specifications and requirements such as using environmentally friendly equipment, machinery and work processes. To help horticulture contractors adapt to the new

*Cleaning work with environmentally friendly cleansing products*

requirements, we have arranged an intensive training course. All new contracts for horticulture works in 2003-2005 will meet the requirements under our Environmental Procurement Policy, and we have set up measures to monitor the contractors' environmental performance.

## Construction Contracts

We have continued to work with contractors to enhance their EPMS. It has been our requirement for contractors to implement these plans for building, piling and demolition contracts since August 2002.

In the past year, we have finished a review of contract conditions and specifications, tendering system and auditing procedures with Performance Assessment Scoring System (**PASS**) for all new developments. As a result, we have updated and expanded our assessment criteria to ensure contractors continue to reduce environmental impacts. We plan to use these new and enhanced assessment criteria from mid 2003. We are also pursuing the concept of "Pay for Environment" and have continued discussions with the HKCA.

## Office Supplies and Services Contracts

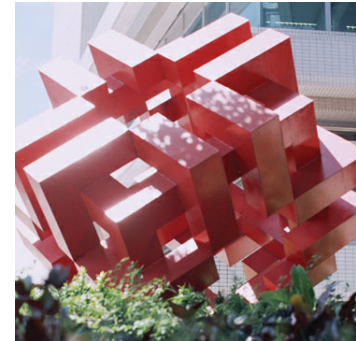
Last year we included environmental requirements in our specification for purchasing office equipment and supplies. As a result, we purchased 19 double-sided photocopiers and 23 laser facsimile machines. As far as possible, we also specify the use of environmentally friendly recycled paper for printing publicity materials and brochures (see previous section on Environmentally Friendly Publication of Waste Reduction & Recycling).

In February 2003, we renewed the contract for operation of our Customer Service Centre, and we now require the service provider to implement an EMPs.

## Environmental Procurement Policy

We have established an Environmental Procurement Policy that requires us to –

- Identify significant environmental impacts of materials and services in use.
- Purchase materials, goods and services to specifications that are compliant with relevant environmental legislation.
- Include environmental considerations in our purchasing decision so that, if technically acceptable and economically viable, lower environmental impact goods are purchased.
- Assess the environmental commitment of suppliers, contractors and service suppliers as part of the tender evaluation process, and to reward the best environmental performers.
- Require contractors and service providers (where appropriate) to produce EMPs in their bids for work, and to evaluate the evidence of implementation as part of supervision of works.
- Provide feedback and advice, and facilitate training to key suppliers, contractors and service providers on environmental performance and improvement opportunities.
- Ensure all staff, as well as suppliers, contractors and service providers are aware of, and act in accordance with, the Environmental Procurement Policy and contribute to HA's environmental objectives.
- Establish systems, targets and action plans for effective environmental procurement and regular reporting on performance.



# Raising Environmental Awareness

*We implement initiatives to increase environmental awareness among property managers, residents and staff*

## Property Managers

In the past year, we gave a green management seminar to 62% of property managers (including our staff and managers from Property Management Agencies (PMAs) to strengthen understanding of environmental initiatives. In August 2002, we held a joint partnering workshop for our staff and PMA staff to work more closely.

A total of 113 of our tenants/EMAC members supported the ECC by volunteering to become Green Property Management Ambassadors. The Ambassadors helped get the green message across in courses and through visits arranged by ECC.

In the past year, we invited all our rental estates to compete for the Green Property Management Award. The winner was picked by our co-organizers Green Power,



*Awards presentation ceremony for Green Property Management 2003 in March 2003*

Friends of the Earth and the Conservancy Association, who handed out the award in a special ceremony in March 2003. We also organized the Best Property Management Award and the Most Environmentally Friendly Award to promote environmental care awareness among property managers of our HOS estates.

*Environmental activities organized jointly with green group in Tse Wan Shan Shopping Centre on promotion of waste collection in June 2002*



## Residents

To encourage our residents to get more involved in recycling efforts, we jointly organized a Green Estate Exchange Square for 30 estates with Friends of the Earth. In the six months it was run, we saw an encouraging response from residents, who were given souvenirs for participating. In recognition of their support, 100 residents were awarded an eco-tour of Tung Ping Chau.

To open our residents' eyes on environmentally conscious living, in July 2002, we launched the "Green in Estates" Photo Competition. Awards for the best photos were handed out in November 2002.

Our Clean Neighbourhood Campaign has been an annual event since 1998. In 2002/2003, we ran the campaign to share views and build community spirit on looking after the home living environment.



The eco-tour to Tung Ping Chau with our residents in March 2003



Photos of winners and their work



Open Category – First prize



Student Category – First prize

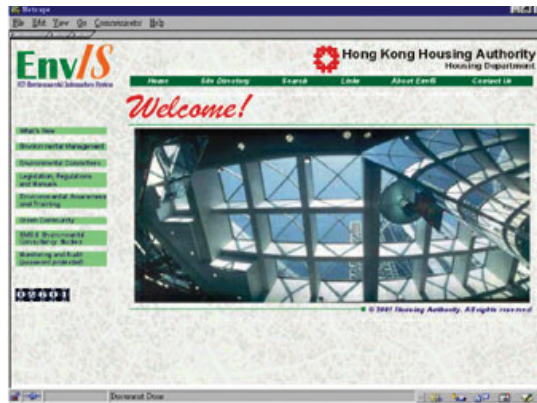


Clean Neighbourhood Campaign at Chung On Estate in June 2002

## Staff

In June 2002, we launched a waste paper recycling campaign in our department. The aim was to encourage paper saving and recycling in our offices. Over the year, staff from different divisions put up four displays in our Green Corner. These shared information and tips on how to meet the challenge of living and working with better care for the environment.

To strengthen environmental management skills, we organized a training seminar on Environmental Management System (EMS) Implementation for some 50 staff in April 2002. They were key divisional representatives who also attended subsequent workshops on EMS Implementation and concept. We also prepared web-based EMS awareness training for all our staff.



Homepage of Envis

One seminar with hands-on practice on Envis, which also covered aspects of the Environmental Legislation Database (ELD), was conducted in July 2002 for 24 divisional co-ordinators. Besides, we organized six seminars on environmental protection issues for about 380 staff.



Performance Review



Participants queued up for the Waste Paper Recycling Campaign at HAHQs on World Environment Day in June 2002



Green Corner on sharing of green information at HAHQs

# Our Targets & Initiatives

## for 2003/2004 and beyond

We are giving our architects more flexibility to optimize building designs and fit in with site-specific conditions

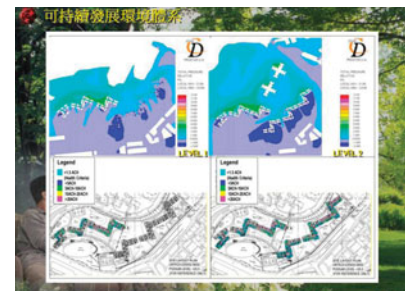
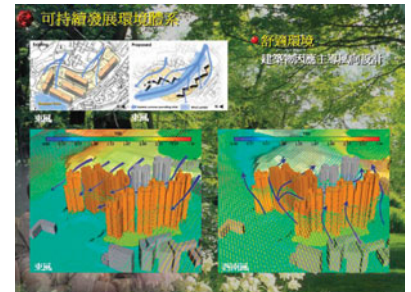
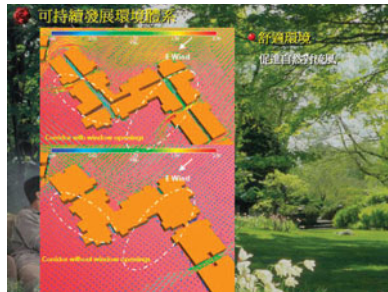
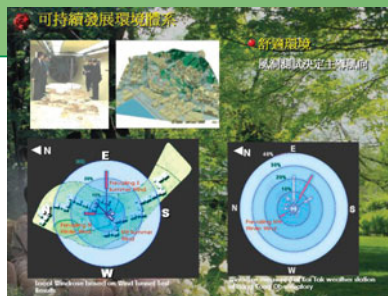
### Breaking the Mould

We realize becoming more environmentally sustainable cannot be achieved in a piecemeal manner, but rather requires new and innovative integrated solutions to meet the environmental challenges ahead. For many years, constructing new developments has meant installing the existing standard block designs at every site. As a break from this tradition, we are taking steps to move our building designs in a new direction by giving our architects more flexibility. They can optimize building designs to fit in with site-specific conditions. In essence, more and more of our new developments would be of non-standard design.

### Working with Nature

To make our new designs better fit in with a site, over the past couple of years we have been conducting research into how different building design and layout interact with the specific climate of a site (such as exposure to the wind and sun). How a building is designed can affect flats and other public areas in receiving natural daylight and how much they heat up under strong sunshine. Building design can also affect airflow inside buildings and the amount of natural ventilation in flats and corridors, as well as how windy it might get between buildings at street level. The key aims behind our microclimate research are to allow us to design buildings that are more comfortable for our residents to live in, and buildings that will require less energy consumption for lighting and air-conditioning. In addition, we examine the wind forces exerted on buildings such as during typhoons so we can look for ways to minimize the amount of resources needed to construct a structurally strong building.





One test bed for our microclimate research is Ngau Tau Kok Upper Estate (Stages 2 & 3), which is typical of our high-rise estates. This research, which is a joint effort with industry and an overseas academic institution, will be completed in 2003/2004. During the study, we have been using the latest cutting-edge computer and scale-modelling techniques. Indeed, since 2001, some of our site-specific non-standard designs for new developments have already used microclimate modelling predictions to enhance the buildings' environmental performance, which in turn help us with meeting HK-BEAM standards.

## Buildings for the Long-term

How we construct a building and the use of materials that are used, will affect the environmental performance of a building throughout its entire life-cycle. For this reason, over the past year, we have been conducting a research study on our residential blocks and their materials called "Life Cycle Assessment and Life Cycle Costing Study of Building Materials and Components." This research conducted jointly with local and international experts is due for completion in 2003/2004. So far, the research has looked into the environmental implications and costs of all the main building materials that we use in large quantities. The study will be of major importance for us to enhance our ability to construct new developments that are more environmentally sustainable. The detailed research findings and recommendations of this complex study will allow us to score the cost and environmental performance of building materials. We will act on this information to enhance procurement and design decisions for better sustainability.

## Finding Environmental Solutions

In the coming year, as the lead organizer, we will host the “International Housing Conference in Hong Kong 2004, Housing in the 21st Century: Challenges and Commitments”. A key topic for the conference is sustainable housing for healthy living. Among a broad range of sustainability issues, we will discuss on environmental sustainability of homes; planning and design of sustainable homes; and environmentally friendly technologies in construction.



Through our Housing Authority Research Fund, we have also set aside HK\$14.2 million for local academic institutions, professional bodies, non-governmental organization and contractors. Of the 13 research projects selected for funding, five are concerned with finding ways for improving environmental performance and sustainability.

## Enhancing Performance in the Year Ahead

For the year ahead, we have set ourselves a series of new environmental targets and will continue to strengthen our performance for environmental measures already in place. We present our detailed environmental targets for 2003/2004 and beyond in **Annex C**. By achieving these targets we will continue to strengthen our position as an environmentally responsible organization and adopt changes for better sustainability. In the coming year, we will focus our efforts on the following areas:

To make our operations more energy efficient, we will carry out initiatives to

- Reduce energy consumption in our headquarters and shopping centres
- Investigate the feasibility of using energy saving products

To reduce environmental risks on our premises, we will

- Continue our asbestos abatement programme
- Complete asbestos management plans for schools
- Investigate flatted factories for potentially hazardous processes

To minimize noise nuisance to our residents and the community, we will

- Replace more water pumps with quieter ones
- Introduce quiet hydraulic pile jacking technology to a construction site
- Explore quieter concreting construction methods

To continue efforts to reduce and recycle waste, we will

- Reduce construction waste by extending the use of pre-cast building elements
- Investigate selective demolition to increase the collection of recyclable construction waste
- Promote recovery of plastic bags by residents
- Increase waste recovery rates of recyclable household refuse
- Reduce the amount of domestic refuse generated by residents

To better conserve natural resources, we will

- Reduce water wastage on construction sites by further increasing the use of water recycling systems
- Reduce water consumption in communal areas on estates
- Reduce paper consumption and enhance the practice of paper recycling in our offices
- Minimize timber consumption
- Minimize cement consumption by using PFA
- Increase the use of RA in our construction works

To enhance our estates with more greenery, we will

- Improve landscaping and greening in estates and their slopes
- Promote residents' involvement in estate greening

To strengthen our environmental management performance and environmental awareness, we will

- Pursue further enhancements to our EMS through an external audit
- Provide more staff training on EMS and environmental issues
- Launch environmental campaign for all rental estates

We will continue to strengthen our environmental management and environmental awareness



# Verification Statement



**Environmental Management Limited**  
美 華 環 協 管 理 有 限 公 司

This Report presented  
comprehensive  
information on  
environmental  
performance over the  
past year

## Purpose of the Verification

The Hong Kong Housing Authority has appointed Environmental Management Limited as a third-party independent verifier for the Environmental Report 2002/2003 (the Report). The role of the Independent Verifier was to carry out independent checking of the Report and to provide recommendations for future reports and continual improvement of the environmental performance of the Housing Authority.

## Verification Approach

During the verification process, the Independent Verifier reviewed and checked the relevant materials including policy statements and objectives, environmental plans, initiatives, strategies and targets, environmental performance and various elements of the Environmental Management System. The accuracy and consistency of the information and data presented in the Report were verified through checking of sources of information, procedures and data analyses.

## Opinion on the Report

This Report presented comprehensive information on the environmental performance of the Authority over the past year. The presentation has included good photos and graphics to enhance the understanding of environmental issues by the target audience. The Report has incorporated the elements for linking the environmental performance and the contribution to sustainable development. Comments on the last report have received proper attention and shown as improvement in this Report.

The Report has clearly given the long-term environmental goal in the first section with the short-term targets or milestones properly presented in the subsequent sections. The Report has properly addressed the views of the top management on how HKHA has performed during the reporting year and which areas the management will focus in the coming year. Newly introduced environmental

initiatives are also highlighted such as the implementation of anti-mosquito measures; progress on environmental procurement; innovative solutions to air quality issues; microclimate research; the use of CD-ROM and website for this Report.

The key environmental initiatives and targets set for the reporting year are properly evaluated in this fourth issue of the Report. The HKHA made good progress on the development of the Environmental Management System and defined long-term targets and initiatives to ensure an effective management and control over the environmental performance of its activities.

In our opinion, the information and data presented in the Report are consistent with the materials, which were reviewed during the verification process. The Report provides a clear account of performance with respect to HA's business and reveals the commitment of the HA to improve the environmental performance and standards in its services. The environmental principles outlined in the Environmental Policy Statement are shown to have been successfully incorporated and implemented in the HA's operations.

We encourage HA to continue in reviewing feedback from stakeholders in the formulation of future environmental initiatives

## Recommendations for Future Reports

Based on our observation during the verification process, our recommendations for the HA's consideration in preparing future reports are:

- To summarize and present the environmental performance indicators for the reporting year as well as the immediate past years for continual review of progress and performance
- To summarize the environmental contributions and efforts made by various stakeholders
- To maintain the logical and systematic presentation of the report
- To consider a short section on environmental resources allocation and environmental expenditures

To ensure that HA meet their stakeholders' expectation on environmental improvement work, we encourage HA to continue in gathering and reviewing the feedback from stakeholders and incorporating constructive suggestions in the formulation of future environmental objectives.

3 December 2003



Douglas D Mclearie

Director, Environmental Management Limited

## Summary of Feedback

We welcome your comments and views on our Environmental Report. Listening to your feedback helps us understand how to better meet your information needs. We give serious consideration to all views received, and as far as practical we will use them to make our next report better and more relevant. Last year we published our Environmental Report “Our Environment – A Shared Responsibility”, which won a Commendation Award. In this Annex, we take the opportunity to tell you about the feedback on that report.

Of the readers who provided feedback, about three quarters gave our report an overall rating of “excellent” or “very good” and said the presentation was “adequate”. The remainder thought that it was “good” (except one resident told us



*Award presentation ceremony on Environmental Reporting organized by the Association of Chartered Certified Accountants*

the report was difficult to understand and found it had nothing of interest). Most readers thought the report was “very useful” or “useful” and easy to understand. We also heard views on how well the information was presented.

Apart from the positive comments, we were also pleased to receive some constructive suggestions for improvements. As far as possible we have taken comments on board for this report. Where present constraints do not allow us to, we will keep them in mind for the future. Based on your feedback, we have worked hard to make the report better. This includes giving better benchmark information and making the reporting more kind to the environment by publishing the report on CD-ROM.

# Summary of Past Performance

Target 2002/03	Environmental Policy Objective	Action Plan	Key Performance Indicator		Target Met	Actual Performance
			KPI	Unit		
<b>CONSTRUCTION</b>						
<b>Provide green treatment to newly formed slopes in public housing sites</b>	Promote healthy living and green environment	Soil slopes to be hydroseeded and hard surface to be softened by planting of creepers, colour treatment, or with tree planting pits for all estates	11 000m <sup>2</sup>	Measured as area of slope enhanced with green treatment	██████	14 800m <sup>2</sup>
<b>Reduce electricity consumption of landlord services installation in new domestic blocks</b>	Minimize the use of resources and promote sustainable development	Adopt Energy Codes for all domestic blocks	6%	Measured as % of electricity saving in new designs compared to Year 2000 designs for landlord services installations in domestic blocks	██████	6%
<b>Reduce water wastage in large diameter bored piling (LDBP) works</b>	Minimize environmental impacts	Adopt water recycling system in the construction of LDBP for construction sites	30%	Cumulative % of sites adopting water recycling systems (based on number of sites)	██████	30%
<b>Further abate the remaining asbestos containing materials in HA managed properties</b>	Promote healthy living and green environment	Implement planned asbestos abatement programme in HA managed properties, e.g., estate redevelopment programme and asbestos removal works	2%	Measured as % of total remaining asbestos removed	██████	3%
<b>ESTATE MANAGEMENT</b>						
<b>Upgrade the standard of the existing landscape facilities in existing Public Rental Housing (PRH) estates</b>	Promote healthy living and green environment	Upgrade the standard of 18 selected PRH estates through Landscape Improvement Programme	110 000m <sup>2</sup>	Measured as area greened each year	██████	113 000 m <sup>2</sup> in 18 selected estates
<b>Promote green environment in existing PRH estates</b>	Promote healthy living and green environment	Promote green environment at selected rental estates together with Estate Management Advisory Committee (EMAC)	5 000m <sup>2</sup>	Measured as area greened each year	██████	6 500 m <sup>2</sup> in 24 selected estates
<b>Improve slope appearance in existing PRH estates</b>	Promote healthy living and green environment	Provide green treatment to hard surfaced slopes and improve existing vegetated slopes. Chunam surface to be improved with hydroseeding, stone pitching and toe planters	70	Measured as number of slopes greened each year	██████	70 slopes

██████ Fully met  
████ Substantial progress  
██ Fall short  
◆ Deferred  
N/A Not intended for action

Target 2002/03	Environmental Policy Objective	Action Plan	Key Performance Indicator		Target Met	Actual Performance
			KPI	Unit		
<b>Reduce noise nuisance from water pumps in PRH estates</b>	Minimize environmental impacts	Replace 3 000 rpm water pumps with 1 500 rpm water pumps for public rental housing estates	32	Measured as number of pumps replaced each year	☹☹☹	28 pumps replaced. (Owing to site constraints, the remaining four were replaced in Oct 03)
<b>Reduce potable water consumption for installations under landlord control in PRH estates</b>	Minimize the use of resources	Use self stopping water tap and reduce pipe bursting and leakage through replumbing programme for PRH estates	0.5%	% savings are based on a comparison with the actual expenditure in previous year	☹☹☹☹	Water consumption reduced by 0.61%
<b>Reduce of domestic waste</b>	Minimize the use of resources and address environmental concerns	Promote waste reduction for residents through various publicity campaigns, e.g., Environmental Family Competition, EMAC Newsletters and activities, and joint activities with green groups	2%	Measured as % reduction in domestic waste produced (kg) per person per day	☹☹☹☹	8.89%
<b>Increase domestic waste recovery rate for paper (Pa), aluminium cans (Ac), plastic bottles (Pl), and used clothes (Uc)</b>	Minimize environmental impacts and promote awareness and participation among residents	Continue publicity activities such as Waste Recycling Credit Scheme for all PRH estates	Pa:18%, Ac:24%, Pl:0.5%, Uc:10%	Calculation is based on weight (kg) of material recycled / combined total weight (kg) of material recycled and disposed	☹☹☹	Pa:16.08%, Ac:24.30%, Pl:1.44%, Uc:31.33%. All targets were met except recovery of waste paper was slightly below target
<b>OFFICE</b>						
<b>Reduce A3 and A4 paper consumption in all HD offices except site offices</b>	Minimize the use of resources and promote awareness and participation among staff	Various initiatives for staff, e.g., publicity, training, competitions, provision of recycle bins, and encouragement for use of electronic media	12.1 reams	Measured as paper used (reams) per staff member per year	☹☹☹☹	12.1 reams
<b>Collection of waste paper in all HD offices except site offices</b>	Minimize the use of resources and promote awareness and participation among staff	Various initiatives on reducing waste paper for staff	2%	Measured as % paper saving increase compared to previous year (kg)	☹☹☹☹	4.4%
<b>Extend the use of environmentally friendly paper in printing to all publicity materials (except sales and marketing publication)</b>	Minimize the use of resources and address environmental concerns	Implement the use of environmentally friendly paper as a prerequisite in future printing jobs	50%	Measured as % of environmentally friendly paper used as compared with total printing quantity	☹☹☹☹	100%
<b>COMMUNITY</b>						
<b>Increase community environmental awareness</b>	Promote environmental awareness among residents	Promote HA's environmental initiatives and green messages through EMACs and various campaigns in PRH estates	49%	Tenants' impression score of general environmental awareness in PRH estates (based on opinion survey conducted in PRH estates)	N/A	Task withdrawn in view that the level of environmental awareness is not a good indicator to actual environmental behaviour of the tenants



Target 2002/03	Environmental Policy Objective	Action Plan	Key Performance Indicator KPI	Unit	Target Met	Actual Performance
Increase community participation in environmental activities	Promote awareness among residents	Distribute publicity materials in PRH estates	60%	Measured as % of residents aware of HA environmental initiatives (based on opinion survey conducted in PRH estates)	██████	87%
Increase residents' use of recycle collection bins	Minimize the use of resources	Conduct publicity activities on waste reduction and provide more recycle bins for residents in PRH estates	59%	Measured as % of residents who used waste recycle bins (based on opinion survey conducted in PRH estates)	██████	64%

Initiative	Environmental Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
<b>CONSTRUCTION</b>					
Enhance energy efficiency in new domestic blocks	Minimize the use of resources	Adopt photocell lighting control for corridor and staircase in the standard domestic block design for new developments	2002-2003	██████	Changes had been incorporated into the March 2003 edition of New Harmony 1 (NH1) and New Annex 5 (NAX5) Blocks Design Guide
		Study the use of new decorative materials of lift cars with a view to reducing the weight of lift cars for new developments	2002-2003	██████	Study was completed. Changes will be incorporated into next edition of the NH1 Block Design Guide
		Extend energy database of landlord lighting, water pump and lift installations for different block types	2002-2004	██████	On schedule
Reduce noise complaints registered by EPD in piling works and building works	Minimize environmental impacts	Prepare specification, implement and review for hydraulic pile jacking	2002-2003	██████	Hydraulic crushers used in one demolition project with high noise nuisance concerns. Implementation will be in two phases
		Develop specific targets	2002-2003	◆	No action given few demolition projects in the pipeline
Assess life cycle costs and impacts of existing designs	Incorporate environmental initiatives in planning and design, construction and demolition, and management activities	Complete a consultancy study on life cycle costing and review design and specification for all developments	2002-2003	██████	The 3-stage study is expected to be completed by end 2003. The extension was due to complexity of the research
Require contractors to submit environmental management plan (EMP) where necessary	Minimize the use of resources and environmental impacts	Review contract conditions and specifications, tendering system, auditing with Performance Assessment Securing System for new developments	2003-2004	██████	On schedule. EMPs were implemented since Aug 02 for building piling and demolition contracts. 'Pay for Environment' was being investigated

Initiative	Environmental Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
<b>ESTATE MANAGEMENT</b>					
<b>Enhance energy efficiency in carparks and Housing Authority Headquarters (HAHQ)</b>	Address environmental concerns and incorporate initiatives	Extend and complete pilot project on electronic ballast installation in 15 carparks and HAHQs	2002-2003	☼☼☼	Pilot project in HAHQs carparks was completed. 13 carparks were retrofitted with electronic ballasts. Two remaining replacements to be completed upon overall lighting improvement of the projects
<b>Enhance energy efficiency in existing PRH estates</b>	Address environmental concerns and incorporate initiatives	Complete trial projects on installation of photocell control for external public lighting at eight selected estates	2002-2003	☼☼☼☼	All eight trial projects were completed
<b>Promote waste reduction</b>	Promote awareness and participation among staff, residents and contractors	Launch the Waste Reduction Credit Scheme (Phase II) at all PRH estates	2002-2003	☼☼☼☼	Scheme was launched in Sept 02 for completion in Aug 03
<b>Promote and encourage separation of recyclable waste by residents</b>	Promote awareness and participation among residents and minimize the use of resources	Support the Waste Recycling Campaign (Phase VI) launched by Environmental Campaign Committee (ECC) for all PRHs in 2002-2003	2002-2003	☼☼☼☼	All 154 Public Rental Estates joined the campaign
<b>Promote recovery of recyclable waste through publicity programmes</b>	Promote awareness and participation among residents and minimize use of resources by reducing waste and collecting recyclables	Launch Green Estate Exchange Square Scheme, jointly organized with Friends of the Earth, in 30 estates	2002-2003	☼☼☼☼	The scheme was launched in July 02 and completed in Dec 02
<b>Promote recovery of plastic bottles</b>	Minimize use of resources	Support EPD's Regional Plastic Bottles Collection Scheme	2002-2003	☼☼☼	110 estates joined the scheme
<b>Encourage wide participation by tenants and staff in green management initiatives</b>	Promote awareness and participation among residents and staff	Invite all PRH estates to participate in the Green Property Management Award jointly organized with green groups, i.e., Green Power, Friends of the Earth and The Conservancy Association	2002-2003	☼☼☼☼	All PRH estates participated the competition. The prize ceremony was held in Mar 03
<b>Increase environmental awareness of tenants in support for a green environment</b>	Promote awareness and participation among residents	Support ECC to invite tenants and EMAC members as Green Property Management (GPM) Ambassadors to disseminate green messages to residents	2002-2003	☼☼☼☼	113 participants became GPM Ambassadors under the scheme
<b>Introduce environmental requirements to assess the environmental performance of service providers</b>	Promote awareness among contractors and incorporate environmental initiatives in estate management activities	Revise the scope of service providers' performance assessment by adding environmental requirements to future contracts of Property Management Agents (PMA) and Property Services Company (PSC)	2003	☼☼☼☼	Environmental requirements were added to new contracts

Initiative	Environmental Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
<b>ALLOCATION</b>					
<b>Promote environmental care awareness in HOS estates</b>	Promote awareness among stakeholders	Organize the Best Property Management Agents Award and the Environmentally Friendly Award for HOS estates	2002-2003	☺☺☺	Awards were won by Hong Yip Service Co. Ltd. (Best PMA) and Mei Chung Court (Most Environmentally Friendly HOS Estate). Prize presentation ceremony was held in Nov 02
<b>Promote environmentally friendly work processes</b>	Minimize the use of resources	Consider the feasibility of introducing electronic submission of application forms for assisted home schemes	2002-2003	N/A	Task withdrawn in view that the announcement of the Statement on Housing Policy in Nov 02 has ceased the sales of HOS flats
<b>COMMERCIAL PROPERTY</b>					
<b>Improve air quality in HA's shopping centres</b>	Address environmental concerns	Investigate air quality performance and formulate measures for HA shopping centres	2002	☺☺☺	Indoor Air Quality (IAQ) study was completed
		Recommend improvement solutions for shopping centres	2002	☺☺	Enhancement actions being formulated subsequent to the launch of the Guidance Notes in Sept 03
<b>Enhance energy efficiency in shopping centres</b>	Minimize the use of resources	Study optimization of air-conditioning, lighting and building designs, operation and maintenance for energy efficiency for shopping centres	2003	☺☺	Energy Efficiency Study completed in Apr 03
		Review and make recommendations on existing installations and new designs of shopping centres	2003	☺☺	On schedule
<b>Identify potential environmental hazards in flatted factories</b>	Minimize environmental impacts	Conduct research to identify the potential environmental hazardous processes in flatted factories	2003-2004	N/A	Future Target
<b>OFFICE</b>					
<b>Reduce paper consumption by introducing an e-based system for promotional venue booking and on-line tendering</b>	Minimize the use of resources	Develop e-based promotional venue booking system	2002-2003	N/A	Withdrawn due to funding constraints
		Develop e-access to full details of commercial premises available for tender and on-line tendering	2002-2003	◆	Deferred due to restructuring of the contractor
<b>Support the development and implementation of EMS</b>	Promote environmental awareness and participation among staff	Organize EMS Implementation Training Seminar for Division Environmental Committees (DECs)	2002-2003	☺☺☺	One training seminar for 52 staff and three workshops for 50 staff were held in Apr 02
		Facilitate the DECs to enhance their register of significant environmental aspects	2002-2003	☺☺☺	Enhancement of the register was completed in Apr 02
		Organize training for all staff on the use of the Environmental Information System (EnVIS) and Environmental Legislation Database (ELD)	2003	☺☺☺	24 divisional coordinators attended a training seminar on EnVIS in July 02. The seminar also covered aspects of ELD

Initiative	Environmental Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
		Provide web-based EMS awareness training for all staff	2002-2003	☞☞☞	Web-based programme on the use of EnvIS was launched in Apr 02
		Organize Green Site Construction and Management Competition for design and construction staff	2003-2004	N/A	Future Target
<b>Enhance staffs' understanding in general environmental issues</b>	Promote awareness and participation among staff	Organize six seminars on environmental protection issues	2002-2003	☞☞☞	Six seminars were organized for 382 staff
		Organize promotional programmes to encourage paper saving and recycling in offices	2002-2003	☞☞☞	Waste paper recycling competition was held in June 02
		Arrange displays at the Green Corner to promote environmental initiatives of various divisions	ongoing	☞☞☞	Four displays on environmental issues were exhibited
<b>COMMUNITY</b>					
<b>Promote environmentally conscious living in PRH estate through environmental campaigns and competitions</b>	Promote awareness among residents	Organize Waste Reduction Credits Scheme jointly with Housing Society and Food and Environmental Hygiene Department for all households in PRH estates	2002-2003	☞☞☞	Phase II of the Scheme was launched in Sept 02 for completion in Aug 03
		Organize photo competition	2002-2003	☞☞☞	Photo competition was launched in July 02 and presentation ceremony in Nov 02
		Launch publicity programmes to promote collection of recyclable waste on each floor of estates	2002-2003	☞☞☞	7 000 posters were displayed to publicize and promote use of the bins
		Participate in production of calender with green messages	2002-2003	☞☞☞	Calendars with green messages were produced for distribution to corporate guests and concerned parties
<b>Educate tenants to use fewer plastic bags for shopping</b>	Promote awareness and participation among residents	Conduct trial scheme on plastic bags recovery	2002-2003	☞☞	Trial scheme was conducted to recover used plastic bags in convenience stores at some public housing estates

# Environmental Targets & Initiatives for 2003/04 and Beyond

Target	Action Plan	Schedule	Key Performance Indicator (KPI)
<b>CONSTRUCTION</b>			
<b>Abate 10% out of the remaining 18% stock of asbestos containing materials in existing properties managed by HA through estate redevelopment programme</b>	Implement asbestos abatement programme through estate redevelopment programme and asbestos removal works	2003/04	3% removed
		2004/05	2% removed
		2005/06	1% removed
		2006/07	1% removed
<b>Reduce electricity consumption of landlord services installation in new domestic blocks</b>	<ul style="list-style-type: none"> <li>Explore and study the application of more energy efficient equipment</li> <li>Review the lighting design and illumination standard in communal area in line with that of the private development</li> </ul>	2003/04	–
		2003/04	–
<b>Reduce water wastage in large diameter bore piling (LDBP) works</b>	Adopt water recycling system in the construction of LDBP for construction sites	2003/04	40% of sites
		2004/05	50% of sites
		2005/06	60% of sites
		2006/07	60% of sites
<b>Provide Green treatment to newly formed slopes</b>	<ul style="list-style-type: none"> <li>Soil slopes to be hydroseeded</li> <li>Hard surface to be softened by planting of creepers, colour treatment or with tree planting in pits</li> <li>Chunam surface to be improved with hydroseeding, stone pitching and toe planters</li> </ul>	2003/04	5 700m <sup>2</sup>
		2004/05	2 400m <sup>2</sup>
		2005/06	7 500m <sup>2</sup>
		2006/07	3 000m <sup>2</sup>
<b>Reduce energy consumption in shopping centres (a joint study of Construction and Allocation &amp; Commercial Divisions)</b>	<ul style="list-style-type: none"> <li>Study optimization of air conditioning, lighting and building designs, operation and maintenance for energy efficiency</li> <li>Review and make recommendations on existing installations and new designs</li> </ul>	2003	–
		2003	–
<b>Minimize construction waste</b>	<ul style="list-style-type: none"> <li>Research on wider use of 'volumetric' precasting</li> <li>Wider use of volumetric prefabrication in future contracts</li> </ul>	2003	–
		2004	–
<b>Improve landscaping and promote greening in housing estates</b>	<ul style="list-style-type: none"> <li>Revisit technical guides to enhance greening measures in existing hard paved areas</li> <li>Enhance greening measure with new initiatives in Master Details: emergency vehicular access covered walkway / pot-planters/ podium designs, etc.</li> </ul>	2003	–
		2003	–
<b>ESTATE MANAGEMENT</b>			
<b>Upgrade the existing landscape facilities in 18 selected PRH estates</b>	Improve soft landscaping through Landscape Improvement Programme	2003/04	110 000m <sup>2</sup>
		2004/05	110 000m <sup>2</sup>
		2005/06	110 000m <sup>2</sup>
		2006/07	110 000m <sup>2</sup>
<b>Promote green environment at 24 estates inherited by Estate Management Advisory Committees (EMAC) estates</b>	Provide greening in PRH through EMAC	2003/04	5 000m <sup>2</sup>
		2004/05	5 000m <sup>2</sup>
		2005/06	5 000m <sup>2</sup>
		2006/07	5 000m <sup>2</sup>

Target	Action Plan	Schedule	Key Performance Indicator (KPI)
Increase domestic waste recovery rate for paper (Pa), aluminum cans (Ac), plastic bottles (Pl), and used clothes (Uc)	Continue publicity activities such as Waste Recycling Credit Scheme for all PRH estates	Recovery rates	
		Pa	
		2003/04	21%
		2004/05	24%
		2005/06	27%
		2006/07	27%
		Ac	
		2003/04	26%
		2004/05	28%
		2005/06	30%
		2006/07	30%
		Pl	
		2003/04	0.7%
		2004/05	0.9%
2005/06	1.1%		
2006/07	1.1%		
Uc			
2003/04	10%		
2004/05	15%		
2005/06	20%		
2006/07	20%		
Reduce of domestic waste	Promote waste reduction through various publicity campaigns (Environmental Family Competition, EMAC newsletters and activities, and other joint activities with green groups)	2003/04 2004/05 2005/06 2006/07	3% reduction 4% reduction 4% reduction 4% reduction
Reduce noise nuisance from water pumps in PRH estates	Replace 3 000 rpm water pumps by 1 500 rpm water pumps	2003/04 2004/05 2005/06 2006/07	47 replacements 40 replacements 35 replacements 2 replacements
Reduce potable water consumption for installations under landlord in PRH estates	Use self-stopping water tap and reduce pipe bursting and leakage through replumbing programme	2003/04 2004/05 2005/06 2006/07	0.5% reduction 0.5% reduction 0.5% reduction 0.5% reduction
Improve the slope appearance in existing PRH estates	<ul style="list-style-type: none"> <li>Green treatment to hard surfaced slopes and improvement to existing vegetated slopes</li> <li>Chunam surface to be improved with hydroseeding, stone pitching and toe planters</li> </ul>	2003/04 2004/05 2005/06 2006/07	10 slopes 10 slopes 10 slopes 10 slopes
Promote recovery of plastic bags	Launch the Plastic Bags Recycling Scheme in five PRH estates and five HOS courts	2003/04	–
Enhance greening in PRH estates	Allocate open area in selected estates for setting up thematic gardens	2003/04	–
Increase tenants' awareness and support of greening	Organize tree planting days in selected estates	2003/04	3 estates
Conduct feasibility studies on energy saving products e.g. Luminosity Enhancement Jacket	Carry out feasibility studies and on-site trials, if appropriate	2003/04	–

Target	Action Plan	Schedule	Key Performance Indicator (KPI)
<b>CORPORATE SERVICES</b>			
<b>Reduce A3 and A4 paper consumption in all HD offices except site offices</b>	Various initiatives to reduce paper consumption for staff (publicity, training, competitions, provision of recycle bins, and promoting use of electronic media)	2003/04	11.9 reams per staff per year
		2004/05	11.7 reams per staff per year
		2005/06	11.5 reams per staff per year
		2006/07	11.3 reams per staff per year
<b>Collect waste paper in all HD offices except site offices</b>	Various initiatives to encourage paper recycling for staff	2003/04	2% increase in kg compared with 2002/03
		2004/05	2% increase in kg compared with 2003/04
		2005/06	2% increase in kg compared with 2004/05
		2006/07	2% increase in kg compared with 2005/06
<b>Extend the use of environmental friendly paper in printing to all publicity materials (except sales and marketing publication)</b>	Implement the use of environmentally friendly paper as a prerequisite in future printing jobs	2003/04	100% of paper used
		2004/05	100% of paper used
		2005/06	100% of paper used
		2006/07	100% of paper used
<b>Increase community awareness in environmental activities in PRH estates</b>	Distribute publicity materials in PRH estates and promote activities through media	2003/04	62% of residents surveyed
		2004/05	64% of residents surveyed
		2005/06	66% of residents surveyed
		2006/07	68% of residents surveyed
<b>Increase residents' use of recycle bins in PRH estates</b>	Conduct publicity activities and provide more recycle bins for residents in PRH estates	2003/04	62% of residents surveyed
		2004/05	63% of residents surveyed
		2005/06	65% of residents surveyed
		2006/07	67% of residents surveyed
<b>Reduce energy consumption in HAHQs</b>	<ul style="list-style-type: none"> <li>• Shorten operating hours in air-conditioning, lighting, etc</li> <li>• Enhance staff awareness of energy savings by promotional programmes</li> </ul>	2003/2004	1.5%
		2004/2005	3.0%
		2005/2006	4.5%
		2006/2007	6.0%
<b>Enhance energy efficiency for air-conditioning in HAHQs</b>	Replace existing control for Air Handling Unit with variable speed drive	2004	–
<b>Enhance staff awareness and knowledge in operation need</b>	Solicit and analyze training needs from each Division Environmental Committee	2003/04	–

Target	Action Plan	Schedule	Key Performance Indicator (KPI)
Enhance staff awareness and knowledge about environmental legislation and use of Environmental Legislative Database (ELD)	Design quiz for the web-based programme on the use of ELD	2003/04	-
Enhance staff awareness and knowledge about Information System built in Environmental Management System	Launch a web-based programme on the use of the Environmental Information System (EnvIS)	2003/04	-
Enhance staff awareness and knowledge about environmental issues	• Organize seminars on environmental issues and promotional programmes to encourage energy conservation	2003/04	-
	• Arrange displays at the Green Corner to promote environmental initiatives of various divisions	On-going	-
Increase community awareness of environmental protection and in particular to promote greening in PRH	<ul style="list-style-type: none"> <li>• Launch campaigns to promote waste reduction and recycling</li> <li>• Relay green messages in EMAC newsletter</li> <li>• Distribute publicity materials such as posters, leaflets and souvenirs to educate residential tenants on environmental issues</li> <li>• Launch joint programmes with green groups and EMACs</li> </ul>	2003/04	-
<b>ALLOCATION AND COMMERCIAL</b>			
Promote environmental care awareness in HOS estates	• Organize the following award schemes for PMAs of HOS estates:	2004	-
	– Best Property Management Award		
	– The Most Environmentally Friendly Award for the waste reduction scheme and the collection of recyclable materials competition		
	• Liaise with PMAs to organize activities for residents in HOS courts	2004	-
• Refer environmental messages from Environmental Protection Department to PMAs	2004	-	
Promote environmentally friendly work processes	Consider the implementation of electronic submission of application for Home Assistance Loan Scheme	2004	-
Identify potential environmental hazards in flatted factories with a view to drawing up future policy initiatives	Appoint specialist consultants to research and identify potential environmental hazardous processes in flatted factories and make recommendations for control as appropriate	2004	-



# 意見表 *Feedback Form*

香港房屋委員會二零零二至二零零三年度環保報告

Hong Kong Housing Authority Environmental Report 2002/2003



Meeting Environmental Challenges for a Sustainable Future

多謝你閱覽我們的環保報告。請在 2004 年 3 月 31 日前填上你的寶貴意見，以郵寄或傳真方式回覆。謝謝你的回應。  
Thank you for reading our Environmental Report. Please take a little time to provide your valuable comments on questions below and return to us via post or fax before 31 March 2004. Thanks again for your feedback.

- |   |   |                          |                          |                          |                          |                          |
|---|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 | 你對這份報告的整體看法?<br>What is your overall view of the Report?                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   |   | 非常好<br>Very Good         | 好<br>Good                | 足夠<br>Adequate           | 不太好<br>Poor              | 不好<br>Very Poor          |
| 2 | 你認為這份報告是否資料豐富/有用?<br>Did you find the Report informative / useful?        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   |   | 非常有用<br>Very Useful      | 有用<br>Useful             | 足夠<br>Adequate           | 不太有用<br>Partly           | 無用<br>No                 |
| 3 | 你認為這份報告是否容易明白?<br>Did you find the Report easy to understand?             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   |   | 非常容易<br>Very Easy        | 容易<br>Easy               | 足夠<br>Adequate           | 不太容易<br>Partly           | 困難<br>No                 |
| 4 | 你認為這份報告的陳述是否清晰?<br>Did you think the presentation of the Report is clear? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   |   | 非常清晰<br>Very Clear       | 清晰<br>Clear              | 足夠<br>Adequate           | 不太清晰<br>Partly           | 含糊<br>No                 |

- |  |  |   |                                       |                                  |                               |   |   |
|--|--|---|---------------------------------------|----------------------------------|-------------------------------|---|---|
|  |  | 開首段落 (簡介及<br>主席/常任秘書長的話)<br>Introductory Section<br>(About this Report &<br>Message from CHA/PSH) | 業務概覽<br>Business<br>Overview<br>& EMS | 環境因素<br>Environmental<br>Aspects | 成效檢討<br>Performance<br>Review | 2003/04 及後<br>目標和措施<br>Targets and<br>Initiatives for<br>2003/04 & Beyond | 資料核實<br>聲明<br>Verification<br>Statement |
|--|--|---|---------------------------------------|----------------------------------|-------------------------------|---|---|

- |   |  |                          |                          |                          |                          |                          |                          |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 5 | 你認為這份報告哪方面最有用?<br>Which aspect of the Report did you find most useful? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

Please specify \_\_\_\_\_

- |   |  |                          |                          |                          |                          |                          |                          |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 6 | 你認為這份報告哪方面最沒有用?<br>Which aspect of the Report did you find least useful? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

Please specify \_\_\_\_\_

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|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 7 | 你認為這份報告哪方面需要更多資料?<br>(可選超過一項)<br>Which aspect(s) of the Report would you like more information on? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

Please specify \_\_\_\_\_

- |   |  |                          |                          |                          |                          |                          |                          |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 8 | 你認為我們下一份環保報告有什麼地方需要改善?<br>(可選超過一項)<br>What improvement(s) would you recommend for our next Environmental Report? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

Please specify \_\_\_\_\_

9 你屬於哪一個組別? (可選超過一項)

Which group(s) do you belong to? (you can tick more than one box)

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> 房委會住宅單位租戶/業主<br>Owner/Tenant in HA flat | <input type="checkbox"/> 環保團體<br>Environmental Group         | <input type="checkbox"/> 教育/學術界<br>Educational/Academic               |
| <input type="checkbox"/> 政府部門<br>Government Department           | <input type="checkbox"/> 其他公營機構<br>Other Public Organisation | <input type="checkbox"/> 專業工程師/科學家<br>Professional Engineer/Scientist |
| <input type="checkbox"/> 其他, 請註明<br>Other, please specify _____  |  |   |

10 你希望日後收到我們環保報告嗎?

Would you like to receive future Reports?

是  
Yes, please

否  
No, thanks

姓名:

Name:

電郵地址:

E-mail Address:

聯絡電話:

Contact Number:

地址:

Address:

有關聯絡地址如下:

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環保管理小組  
高級經理(環保管理)  
傳真:  
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