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 **Environmental, Health and Safety Report**
2003 / 04

Paving the Way for Sustainable Housing

Our Vision for Sustainable Housing · Message from the Chairman · Message from the Director · Summary · Feedback Form

About this Report	Business Overview & EHS Management Structure	Significant EHS Aspects	2003 / 04 Highlights	Performance Review	Targets & Initiatives for 2004 / 05 and Beyond	Verification Statement	Annexes
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Our Vision for Sustainable Housing

Paving the way for sustainable housing requires a balance between the social and economic needs of the communities in the Housing Authority estates with environmental resources required for our projects and properties.

To achieve our vision of sustainable housing, we are committed to adopting planning, design, construction and maintenance methods to address environmental, health and safety issues in our projects. For example, during 2003 / 04 we completed studies to improve the drainage designs in our housing blocks, and we undertook intensive inspections and a marking scheme to improve environmental hygiene in our estates. We also continue to partner with industry to promote various environmental, health and safety initiatives.

In this way, we will continue to be an active partner in encouraging healthy living and enhancing the quality of our urban environment to the benefit of our residents, business partners, our staff and the broader community.

We are pleased to present our progress in this report - our first ever integrated Environmental, Health and Safety Report.



Message from the Chairman

The year of 2004 marks the 50 years of public housing development in Hong Kong. In the last few decades, the Housing Authority has worked hand in hand with our tenants and business partners in promoting a green and healthy environment.

Our latest building technologies have been developed to promote sustainability in our housing projects. We have put in greater efforts to integrate environmental initiatives into our work process while addressing health and safety concerns. The outbreak of SARS has highlighted the importance of the tripartite relationship between building design, environmental quality, and health and hygiene. Consequently, we have strengthened our efforts in environmental hygiene with rigorous measures undertaken by our estate management and maintenance staff.

With the continued support of our tenants and partners, we are looking forward to advancing a culture of green, healthy and safe living for all of our stakeholders in the years ahead.

A handwritten signature in black ink on a light green rectangular background. The signature is cursive and reads "Michael Suen".

Michael SUEN Ming-yeung

Chairman



Message from the Director

This year, apart from the environmental aspect we have expanded the scope of our reporting to cover our achievements in the areas of health and safety. All along, the Housing Authority has adopted high standards with regard to enhancing environmental efficiency in all areas of our operation, including development and management of our estates; promotion of healthy living; and maintaining a safe environment for our workers and tenants.

We took steps to reduce waste generation by maximizing the use of recycled materials and increasing construction efficiency. In our project planning and design, we have adopted comprehensive microclimate assessment techniques to optimize wind environment, noise, heat and daylight conditions to the benefit of environmental comfort, hygiene and safety. We have also taken on board various energy saving measures in the management of our estates.

Our experience with SARS has hammered home the need for stronger action on the cleanliness aspects in our estates. During the year we have taken resolute actions to achieve our objective of improving environmental hygiene at public housing estates, including many steps to foster community involvement. We implemented various cleanliness and environmental hygiene schemes at the community level, and available figures confirm that these schemes have been fruitful.

At the core of our efforts is the creation of a sustainable living environment. Not until all residents learn to care about their own community can we hope to establish and nourish a quality living culture. Our frontline staff will continue with their commendable efforts to achieve this goal, and I strongly believe that the seeds we sow today will produce luxuriant growth in future.

A handwritten signature in black ink on a light green background.

LEUNG Chin-man

Director of Housing

Summary

Our Environmental, Health and Safety Performance at a Glance

- We completed most of the 48 environmental targets. Together with 10 targets of substantial progress, we have fully or nearly met 90% of our targets. With regard to the nine health and safety targets identified for the year, all were completed.
- Due to various unforeseen reasons, the remaining four targets were behind schedule and one was withdrawn. Of these, our target on water reduction was not achieved due to the intensive cleaning programme had increased the water demand after the outbreak of SARS.
- We have been enhancing the planning and design of our new buildings with the aid of computerized fluid dynamics (CFD) techniques. Using CFD we have studied the effects of microclimate on the users around and within our buildings.
- In waste reduction and management, we made significant achievements including a 7% year-on-year reduction in our construction and demolition (C&D) waste disposal. A 20% year-on-year increase in the use of recycled aggregates at construction sites. Our residents made 0.27 kg less domestic waste per person per day than the Hong Kong average.
- Our recent Public Housing Recurrent Survey 2004 reports an increasing satisfaction (62% compared with 52% and 45% in 2003 and 2002 respectively) amongst our tenants of the cleanliness and environmental hygiene conditions in our estates.
- There were eight convictions: one for air, six for construction noise and one for water pollution. This was an improvement compared with 20 convictions in 2002 / 03.
- There were 195 accidents at our new works construction sites, which represent a 28% year-on-year reduction and 60 maintenance works related accidents compared with 119 and 204 cases in 2002 and 2001 respectively.
- There were 67 health and safety convictions against our construction. Of these 38 were due to public health non-compliance associated with mosquito breeding, and 29 were on site safety.

Paving the Way for Sustainable Housing

Our major environmental, health and safety performance during 2003 / 04 for paving the way for sustainable housing are listed below.

Planning and Ensuring a Healthy and Hygienic Living Environment

- We initiated a series of special cleansing and hygiene measures since the outbreak of SARS including cleansing and disinfecting common facilities and placing over 400 automatic hand soap dispensers and sanitizers at 160 of our shopping centres and car parks.
- We commissioned specialists to advise on the drainage design and to prepare design, installation and maintenance guidelines.
- We launched the Drainage Ambassador Scheme and inspected over 282 000 units in more than 831 blocks.
- We launched a Marking Scheme for Tenancy Enforcement where points are allotted to households committing misdeeds and a penalty system is in place to trigger action for tenancy termination.
- We started relocating cooked food stalls from open areas to enclosed premises.

- 370 joint raids against illegal cooked food hawkers were conducted together with the Food and Environmental Hygiene Department and the police and in 1 010 seizures and 90 arrests were recorded.

Reducing Construction and Demolition Waste

- We achieved a 7% reduction in our C&D waste disposal through various initiatives.
- We incorporated durable and reusable materials into design plans and extended building lifetime through effective maintenance aiming to reduce C&D waste.
- We recovered reusable and recyclable materials from deconstructed old buildings and other construction sites and used these recovered materials in all building construction projects.

Encouraging Our Residents to Reduce and Recycle Household Waste

- The domestic waste generated per person per day in our estates remained steady at 0.82 kg.
- Over 127 000 households in eight housing estates have easy access to separation bins in the common areas of their floors.
- 18 Housing Department direct-managed estates joined the Waste Recovery Trial Scheme and five rental estates and five Home Ownership Scheme courts joined the Plastic Bags Recovery Trial Scheme organized by the Environmental Protection Department.

Safeguarding Water Quality for Our Residents and Reducing Water Wastage

- We continued to replace galvanized steel potable water supply pipes with copper and ductile iron pipes and completed re-plumbing works in 47 rental blocks.
- 99 housing blocks were certified under the Fresh Water Plumbing Quality Maintenance Recognition Scheme.
- All of our construction sites involving large diameter bored piling works now adopt water recycling facilities to minimize wastewater.
- We were not able to meet our target of reduction in potable water consumption due to the necessary demand for cleaning water to deal with the threats of SARS and Avian Influenza.

Enhancing Energy Efficiency

- We conducted "micro-climate" studies using sophisticated computer software and the findings enabled us to formulate energy efficient building specification and design guides.
- We installed a number of energy saving equipment including lighting with electronic ballast, water-cooled air conditioning system and air-curtains, and ran a trial scheme on "Luminosity Enhancement Jacket".
- Two shopping centres were certified under the Energy Efficiency Registration Scheme.
- The total electricity consumption of our headquarters decreased by 8.2% year-on-year.

Minimizing Ozone Layer Destruction and Enhancing Air Quality

- We banned the use of ozone-depleting refrigerants in all our central air conditioning systems and retrofitted / replaced all affected chillers with CFC free refrigerants.
- We installed over 50 biotechnology odour controlling equipment and 150 packaged deodourizers at refuse handling facilities.
- We launched a trial use of Gas Desiccant Dehumidification systems equipped with air conditioning and installed Ultra-violet Radiation Lighting in wet markets.

Reducing Noise Nuisance at Our Construction Sites and in Estates

- We conducted a number of pilot studies on noise reducing construction equipment and methods including hydraulic pile-jacking method and hydraulic concrete crushers, and self-compacting concrete and found that these methods can effectively minimize noise effect.
- We replaced 35 quieter water pumps in our estates.

Implementing Environmental, Health and Safety Procurement

- We further developed our cleansing contract requirements to include Environmental Management Plan and guidelines for purchasing and using cleansing products.
- We adopted Life Cycle Costing in the procurement of lifts and escalators.
- We expanded the Pay for Safety Scheme into more contracts and included Safe Working Cycle as a contractual requirement for all capital works projects.
- The Integrated Pay for Safety, Environment and Hygiene Scheme was implemented in three ongoing construction projects.

Conserving Natural Resources

- Our contractors saved over 28 500 tonnes of timber by using metal formwork and precast concrete elements.
- We conducted a trial to "butt-join" shortened pieces of wood to produce wooden planks and volumetric precasting to reduce wood consumption.
- We increased the use of recycled aggregates at our construction sites by 20% year-on-year.

Handling Hazardous Materials in an Environmentally Friendly and Safe Manner

- We surveyed 50 of our estate schools and removed the potentially high risk asbestos containing material.
- We collected 63 000 and disposed of 22 000 spent mercury-containing lamps since 2002 in an environmentally friendly and safe manner.

Enhancing the Living Environment through Estate Landscaping and Greening

- We planted about 10 000 trees, 841 500 shrubs and 96 800 annual plants at our new and existing estates.
- We upgraded the standard of existing landscape facilities covering 110 000 square metres and greened 6 000 square metres.
- We greened 9 600 square metres of newly formed slopes and 10 existing slopes.
- We won the Champion Award for Design Excellence in the Hong Kong Flower Show.

Ensuring High Safety Standard in Our Buildings and Workplace

- We planned to issue design guidelines on the practical features of the UK's Construction (Design and Management) Regulations.
- We encourage site safety culture through including safety contractual requirements such as Green Card, Safe Working Cycle and Pay for Safety Scheme.
- We launched a number of programmes to raise public awareness of fire safety at home.
- We are pleased that 98% of our performance pledges for estate emergency were fully achieved.

- The total number of accidents during our new works and maintenance works contracts was 255 accidents in 2003 compared with 390 accidents in 2002.

Raising Awareness among Staff and Other Stakeholders and Encouraging Partnerships

- We supported 16 environmental training events attended by over 400 staff members.
- We arranged self-learning construction site safety packages and held safety training courses attended by over 560 staff members.
- We promoted environmentally friendly property management through participating in the Best Property Management Award and six property management companies employed by the Housing Authority received awards.
- We worked with business partners to implement various awareness raising initiatives such as organizing our International Housing Conference for international practitioners to share experience, co-organizing the Quality Public Housing Construction and Maintenance Awards.
- We worked with our residents and the community to promote awareness on environmental hygiene. Initiatives implemented include organizing some 290 estate-based cleansing activities and the Best Hygiene Award for Food Premises and Excellence Award for Toilet Cleaners which had drawn almost 200 million votes, organizing eco-bazaars at 25 selected estates and setting up Team Clean Corners.
- We organized the first of its kind the Top Ten Favourite Trees in Public Housing Estates aiming to promote public awareness.

Ensuring High Environmental, Health and Safety Standards at Our Own Offices

- Our Quality Management Unit launched an e-filing system for paperless operations.
- We achieved a 5% reduction year-on-year in total paper consumption and 100% of paper used for our publications in 2003 / 04 was environmentally friendly.
- We provide our staff members with a non-smoking and clean working environment at our headquarters where various trees and plants are planted.
- We encourage balanced work life by organizing a number of social activities participated by over 7 100 staff members and providing a counselling hotline service.
- With the active involvement of our staff, we won the Wastewi\$e Scheme award for three consecutive years.

The Way Forward

In order to pave way towards sustainable housing, we will continue to strengthen our performance on environment, health and safety. Our future targets and initiatives shall be underpinned by the principles of sustainable development, and these principles shall be applied in policy development and the planning, design, construction and management of our projects and estates. We have set ourselves the following major new environmental and safety targets.

Environmental Risks

- Maintain a clean and healthy environment through continued implementation of our various environmental and hygiene schemes.
- Complete our asbestos abatement programme.
- Replace cast iron soil and waste pipes inside domestic flats; and replace cast galvanized steel water pipes for estates with poor water quality and participate in the Fresh Water Plumbing Quality Maintenance Recognition Scheme.

Noise

- Replace more water pumps with quieter ones.
- Explore quieter construction equipment and technology.

Waste Reduction and Management

- Increase waste reduction efforts at our estates and in our construction works.
- Maintain our research into selective demolition techniques and waste material reuse.
- Continue our recovery of spent mercury-containing lamps.
- Further encourage and improve upon green practices in our own offices.

Energy and Resources Conservation

- Reduce energy consumption in our headquarters and shopping centres.
- Explore more energy saving equipment and measures.
- Reduce water wastage / consumption at construction sites and in estates.
- Continue to minimize timber and cement consumption and increase the use of recycled aggregates in our construction works.

Greening and Landscaping

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

Environmental Knowledge and Innovative Designs

- Develop a Life Cycle Assessment system to support sustainable building development.
- Continue with "micro-climate" studies for our new buildings to support healthy living.

Safety Performance

- Reduce the accident rate for new works to below 30 per 1 000 workers.
- Establish a database to monitor the site safety performance in maintenance works.
- Continue to enhance safe practice in our construction and maintenance works.
- Continue to partner with industry stakeholders to promote construction safety awareness through territory-wide publicity campaigns.

Business Overview and EHS Management Structure

Our Role and Services

At the Housing Authority (HA), our role is to cater to Hong Kong's public housing needs. As of end of March 2004, 50% of the total population was living in public housing (i.e., including the HA's and the Housing Society's rental and subsidized sale flats).

To satisfy our role, we formulate housing development strategy and oversee strategic planning for public housing. According to the strategy, we plan, develop and implement the Public Housing Construction Programme and various subsidized, loan and rental allowance schemes.

We also oversee the management and maintenance of public rental estates and associated amenities such as shopping centres, car parking and recreational facilities within our estates.

Housing Stock and Production

As of end of March, there was a stock of 2 372 000 permanent residential flats in Hong Kong. Of these 1 086 000 flats were the public housing stock, with 95% of these under the management of the HA. We also own 1.07 million square metres of internal floor area of retail premises and operate 100 700 car park spaces.

In 2003 / 04, we produced about 20 000 flats. Private housing production based on the data from Rating and Valuation Department was some 26 400 flats in 2003.

Environmental, Health and Safety Policy

In meeting the public housing needs in Hong Kong, we strive to prevent and minimize impacts on the environment and safeguard the health and safety of our residents, business partners, employees and other relevant parties.

To achieve this, we have established Environmental Policy and Safety Policy, and have adopted corresponding targets in our procurement process. These policies provide us with clear directions of fully integrating a culture of environmental, health and safety (EHS) into our operations.

Environmental Policy

- 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 our 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; and
- To review and seek continual improvement on the implementation of an environmental management system.

Safety Policy

- To provide information on safety and health criteria in building HA projects for contractors, the public and other key stakeholders;
- To make safety and health performance one of the critical considerations in tender selection for all new and existing building projects;
- To build up safety profile of contractors for continuous assessment of safety performance;
- To monitor contractor safety performance by the independent and in-house assessment;
- To work through partnership by incorporation of the contractor's input in respect of safe construction technology and equipment; and
- To promote safety and health issues particularly related to HA projects to enhance the safety and health of persons involved.

Environmental, Health and Safety Governance Structure



Environmental, Health and Safety Governance and Management

Meeting high standards of operational and EHS performance requires a dynamic, transparent and accountable governance structure and effective communication channels.

A number of the HA's Standing Committees advise the Authority on relevant policies including EHS matters to ensure reliable services are provided and quality is maintained. Policies issues on environmental and safety issues related to building construction and estate management are handled by the HA's Building Committee and Subsidized Housing Committee respectively.

At the departmental level, various functional committees, task forces, and management units that are responsible for implementing our policies issues relevant to EHS will provide support to our Standing Committees. In addition, the overall environmental management is led by the Housing Department Environmental Committee, which is supported by Division Environmental Committees and various specialist groups.

We also implement an independent checking and audit system to evaluate our internal control systems, make regular checks against the Building Ordinance and conduct final inspections on our building projects to ensure a high quality product.

Our approach to managing our EHS matters is systematic, robust and effective. We adopt management principles to:

- Identify EHS aspects associated with our operations and evaluate their significance;
- Identify appropriate control measures for preventing and minimizing impacts based on the level of significance;
- Review the effectiveness of control measures; and
- Identify and implement appropriate improvement actions.

Our ultimate goal is to achieve continual improvements in all areas.

We believe success of a management system relies not only on management commitment, but also on effective communication and partnering with all stakeholders. We maintain both internal and external communication channels to ensure that concerns of our stakeholders are effectively communicated. Various incentive and sanction schemes and partnering initiatives are in place to encourage our business partners to improve their EHS performance.

We also place high priority on the professional and personal development of our staff. We identify and provide suitable training to enhance their skills and knowledge and to improve our own EHS performance.

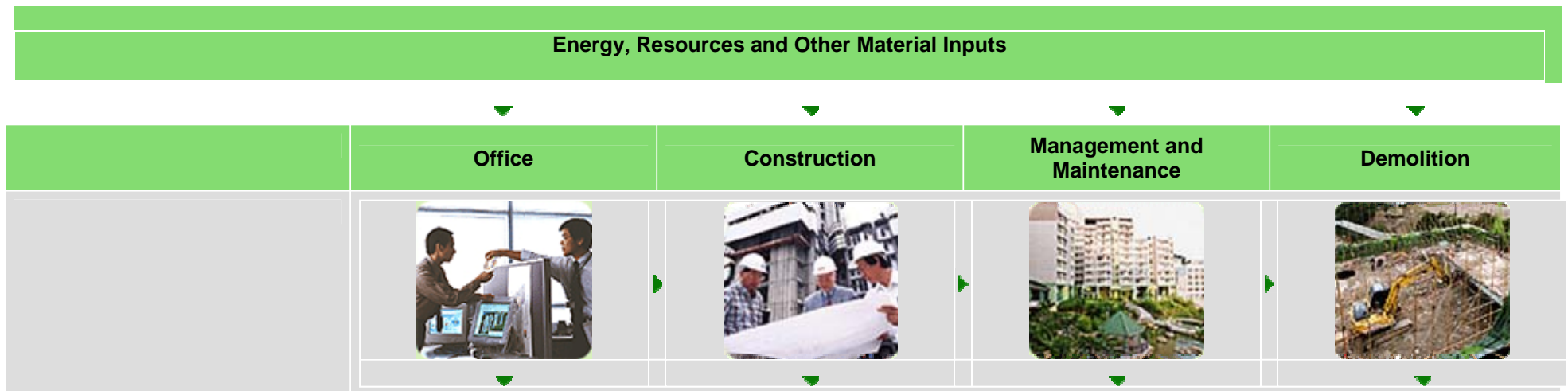
Significant EHS Aspects

The life cycle of the activities of the Housing Authority (HA) have potentially significant impacts on the environment and relate to a range of health and safety issues. Identification of environmental, health and safety (EHS) aspects thus, becomes a crucial step in developing our policies and setting our goals and objectives. Assessing related EHS issues can reduce the potential for unforeseen costs to the environment and society at large.

Environmental concerns have always been a key focus of the HA and the value of healthy living and safe workplace has increasingly been drawn to our attention in recent years. We try to adopt a holistic approach to achieve sustainable housing through all stages of our operations, from our planning and design, allocation and office administration at office to construction works on site, and estate management. Our updated Integrated Pay for Safety, Environmental and Hygiene Scheme covers all significant EHS aspects and is applied to all HA building, foundation, demolition and civil engineering contracts.

The Authority is moving towards the development of a comprehensive EHS management system where all significant EHS issues can be identified, managed and monitored.

Life-cycle Stages of the Housing Authority Business and Their Significant EHS Aspects



Significant Environmental Aspects

Site Identification and Land Use				
Liquid Effluent				
Air Emissions				
Noise Emissions				
Energy Efficiency				
Materials Selection and Usage				
Hazardous Materials				
Waste Management				
Estate Greening				

Significant Health and Safety Aspects

Indoor Air Quality				
Environmental Hygiene				
Building Accessibility				
Occupational Hazards and Risks				
Ergonomics				
Other Health & Safety Concerns				

2003 / 04 Highlights

The year 2003 / 04 was of great significance for the Housing Authority (HA).

December 2003 marked the golden anniversary of public housing in Hong Kong. At the ceremony we also launched a commemorative book, *Fifty Years of Public Housing in Hong Kong: A Golden Jubilee Review and Appraisal*. The event was held at Shek Kip Mei, the site of our first public housing estate.

In early 2003, our attention was very much focussed on the potential threat of SARS and in implementing a series of initiatives to improve environmental hygiene. Some of the key events are highlighted below:

- We supported the territory-wide Cleansing Day in April 2003, and we implemented Phase 1 of our Drainage Ambassador Scheme in May 2003. By the end of 2003, our drainage ambassadors recruited for Phases 1 and 2 of the scheme had rectified internal drainage pipe defects in almost 30% of the 282 000 housing units inspected.
- In conjunction with these efforts, we also conducted Drainage Improvement Trails to seek ways to improve drainage planning and design to enhance environmental hygiene.
- Recognizing the need to sustain stakeholder efforts in environmental hygiene and cleanliness, the following months saw the continuation of several improvement schemes and the launch of various new schemes to encourage a new "cleansing culture":
 - Clean Culture Campaign
 - Marking Scheme for Tenancy Enforcement
 - Cleanliness Incentive Schemes for Public Housing Estates and Commercial Estate
- In February 2004, we were pleased to hold the International Housing Conference 2004 on "Housing in the 21st Century: Challenges and Commitments" at the Hong Kong Convention and Exhibition Centre. A key theme for the conference was "Sustainable Housing for Healthy Living".



Key environmental and safety activities taken during the year are listed below:

- Implementation of the Integrated Pay for Safety, Environment and Hygiene Scheme for all building, foundation, demolition and civil engineering contracts.
- We supported the Electrical and Mechanical Safety and Energy Efficiency Campaign with a game booth at Kowloon Park to heighten public awareness of electrical, gas, lift and escalator safety and energy efficiency.
- On fire safety, we joined the Fire Services Department to arrange for 80 secondary students to attend the Estate Fire Safety Elites Training Camp. This followed on from our efforts in the year to raise fire safety awareness through our Estate Fire Safety Campaign - Home Fire Safety and our Fire Safety Roadshow that visited over 50 housing estates.



Community greening and environmental awareness initiatives were also undertaken during the year:

- The announcement of voting results for the Top Ten Favourite Trees in Public Housing Estates award. Topping the list was the Silk Tree at Sau Mau Ping Estate. The award ceremony was followed by a community tree planting event.
- In March 2004, Housing Department staff members joined over 450 tenants and students from Fu Tung and Yat Tung Estates in Tung Chung for Hong Kong Tree Planting Day.
- The ever popular HA Flower Show was held earlier this year at the Lok Fu Shopping Centre.



We were once again pleased to share the recognition of our business partners and communities at several award ceremonies during the year:

- In September 2003, the HA was honoured to be recognized by the Ombudsman for our collective efforts in combating SARS. For this we give our sincere thanks to all of our community stakeholders.
- Our Environmental Report 2002 / 03 was awarded Certificate of Merit under the category of Best Environmental Reporting Award at the 2003 Hong Kong Eco-Business Award, and also the Commendation Award for Environmental Report from the Association of Chartered Certified Accountants.
- Best Landscaped Slope Awards, where we won the Champion Award for our innovative landscaped slope protection design in Ma Hang Housing Estate.
- Quality Public Housing Construction and Maintenance Awards 2003.
- Best Property Management Awards 2003; and
- Green Property Management Awards 2003



Details of these and various other initiatives and our performance during the year are presented under Performance Review of this report.





Working closely with our stakeholders, we have met most targets and we will be planning for more.

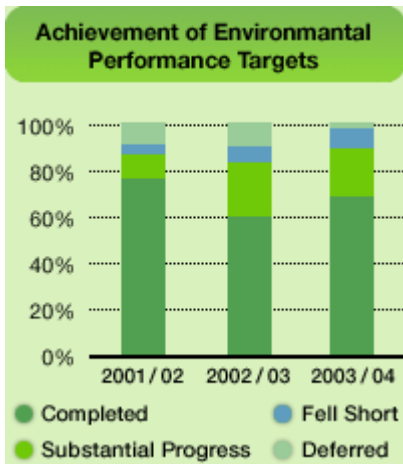
Performance Review Overview

- Meeting Environmental, Health and Safety Targets
- Legislative Compliance
- Building EHS Performance

Meeting Environmental, Health and Safety Targets

At the Housing Authority (HA) we continue to work closely with residents, property managers and our other business partners to meet all environmental, health and safety (EHS) performance targets.

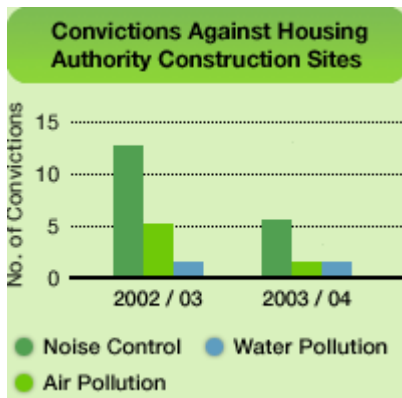
During the year 2003 / 04 we had set 48 environmental targets and nine health and safety targets. Of these, we fully completed the health and safety targets. Of the 48 environmental targets, 33 were completed. Together with another 10 targets of substantial progress, we have achieved a similar level of completion at around 90% as of the previous year. The outstanding works are all expected to be completed in the second quarter of 2004.



For the remaining five targets that are behind schedule or withdrawn, the difficulties in meeting the targets have been reviewed. For example our target for reduced water consumption was not achieved largely due to the increased water demand for our intensive cleaning programme following the outbreaks of SARS and Avian Influenza. Also, our waste recovery target in our housing estates was under-performed due to the diversion of recovered waste materials by private collectors for resale. The introduction for electronic submission of application forms for Home Assistance Loan Scheme was deferred after consideration of its cost-effectiveness. The corresponding Key Performance Indicators of these targets for future years have subsequently been reviewed to a level that sets a more realistic challenge.



For the year 2004 / 05, due to the cutback in flat production, we have preliminarily set 37 EHS targets. Most of these targets will be a continuation of current initiatives, but we have included five new targets for health and safety initiatives.



Legislative Compliance

Regarding the EHS performance of our contractors during the year, there were eight convictions due to environmental non-compliance: one for air, six for construction noise and one for water pollution. This is an improvement compared to 20 convictions received in 2002 / 03.

There were also 67 health and safety convictions against our construction sites during the year. Of these, 38 were due to public health non-compliance and 29 were on site safety. The convictions cases on public health primarily associated with mosquito breeding were increased from 13 such convictions in 2002 / 03. The upsurge of these cases during 2003 / 04 was due to increased enforcement of anti-mosquito measures in the wake of outbreaks of Dengue Fever and Japanese Encephalitis. We have targeted for significant improvement in 2004 / 05.

Year-on-year, the number of industrial accidents in our construction sites has fallen by 28% at our new works sites

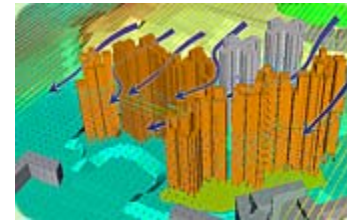
to 195 incidents, and by nearly 50% during maintenance works to 60 incidents.

Building EHS Performance

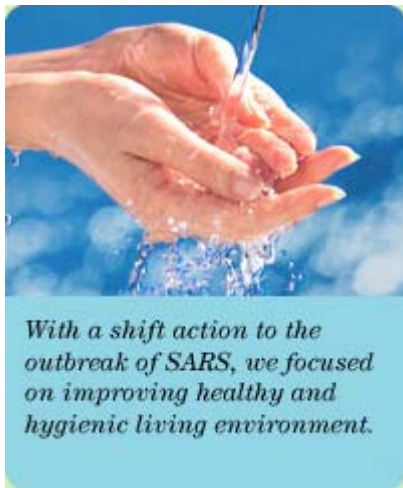
In recent years we have been enhancing the planning and design of our new buildings with the aid of computerized fluid dynamics (CFD) techniques. Using CFD we have studied the effects of microclimate on the users around and within our buildings, including simulations of pedestrian wind environment, natural ventilation, daylighting and heat gain for sun movement, indoor air quality, thermal comfort, etc.



By the end of 2004, we will complete microclimate research, which was being carried out for seven public planning. To assess the effectiveness of these studies, performance of these ongoing projects will be the Hong Kong Building Environmental Assessment us identifying gaps in environmental building necessary design improvements.



housing projects under the environmental evaluated and ranked against Method (HKBEAM) to help performance and making the



With a shift action to the outbreak of SARS, we focused on improving healthy and hygienic living environment.

Health and Hygiene

- ▶ Planning for a Healthy and Hygienic Living Environment
- ▶ SARS Preventive Measures
- ▶ Anti-mosquito Measures
- ▶ Other Measures for a Hygienic Living Environment

Planning for a Healthy and Hygienic Living Environment

Following the discovery of limitations in the drainage network at some of our public housing estates during the outbreak of SARS, we implemented an ongoing comprehensive inspection and repair programme in all estates.

For our new projects, we commissioned an academic institute to audit the drainage design of our standard harmony blocks. We also commissioned a specialist to advise on the drainage design for one of our non-standard projects and to prepare guidelines on drainage system design, installation and maintenance throughout the life cycle of the buildings.

We started technical reviews of our re-entrant design during the year to allow for easy inspection and maintenance from common corridors. We also started drainage improvement trials in shower areas and beside wash basins at a number of our projects in mid-2003 aimed at preventing backflow. A new common trap design is being considered to prevent the drying up of floor traps.

In order to minimize environmental impacts from underground drainage restoration works, we adopted innovative "no-dig" technology whereby pre-cleaned underground pipes would be relined through a self-hardening polymer injection without need for excavation.

The Housing Department (HD) is also a member of the working group established by the Buildings Department to improve environmental hygiene, including measures to improve access to external drainage for regular and comprehensive inspection and maintenance works.

Our recent Public Housing Recurrent Survey 2004 reports a trend of increasing satisfaction amongst our tenants of the cleanliness and environmental hygiene conditions in common areas of our public rental housing (PRH) estates: 62% compared with 52% and 45% in 2003 and 2002 respectively. With your support we look forward to further improving our performance.



SARS Preventive Measures

A comprehensive programme to improve personal and environmental hygiene in public housing estates was launched by the Housing Authority (HA) during the year.

A series of special cleansing and hygiene measures were initiated by the HA in April 2003 at shopping centres, markets and car parks. Key initiatives taken by property management staff, building services staff, maintenance contractors and car park operators at these facilities included:

- Display of posters and notices on public health and distribution of health care letters and leaflets to tenants and shoppers;
- Regular cleansing and disinfection of common facilities, building services e.g. lift buttons and hand rails, as well as children's play equipment and drainage systems; and
- Installations of over 400 automatic hand soap dispensers and sanitizers at 160 of our shopping centres and car parks.

Besides, we launched a Clean Culture Campaign between June and November 2003, and issued advice and guidelines to management agents, frontline staff, tenants and employees of food and eating premises in November 2003.



We also launched the Drainage Ambassador Scheme in May 2003. By the end of Phase 1 of the scheme in August 2003 we had inspected the indoor drainage in about 310 housing blocks that were old or primarily occupied by senior citizens.

By March 2004, with the assistance of over 100 Drainage Ambassadors, we had inspected over 282 000 units in 831 blocks, and had rectified drainage defects in over 83 000 units. All inspections and repairs of the remaining 224 blocks were scheduled for completion in May 2004, at the end of Phase 2.

In 2003 / 04 we also conducted two cycles of inspection and repairs to common and external drainage installations in public housing estates, and completed inspection of all housing blocks by March 2004.

Further measures aimed at strengthening our cleansing and disinfection efforts in refuse areas and common areas included:

- Raising general health awareness by issuing pamphlets and guidelines to all households;



- Arranging inspections to drainage systems and vent pipes;
- Intensifying cleansing and disinfection activities using 1:99 diluted household bleach; and
- Strengthening rodent and pest control.

In December 2003, we established a three-level Contingency Plan for SARS Outbreak. The system sets out clear operational guidelines for frontline staff and property management companies at each level, depending on the scale and nature of the risk. We also conducted practice drills to enhance the alertness and preparedness of our frontline staff. One such drill took place in Lei Yue Mun Estate in January 2004.

Anti-mosquito Measures

Over the year we have remained vigilant to prevent possible mosquito-borne diseases such as Dengue Fever and Japanese Encephalitis.

Anti-mosquito measures have been implemented in all public rental housing estates, commercial properties and construction sites. Measures include inspection, cleaning and clearing of floor drains, roof gutters and surface channels to prevent accumulation of water, and spraying with larvicide as necessary.



We also inspected common areas to check for stagnant water held in litter such as discarded bottles and lunch boxes that might assist mosquito breeding.

We placed posters in lift lobbies and distributed leaflets to remind tenants of the potential risk of mosquitoes. Tenants were advised to remove stagnant water gathered in plant pots and saucers, air-conditioner traps and water storage containers at home to control mosquitoes.

Other Measures for a Hygienic Living Environment

In our public housing estates the accumulation of rubbish on top of air-conditioners and canopies, the dumping of abandoned objects in common areas, and illegal cooked food hawking are common problems. In this respect, the HD set out a series of short term measures in May 2003 to clean up hygiene black spots, enhance refuse collection, provide drainage check and stamp out illegal cooked food hawking in public housing estates.



These measures follow on from the HD's support for the territory-wide Cleansing Day on 19 April 2003 when a new round of cleansing operations in all PRH estates was staged while tenants were encouraged to do the same at home.

To sustain improvements and tackle the more fundamental problems, longer-term initiatives were introduced during the year. Although the Team Clean was disbanded in August 2003, we are committed to continuing the delivery of the initiatives originally put forth by the task force.

The following are amongst the key initiatives launched during the year.

Marking Scheme for Tenancy Enforcement

Under this Scheme implemented in August 2003, points are allotted to households committing any one of 19 public hygiene and public health misdeeds. These include eight "zero tolerance" misdeeds that pose serious hygiene threats, such as littering, spitting in public areas, and indiscriminate dumping or disposal of decoration debris at refuse collection points.

A warning system was introduced to allow residents to rectify misdeeds. An accumulation of 16 points in a two-year period will trigger action for tenancy termination. Up to the end of March 2004, almost 1 800 tenants had been allotted with points for misdeeds such as littering and spitting, including 25 tenants allotted with 10 points or more.

Stringent Enforcement against Spitting and Littering

In response to endorsement of the Legislative Council in June 2003 to raise the penalty for cleanliness offences, additional teams have been formed to step up enforcement actions against spitting and littering offences in PRH estates.

Restaurant and Factory Tenants

We have started relocating cooked food stalls from open areas to enclosed premises; and have requested tenants to conduct regular cleaning of cooked food stalls, grease traps, common areas and facilities; and to ensure all waste management practices and the handling / storage of dangerous or high polluting materials follow relevant regulations and guidelines.

Combating Illegal Cooked Food Hawking

Agreement has been reached with the Food and Environmental Hygiene Department and the police to carry out joint enforcement against illegal

cooked food hawkers in 23 PRH estates which have more than 10 illegal cooked food hawkers. From August 2003 to March 2004, 370 joint raids had been conducted resulting in 1 010 seizures and 90 arrests. The number of illegal hawkers in these estates dropped from 194 in March 2003 to 156 March 2004.

Measures Against Falling Objects

In December 2003, we employed a security company to assist enforcement efforts against PRH tenants dropping objects from height. This initiative will be supported by the pending relocation of existing CCTV systems in PRH estates to strategic locations or identified black spots.



Water

- ▶ Safeguarding Potable Water Quality
- ▶ Fresh Water Plumbing Quality Maintenance Recognition Scheme
- ▶ Reducing Water Wastage

Safeguarding Potable Water Quality

Over the past few years, we have made good progress in re-plumbing our housing blocks to prevent discolouration of tap water.

In 2003 / 04, we continued to implement our Replumbing Programme to replace poor condition galvanized steel potable water supply pipes with copper and ductile iron pipes. We undertook plumbing condition surveys and water tests to assess the condition of existing pipe-work before decisions on re-plumbing were made. During the year, we completed re-plumbing works in 47 rental blocks.

Fresh Water Plumbing Quality Maintenance Recognition Scheme

Launched by the Water Supplies Department two years ago, the scheme encouraged building owners to maintain their plumbing system to ensure good quality water supply for users. We joined the scheme in early 2004 with an aim of gaining certification for our 1 000 rental blocks. The scheme accreditation signifies that we have, as we always did, maintained our plumbing system in a proper manner and have consistently kept the level of maintenance

to a high standard. Joining the scheme will provide a third-party guarantee and certification of our maintenance quality.

The scheme requires building owners to regularly clean the water tanks and inspect the plumbing system at least once every three months as well as test water samples at least once a year. We have all along been continuously carrying out regular checking and maintenance of the plumbing system of rental blocks to ensure good quality water supply for our clients.

In 2003 / 04, 99 housing blocks of our estates were certified under the scheme. We plan to achieve certification of all rental blocks by 2006.



Reducing Water Wastage

Water is essential for life and so we always have a primary goal to protect and conserve water resources. In the past year, we continued our effort to reduce water wastage in our housing blocks and construction sites. We have installed self-stopping water taps for reducing potable water consumption in commercial centres and markets in our public housing estates. Some of our major achievements are highlighted below:



- All of our construction sites involving large diameter bored piling works now adopt water recycling facilities to minimize wastewater.
- We launched a trial scheme at our Ho Man Tin Headquarters on saving toilet flushing water. The installation of dual-flush fittings in female toilets was completed in February 2004, and performance monitoring is in progress. Water savings studies on the use of dual flush toilets and water saving taps will continue in 2004 / 05.
- To further conserve potable water, we continue to research water saving devices for use in our commercial centres and public housing estate markets. We aim to complete our research in the first quarter of 2005.

In 2003 / 04, although we made improvements in advancing water conservation, we were not able to achieve our target of a 0.5% reduction in potable water consumption for our estate management work. Instead, we recorded a 27% increase due to the necessary demand for cleaning to deal with the twin threats of SARS and Avian Influenza. However, we are looking forward to a reduction in water consumption in 2004 / 05.



Our aim to enhance energy efficiency begins when we plan and design for public housing.

Performance Review

Energy

- ☑ Enhancing Energy Efficiency
- ☑ Energy Efficiency Registration Scheme for Buildings
- ☑ Energy Consumption

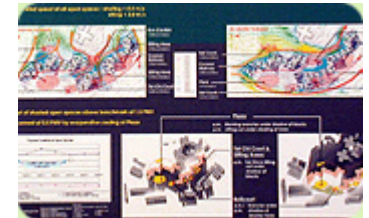
Enhancing Energy Efficiency

We continue to implement measures to enhance energy efficiency and energy management in our premises. Our efforts over the past year are highlighted below.

"Micro-climate" Studies

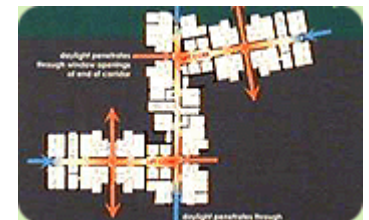
To improve environmental performance, we have been conducting "micro-climate" studies of indoor areas and common open space during the planning and design of our public housing projects.

Using sophisticated computer software, we have simulated the pedestrian wind environment, natural ventilation, solar penetration, daylight, indoor air quality and energy use for several projects under planning, including those in Tin Shui Wai, Tung Chung, Lam Tin, Choi Wan Road and Upper Ngau Tau Kok.



To assess the effectiveness of these studies, the project environmental performance will be evaluated against the Hong Kong Building Environmental Assessment Method (HKBEAM) criteria.

The feedback from this exercise helps us to identify gaps in environmental performance and enable us to map out an improvement plan to enhance our specifications, design standards and design guides.



Please select:



Energy Codes in Building Designs

We continue to adopt non-statutory Building Energy Codes (BECs) issued by the Electrical and Mechanical Services Department (EMSD) in our new development projects. We adopted the following relevant BECs issued during the past year:

- Code of Practices for Energy Efficiency of Lighting, Electrical, Air conditioning (A / C) and Lift installations; and
- Guidelines on Energy Efficiency of Electrical and Lift and Escalator Installations.



Energy Saving Equipment

Examples of energy efficient equipment we have installed during the year include:



- Lighting with electronic ballast in six car parks and high efficiency lamps in other areas - saving up to an estimated 20% on power consumption;
- Water-cooled air-conditioning systems in one shopping centre - saving up to 10% on power consumption; and
- Air-curtains to minimize infiltration by outside air.

We also completed a trial in an office area on installing an energy saving "Luminosity Enhancement Jacket" (LEJ). The data is being studied and LEJ will be adopted as applicable.

Energy Efficient Management

Energy management is another important means of reducing energy consumption. Our efforts during the past year have included:

- Placing photocell lighting controls in communal areas in public housing estates and commercial centres;
- Adjusting temperature and operating period of A / C systems in the Housing Authority (HA) Headquarters;
- Setting new illumination level standards for lift lobbies (85 lux), corridors (50 lux) and stairways (40 lux) in communal areas in public housing estates; and

- Closing down A / C, lighting, escalator and lift systems during non-business hours in commercial centres.

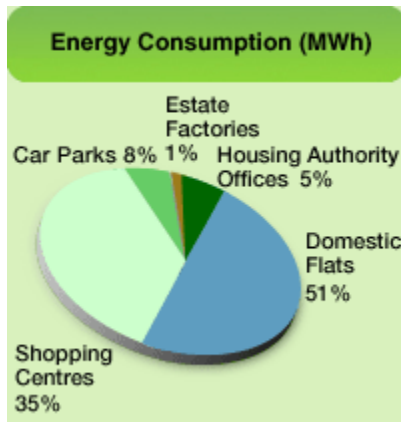
Energy Efficiency Registration Scheme for Buildings

In the year, we have had two more of our shopping centres certified under the EMSD's Energy Efficiency Registration Scheme for Buildings.

The registration of six existing shopping centres had been completed at the end of March 2004. This demonstrated our initiatives in energy saving for lighting and electrical installations. We also continue to adopt the BEC in all building designs.

We have put into practice some innovative energy saving designs in Choi Ming Shopping Centre in Tseung Kwan O. Such designs saved an additional 10% in energy consumption compared with other commercial buildings of a similar structure and occupancy rate. The Choi Ming Shopping Centre was the first building in Hong Kong certified with the performance-based BEC^[2] under the scheme.

To date, most of rental estates with standard block designs have also been awarded the Energy Efficiency Registration Certificate.

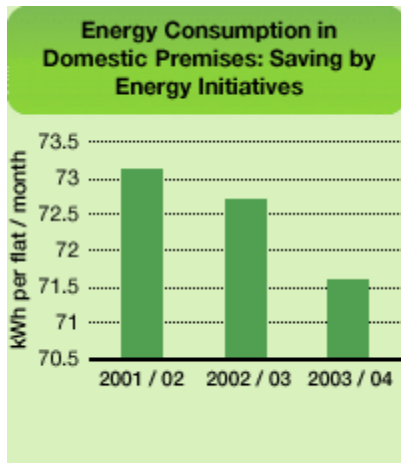


Energy Consumption

Our total energy consumption in 2003 / 04 was 1 016 389 MWh. As a proportion of our total energy consumption for the year, domestic premises account for over 51% while our shopping centres, car parks and the HA Headquarters together with factories accounting for around 35%, 8% and 6% respectively.

Our domestic properties constitute the most to the total energy consumption, our energy efficiency initiatives have led to a gradual decrease in consumption per flat per month.

As the second higher energy consumption, we have also focussed on reduction initiatives in our shopping centres. Our initiative to reduce energy consumption by water-cooled chillers in our Wo Che Shopping Centre achieved a year-on-year energy cost reduction of HK\$0.1 per square metre per day.



In 2003 / 04 the total electricity consumption of the HA Headquarters decreased by 8.2% year-on-year. Compared with

other Government departments where headquarters electricity consumption ranged from 2% increase to 14% decrease, the HA has performed satisfactory.^[3] Our performance was achieved by reducing the operational hours for our air-conditioning and lighting systems, and through the support of our staff in adopting energy saving programmes and practices.



Air

- ▶ Controlling Air Pollution in Construction and Demolition
- ▶ Minimizing Ozone Layer Destruction
- ▶ Controlling Odour and Exhausts in Our Estates
- ▶ Enhancing Indoor Air Quality

Controlling Air Pollution in Construction and Demolition

It is a standard practice in our construction and demolition contracts to require our engineering contractors implement all practicable means to avoid or otherwise control dust and exhaust emissions from construction vehicles.

We specify air pollution control requirements in our contract specifications and we follow this up with assessment methods such as the Performance Assessment Scoring System that are applied to all building contracts.



Minimizing Ozone Layer Destruction

Ozone is a gas that protects the earth's surface from harmful ultraviolet radiation from the sun, and so helps to protect us from skin cancer and other illnesses. The existence of the ozone-hole in our atmosphere has therefore made society aware of the impact of ozone depleting compounds such as chlorofluorocarbons (CFCs).

CFCs have in the past been used in aerosols and as cooling agents in refrigeration systems, chillers and air conditioners.

To play an active role in protecting our world, the Housing Authority has banned the use of ozone-depleting refrigerants in all of our central air conditioning systems and retrofitted / replaced all affected chillers with CFC-free refrigerants.

Controlling Odour and Exhausts in Our Estates

Odour can be a nuisance at our wet markets and refuse collection points. To deal with the odour problem, over the past few years we have completed a number of air quality enhancement initiatives. These include testing the effectiveness of various deodorization systems, installation of over 50 biotechnology equipment items at refuse collection points and 150 packaged deodourizers in the refuse rooms of our public housing estates.



Following the success of these initiatives, we shall introduce more of these installations into our refuse management facilities.

Enhancing Indoor Air Quality

Maintaining good indoor air quality is important if we are to maintain good health. Following the outbreak of SARS last year, we began to increase the fresh air intake rates in our shopping centres to improve the indoor air quality.



During the year 2003 / 04 we extended our efforts by:

- Launching of a trial scheme for use of Gas Desiccant Dehumidification System equipped with air-conditioning in wet markets to maintain a level of humidity that limits bacterial growth; and
- Installation of ultra-violet radiation lighting in wet markets to aid the disinfection of airborne bacteria.



Noise

- Reducing Noise from Our Construction Sites
- Guarding against Noise in Estates
- Noise Complaints and Abatement Notices

Fewer noise complaints we received in consequence of our efforts against noise nuisance.

Reducing Noise from Our Construction Sites

Noise from construction and demolition activities can be a nuisance to residents and the community at large. We therefore have a clear responsibility to incorporate measures to ensure regulatory compliance and to take extra steps to minimize noise levels wherever practicable. Some of the measures that we have taken this year include the following.

Hydraulic Pile Jacking

We have piloted the use of hydraulic pile-jacking method by pressing piles into the ground by static self-weight to effectively minimize noise and vibration effects. This piling method will also extend operating hours and will greatly enhance productivity.

Hydraulic Concrete Crushers

Our trials of using hydraulic concrete crushers in place of traditional concrete breakers have found that this equipment generates negligible noise and emits less dust.

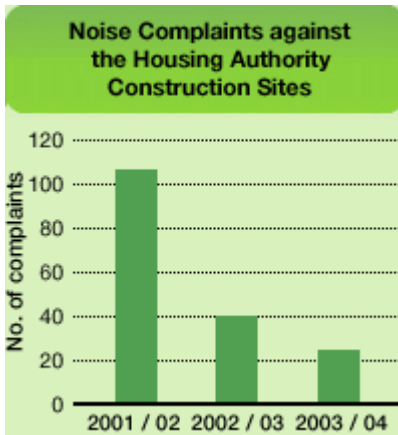


Offsite Prefabrication

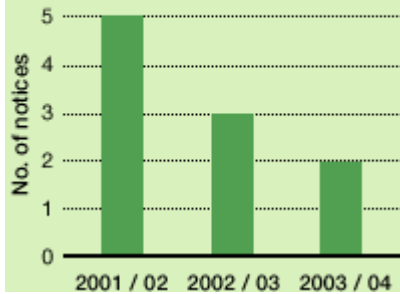
We will continue to use prefabricated building elements such as precast façades and staircases to avoid and reduce noise otherwise associated with construction and maintenance activities.

Study on Self-Compacting Concrete

Preliminary results of this study undertaken in partnership with the Hong Kong City University, indicate that most private sector construction practices agree that using Self-Compacting Concrete (SCC) would lead to environmental benefits although its current use is mainly decided on cost and technical considerations. After completion of this study



Noise Abatement Notices to the Housing Authority Shopping Centres



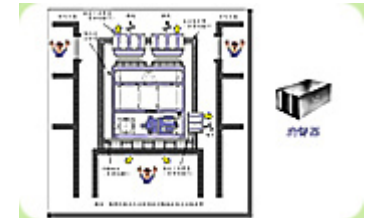
in 2004 / 05 we shall prepare specifications and guidelines to facilitate the use of SCC in our projects where beneficial.

Guarding against Noise in Estates

This year saw the near completion of our yearly programme to replace all 3 000 rpm water pumps with quieter 1 500 rpm models. During the year 2003 / 04 we replaced 35 such pumps, taking the total number of replacements up to 145 since 2000 / 01.

By adopting the "no-dig" technology for underground drainage restore works, we not only minimize air pollution, but we also minimize noise nuisance to residents where works are performed without road surface excavation.

In compliance with acoustic control guidelines, we have continued to take measures to protect our housing estate residents from building equipment noise and traffic noise.



Noise Complaints and Abatement Notices

In 2003 / 04, we received 24 noise complaints against our construction sites during the year. This continues the improving trend of previous years.

For our commercial premises, we received two noise abatement notices at two shopping centres from the Environmental Protection Department during the year. This also represents a continued trend of improvement from previous years.



EHS Procurement

- ▶ Our Policy Commitment to Buying Green and Safe
- ▶ Cleansing Contracts
- ▶ Horticulture Contracts

- Construction Contracts
- Integrated Pay for Safety, Environment and Hygiene Scheme
- Award Schemes for Green and Considerate Contractors

Our Policy Commitment to Buying Green and Safe

In our day-to-day operations we work closely with a number of business partners, including contractors, service providers and suppliers. We are committed to managing environmental, health and safety (EHS) issues in our procurement process, and ensuring that our business partners operate in a green and safe manner.

The EHS considerations have become an integral part in all aspects of our procurement cycle that involves preparing specifications, tender evaluation, performance management and review and feedback. Our Environmental Procurement Policy sets out our objectives in this regard:

- 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 Environmental Management Plan 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 the Housing Authority (HA)'s environmental objectives; and
- Establish systems, targets and action plans for effective environmental procurement and regular reporting on performance.

We have also introduced incentive schemes and sanctions to encourage our business partners to work in an

environmentally sustainable, safe and healthy manner. In addition, we have worked closely with the relevant industries to promote a safety culture through provision of safety training, promotion and publicity activities and conducting research.

Cleansing Contracts

Our cleansing contractors are responsible for the collection of recyclable materials in our estates and for ensuring chemicals and equipment used cause no or minimal adverse environmental impacts.

Based on our previous studies on cleansing products, we have further developed our contract requirement to include guidelines for purchasing and using cleansing products.

To ensure our cleansing works are performed in compliance with our policy, our specifications require all contractors to:

- Ensure areas for waste collection are clean and tidy;
- Maintain records for the delivery of recyclable materials;
- Appoint an inspector to monitor waste management systems; and
- Provide training and other initiatives to enhance staff environmental awareness.

To further our efforts in this area, in December 2003 we introduced a scoring system for cleansing contract tenders, and we now require that all contractors provide an Environmental Management Plan for their works.

Horticulture Contracts

In 2003 / 04, we introduced new EHS specifications and requirements into our horticulture contracts requiring all contractors to:

- Provide details of equipment using unleaded petrol and environmentally friendly fuel;
- Avoid or minimize chemical usage in soft landscaping by considering alternatives;
- Minimize and control nuisance from noise, smoke, dust, water, rubbish and mosquito breeding; and
- Preserve existing vegetation where appropriate.



We provided intensive training courses to assist our horticulture contractors in adhering to these newly adopted specifications.

Construction Contracts

In 2003 / 04, we expanded the assessment criteria of our Performance Assessment Scoring System (PASS) to include more assessment items on the environmental performance of our construction contractors. In addition, we adopted new initiatives such as Life Cycle Costing in the procurement of lifts and escalators to support our commitment to reduce electricity consumption.

We continued our effort to promote safety and healthy culture on our construction sites by implementing the following incentive schemes and measures.

Pay for Safety Scheme

This scheme, or the PFSS, was introduced in 2000 to set aside a contract sum within the contract provision to encourage contractors to achieve good safety performance. Failure to meet the relevant safety requirements will result in deduction of payment and receiving a poor safety performance rating under the PASS. Contractors with poor performance may also face in suspension when tendering.

As there has been a continuous trend of improved safety performance at our construction sites since the implementation of the PFSS, it has now also been incorporated into District Term Contracts, Redecoration Contracts and Re-plumbing Contracts.

Housing Authority Safety Audit Scheme

The Housing Authority Safety Audit Scheme (HASAS), operational since 1996, involves a quarterly independent audit at our construction sites. In 2003 / 04, over 40 of our piling, demolition, site formation and building contracts were audited under the HASAS, with performance now linked to payment under the PFSS.

Safe Working Cycle

To encourage a culture of safety and improve safety performance, Safe Working Cycle (SWC) became a contractual requirement for all capital works projects in October 2003. Contractors are required to implement initiatives for enhancing communication between site management and site workers on health and safety issues.

Precast Technology

To further enhance the overall health and safety performance of our construction sites, we regularly discuss and assess the feasibility of adopting the principles of construction design management applied in precast technologies.



Integrated Pay for Safety, Environment and Hygiene Scheme

From October 2003 we extended and adjusted the PFSS to include also the environmental and site hygiene items for all of our building, foundation, demolition and civil engineering contracts. Under the new scheme, approximately 1% of the contract sum is designated for payment items such as:

- Preparation and implementation of safety plan and environmental management plan;
- Provision of training in site safety and environmental management to workers;
- Compliance of statutory requirements on site safety and environmental protection;
- Prevention of mosquito breeding; and
- Provision of site hygiene and welfare facilities.

Our contractors will receive payments on these items only if they fulfill their obligations stipulated in the contracts. The scheme is being integrated into three ongoing construction projects, and we will report on this initiative in next year's report when results are available.

Award Schemes for Green and Considerate Contractors

We are delighted to report that there are 43 HA building contractors, 10 supervising teams / supervisors and 19 workers on our contracts who received awards at the Quality Public Housing Construction and Maintenance Awards 2003, held in November 2003.

Winners were selected for their outstanding performance in delivering their duties as well as their professional practices on craftsmanship, environmental protection, occupational health and safety, ethical integrity, partnering and customer service.



Material Consumption

- ▣ Life Cycle Assessment and Life Cycle Costing
- ▣ Timber

- ▣ Pulverized Fuel Ash
- ▣ Recycled Aggregates
- ▣ Precast Construction Materials

Life Cycle Assessment and Life Cycle Costing

In recognition of our environmental responsibilities to the community and the need for cost effectiveness, in 2003 / 04 we started research into Life Cycle Assessment (LCA) and Life Cycle Costing (LCC) of building materials and components used in our domestic blocks.

In LCA, a "cradle-to-grave" approach is adopted in which all environmental impacts arising from the manufacture, use and disposal of a product are quantified. These impacts include all extractions (i.e. resources) from, and all emissions (i.e. discharges) to the environment throughout the whole life cycle. The LCA process allows designers to compare options and make choices of building materials by taking life cycle environmental impacts into consideration.

Taking a similar approach, LCC takes into account the expenditure on the building material during its maintenance and demolition stages on top of the initial capital cost.

Our research will develop a decision-supporting tool that integrates environmental and economic considerations. By doing so we can select building materials that provide best value solutions from a long-term perspective, and thus contribute to achieving more sustainable building designs.

Timber

One of our common good practices over the past decade has been the use of metal formwork, metal hoardings and semi-precast slabs and staircases in our projects - thereby reducing our timber requirements.



Overall, in 2003 / 04 the use of metal formwork and precast concrete elements, such as precast external kitchen wall façades, enabled us to save over 28 500 tonnes of timber during the production of some 20 000 flats. This is equivalent to a timber saving per flat of approximately 1.4 tonnes and is consistent with our achievement in the year 2002 / 03.

Moreover, we continue to investigate the potential to adopt alternative materials and technologies for substituting wooden materials to further reduce timber consumption.

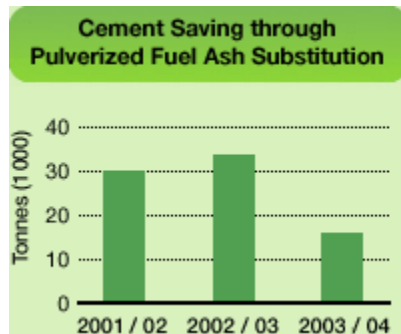


One example of a new technology for which we have conducted a small-scale trial in our housing blocks is "butt-joining" shortened pieces of wood to produce wooden planks. This reduces wood waste while the planks have also been proven to be both durable and fire resistant.

We also require our contractors to use readily renewable softwoods in construction works in place of tropical hardwood.

Pulverized Fuel Ash

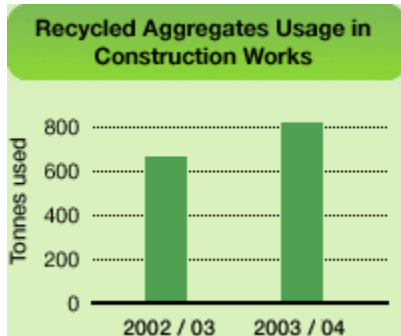
For many years we have required our contractors to use pulverized fuel ash (PFA) in concreting works wherever possible to reduce the volume of cement and to provide a suitable disposal option for the PFA residue from power stations.



For example, in our foundation works we require contractors to replace the use of cement by 35% PFA. In cases where construction time is not critical, we also encourage the use of up to 25% PFA in some massive superstructure elements such as transfer plates, transfer beams, retaining wall, etc.

We continue to use PFA in our construction works, although our cement saving in 2003 / 04 was lower than that in 2002 / 03 due to reduced construction activity.

Recycled Aggregates



We insist on using recycled aggregates (RA) in our construction works to reduce the consumption of new aggregates and reduce our waste disposal requirements.

In 2003 / 04, we increased our use of RA in construction sites year-on-year by 20%. We used around 700 tonnes for pipe surrounds, 90 tonnes for drainage and 2 260 tonnes for rock-fill in sub-base works.

In April 2003, we extended our efforts in this area by specifying that all new contracts must adopt at least 20% RA in drainage and road works. We allow 20% RA in concrete for external walls, and are now monitoring the effectiveness of this initiative on our new construction sites. We also conducted a trial scheme in 2003 / 04 to adopt 20% RA in substructure works.

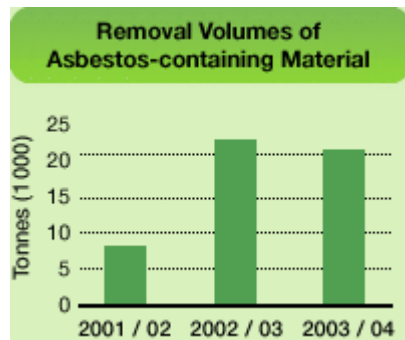
Precast Construction Materials

We have been using prefabricated building elements in our construction projects for more than 10 years. Prefabricated materials adopted include staircase and slabs, façades, panel walls and door-sets.

Trials adopting the use of volumetric precasting, which has the benefit of enhanced material and waste savings, started in 2003 and are presently being monitored. We will report on this initiative in next year's report.



Hazardous Materials



- ▣ Asbestos
- ▣ Mercury-containing Lamps
- ▣ Hazardous Materials Handling and Disposal

Asbestos

We continue to work closely with the Environmental Protection Department (EPD) to survey our properties for asbestos-containing materials (ACMs). During 2003 / 04, 50 of our schools were surveyed and from which the potentially high risk ACMs were removed by qualified asbestos abatement contractors. In the coming year we intend to start a new round of asbestos surveys in another 115 schools through which all ACMs shall be removed.

We also undertake continuous review of asbestos management procedures and provide appropriate training, including web-based courses, to ensure stringent asbestos control amongst our staff and property managers.

In the coming year as our redevelopment programme approaches completion we shall closely monitor the condition of all remaining ACMs in our properties. Any ACM that poses a potential risk to our tenants, the public or our staff, shall be professionally removed.

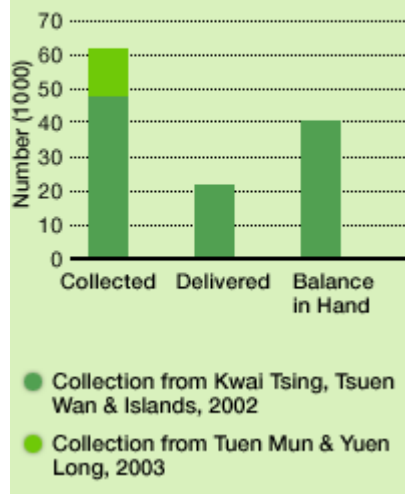


Mercury-containing Lamps

We operate a programme for the removal and safe disposal of spent mercury containing lamps at our housing estates and demolition sites.

The programme is implemented in stages, taking account of controlled procedures including registration as a chemical waste producer and collection by a registered waste contractor. The programme involves co-ordinating staff from the Housing Authority, building services maintenance contractors and staff from the EPD and the Chemical Waste Treatment Centre (CWTC) in Tsing Yi where the lamps are finally processed to remove the mercury.

Performance of Mercury-containing Lamp Programme in Public Housing Estates (as at March 2004)



Since we started participating the EPD-arranged programme in October 2002 we have collected 63 000 and disposed of 22 000 spent mercury-containing tubes and lamps from 42 housing estates in selected regions. We intend to extend the scheme in August 2004 for full implementation to all housing estates by mid 2005.

Hazardous Materials Handling and Disposal

Regarding the disposal of hazardous materials, we request our factory tenants that materials including oils, solvents and chemicals must be collected by registered chemical waste contractors for proper disposal at the CWTC.



We require that all contractors involved at any stage in the handling, storage, transport and disposal of hazardous waste hold the appropriate license issued by the EPD.



Our contractors must also adhere to the necessary regulations for the handling of special hazardous wastes. involved in the handling of ionisation-type smoke Radioactive Substances Licence issued by the Hong Kong accordance with the rules and regulations of the Radiation Regulations.



For example, our contractors detectors must hold a valid Radiation Board in Ordinance and Radiation



Six trees for every 15 flats we built for creating green and healthy living space in our community.

Estate Landscaping and Greening

- ▣ Green Space Creation
- ▣ Slope Enhancement
- ▣ Landscape Studies
- ▣ Partnerships in Landscaping

Green Space Creation

Greening the living environment for our residents has always been one of our key objectives in developing healthy and sustainable housing. We create green space within our "concrete jungle" city through open area provision in our estates for various landscape elements such as trees planting, landscape displays and theme gardens.

In 2003 / 04, we planted about 10 000 trees, 841 500 shrubs and 96 800 annual plants to provide more "city lungs". Of this planting, about 331 000 and 617 200 plants were allocated respectively to new and existing estates.

Through our landscape improvement we also upgraded the standard of existing landscape facilities in 18 selected estates covering 110 000 square metres and we greened a total of 6 000 square metres within 24 existing estates selected by the Estate Management Advisory Committee. While the planting works are very similar to last year's performance, year-on-year the ratio of trees planted (including slope areas) to flats built increased significantly from 1.7 to 6.8 trees per 15 flats.

The aesthetic appearance of the city lungs is equally important. Our experienced Horticulture Team designs, establishes and maintains landscape displays and theme gardens throughout our estates. In 2003 / 04, we established three theme gardens featuring rhododendron, bamboo and palm trees in three estates. To highlight our performance in landscape display, we are pleased to report that we won the Champion Award for Design Excellence in the Hong Kong Flower Show 2004.



Slope Enhancement



There are a considerable number of slopes within our estates. Some slopes are covered with shotcrete or other forms of hard surfacing, giving a rather hard appearance. Since 2000, we have been implementing enhanced design procedures to improve the appearance of newly formed and existing slopes in our estates.

Through various techniques such as hydro-seeding, planting and colour treatment, a total of 9 600 square metres of newly formed slopes and 10 existing slopes were greened in 2003 / 04.

Through the innovative design for one of our slope stabilization projects in Tung Tau Cottage Area, we were able to successfully retain the existing mature trees. While stabilizing the slope, we were able to provide open space for amenity use and reduce the extent of excavation and temporary shoring, thereby minimizing environmental impacts associated with the works.



Landscape Studies

In addition to our ongoing greening programme, we reviewed the technical guide aiming at enhancing the greening measures in our estate master plans. As a result, we intend to issue a revised External Work Design Guide incorporating a series of initiatives to maximize greening opportunities in August 2004.

The Housing Authority (HA) has been developing innovative landscape designs that integrate with the existing landform and natural features. One outstanding example that combines innovative design with slope protection can be found on the slope beside Lung Tak Court, at the heart of Ma Hang Estate. The retaining wall design, with the shape and form of a 69-metre long dragon zigzagging along the slope, led to the Champion Award at the Best Landscaped Slope Awards organized by the Civil Engineering and Development Department, the Hong Kong Institute of Landscape Architects and some other related professional bodies.



Partnerships in Landscaping

We joined hands with other government departments, green groups, business partners and our residents to organize and participate in a wide variety of landscaping activities including landscape improvement work, tree planting events, landscape award schemes and flower shows.



This year's HA Flower Show was held on the podium of the Lok Fu Shopping Centre. Nearly 30 000 plants were on display.

We have organized tree planting days in five of our estates. These concerted efforts not only contributed to the overall greening of Hong Kong's urban landscape, but also raise awareness of the community at large on greening and environmental conservation.

Our greening events for the year ended with the Hong Kong Tree Planting Day held in Tung Chung on 28 March 2004. Thousands of people, including more than 450 tenants and students from nearby Fu Tung and Yat Tung Estates and members of the Housing Department's senior management were present to support the event.



Recognition of achievement from the industry - our works contractors won Construction Safety Awards.

Safety

- Safe Building Design
- Occupational Safety in Construction and Estate Management
- Fire Safety in Our Estates
- Emergency Preparedness and Response

Safe Building Design

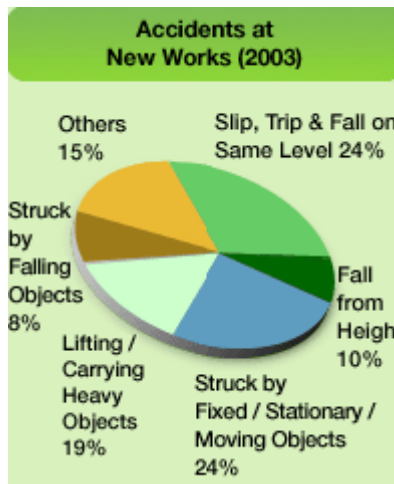
We are obliged to comply with all laws and regulations governing the safety and health aspects of building construction. However, beyond these statutory requirements, we continue to pursue safe construction options during the design stage of project development.

One typical example is the development of precast technology adopted in our standard domestic blocks to reduce the need for labour intensive work at height and significantly reduce the risk of accident and injury.

We aim to incorporate all practicable features of the UK's Construction (Design and Management) (CDM) Regulations in our projects.

The CDM Regulations require that all parties involved in the construction process contribute to the avoidance, reduction and management of health and safety risks. To implement the CDM concept in our projects, we have provided safety training to our staff and shall issue design guidelines on the practical features of CDM to our project teams.

Occupational Safety in Construction and Estate Management



The total number of accidents during our new works and maintenance works contracts has steadily dropped in recent years. Last year we had a total of 255 accidents, compared with 390 accidents in 2002 and 875 accidents in 2001. The most common accident categories for new works and maintenance works are shown in the graphs on the left.

This downward trend is most evident in the accident rate for our new works. The average accident rate per 1 000 construction workers on Housing Authority (HA) sites declined from 37.8 cases in 2002 to 32.8 cases in 2003.

The number of maintenance works related accidents also declined in recent years from 204 in 2001, to 119 in 2002 and 60 in 2003. In order to monitor and review the safety performance related to our maintenance works more closely and accurately, we plan to establish a database on the safety performance of maintenance works in terms of accident rate.

There were two fatalities in 2003 and actions against the contractors concerned have been carried out in accordance with our sanction measures regarding contractors' performance.

We believe that the significant reduction in accident rate in recent years proves the effectiveness of our Site Safety Strategy through which we aim to promote a safety culture driven by sufficient and appropriate training to our staff and stakeholders.





Some of the site safety initiatives we have taken to encourage this culture of responsibility include the contractual requirements and implementation of [Safe Working Cycle](#) and the [Pay for Safety Scheme](#). All site workers must hold a Green Card. Adequate trainings are provided on the promotion of safety induction courses and toolbox talks for construction site workers, and the co-ordination and provision of safety training and awareness courses for site contractors and HA site staff.

In addition, the HA has been working in partnership with all relevant stakeholders within the industry to promote construction site safety culture. In two major construction safety award schemes during the year 2003 / 04, namely the Construction Safety Award and Considerate Contractors Site Award, a total of 29 awards were won by contractors, subcontractors, safety teams and individual workers undertaking HA construction projects.

Fire Safety in Our Estates



To better promote fire safety in our estates, "Home Fire Safety" was chosen as the theme for the annual Estate Fire Safety Campaign in 2003. As part of the Campaign, we designed and distributed a calendar card imprinted with fire prevention messages to 600 000 public housing households to raise the awareness on home fire safety.



We conducted an annual Estate Fire Safety Roadshow with a total of 54 estates participating to promote fire prevention messages. We also launched the Children Fire Safety Education Path in Lok Fu Shopping Centre and Lei Yue Mun Plaza, with more than 2 000 children participated.



To further enhance the youngsters' awareness of fire safety, we worked with the Fire Services Department to organize the Estate Fire Safety Elites Training Camp for approximately 80 secondary students in November 2003. Apart from learning fire precautionary measures, the proper use of fire fighting equipment was also demonstrated. In the coming year, these Elites will help promote fire safety in public housing estates by inspecting fire services installations as well as reporting on any potential danger of fire hazards.



Emergency Preparedness and Response

It is our target to provide top quality estate management services to residents and tenants. This means we need to be prepared to respond to community needs - including in emergency situations.

For each potential emergency situation we have developed specific action plans to be implemented. These cover situations such as lift breakdowns, sudden interruption of electricity supply, suspension of fresh water / flushing water supply, and blockage of drainage in public areas. The response time for action plan implementation is stipulated in our performance pledges for our estate management services. We are pleased that 98% of our performance pledges were fully achieved during the year 2003 / 04. The reasons for not meeting our pledges were generally due to transportation problems and the material delivery lead time required for the repair works.



More environmental, health and safety awareness events in collaboration with our business partners to explore innovative ideas of new dimensions.

Partnerships and Awareness

- Raising Awareness among Staff and Property Managers
- Working with Business Partners
- Partnering with Residents and the Community

Raising Awareness among Staff and Property Managers

To encourage environmental awareness and ideas amongst our staff, we operate a Green Corner to which all departmental divisions are invited to provide relevant display information once a year.

We supported 16 environmental training events attended by over 400 staff during the year - an increase in participation from 380 in 2002 / 03. We also arranged self-learning construction site safety packages and held safety training courses during the year that were attended by over 560 departmental staff.

The outsourcing of management and maintenance duties at our housing estates in recent years has encouraged partnering between property management and residents, resulting in an improved environmental, health and safety performance.

Six Housing Authority property management companies received awards at the Best Property Management Award 2003 in November 2003. Of the four award categories, the Environmental Award was aimed at encouraging a green and healthy living environment. The score was based on the monthly average weight of recycling waste and waste quantity of each domestic unit.



We also teamed up again with green groups for the Green Property Management Award for 2003 which aimed at encouraging greater participation in environmental protection schemes by estate staff, tenants and business partners. At the award ceremony held in March 2004, 17 estates were recognized for their outstanding performance in supporting green management initiatives.

The Secretary for the Environment, Transport and Works, Dr Sarah Liao, delivered a speech "Building Green in Hong Kong" to our staff on the innovative designs and effective methods to save energy and manage construction waste.



Working with Business Partners

A number of awareness-raising initiatives were launched during the year in collaboration with our business partners. These included the second Quality Public Housing Construction and Maintenance Awards 2003 jointly organized with construction sector stakeholders to give recognition to contractors, supervising teams and supervisors, and workers who provided outstanding construction and maintenance services for public housing. One of the assessment criteria in the award was the implementation of occupational safety and environmental protection measures.



In February 2004, our International Housing Conference, entitled "Housing in the 21st Century: Challenges and Commitments", provided an opportunity for international audience of policy makers, professionals, academics and practitioners to examine and exchange views on housing issues. "Sustainable Housing for Healthy Living" was one of the main themes. The conference also provided an opportunity to identify challenges ahead, and to explore new dimensions and innovative ideas.





Initiatives at Our Own Office

- ▶ Paperless Operations
- ▶ Environmentally Friendly Publications
- ▶ Office Waste Recycling
- ▶ Non-smoking Work Environment
- ▶ Office Greening
- ▶ Occupational Risk Assessment, Controls and Education
- ▶ Work-life Balance

Paperless Operations

Our Quality Management Unit took the initiative to install and maintain an e-filing system that was proven to be efficient, effective and environmentally friendly.

Within the e-filing system, documents are scanned, indexed and stored in a database that allows staff members to easily search and retrieve documents. This saves us a lot of paper and storage space.

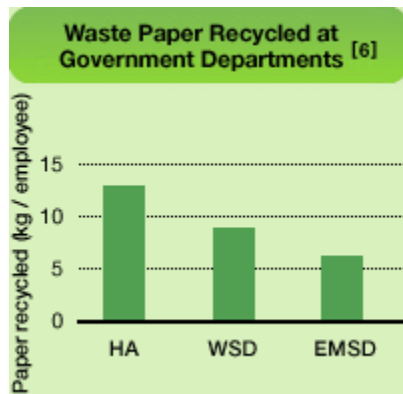
Events such as SARS required an increase in direct communication through all levels of the Housing Authority (HA), in particular, to reaching out to our estates. As a result, we did not manage to achieve our targeted reduction in paper consumption of 11.9 reams of paper per staff member. However, the average paper use of 13 reams per staff member equals a net year-on-year reduction in total paper consumption of over 7 000 reams, or a 5% reduction year-on-year.

Of the total paper used by the HA last year, approximately 46% was from recycled sources - a slight drop from 53% last year - while our paper consumption is about 6.8% of the total used by the Hong Kong Special Administrative Region Government ^[5] .

Environmentally Friendly Publications

We publish various internal and external publications throughout the year, which result in considerable paper consumption.

In order to achieve materials conservation and waste reduction, we targeted and has achieved to ensure that 100% of paper used for our publications in 2003 / 04 was environmentally friendly. The recycled content of the environmentally friendly paper that we used was as high as 50%.



Office Waste Recycling

We implemented a number of initiatives including activities beyond our office operations, to encourage waste collection and recycling by our staff.

In 2003 / 04, we collected 147 892 kg of waste paper in our offices, equivalent to 12.8 kg per staff member.

We also held a Waste Paper Collection Competition on an individual basis that yielded 3 640 kg of paper from about 90 participants.



Other initiatives included the purchase and use of recycled pencils while an average of about 85% of the office printer toner cartridges used by the HA are from recycled sources, compared with 79% in the previous year.

Occupational Risk Assessment, Controls and Education

We take care to ensure that occupational health and safety risks to which our staff may be exposed in the delivery of their duties are minimized as far as possible.

To achieve this objective we first conduct a risk assessment to identify potential hazards and determine the level of risk. Control measures are then identified to reduce the level of risk to a tolerable level. Finally, appropriate training is provided to ensure that relevant staff members are aware of the risks and are equipped with sufficient knowledge to implement the relevant control measures.

During the year, we provided a total of 37 classes covering 18 health and safety training courses and seminars for over 1 000 staff members.

The training courses ranged from Introduction to Occupational Safety and Health (Display Screen Equipment) Regulation and the Influence of Ventilation on Occupational Health for office staff, to courses suitable to our site staff such as Personal Protective Equipment and Workshop on Safety of Working at Height.

Work-life Balance



In our daily lives, we may encounter different types of problems: work-related, family, interpersonal relationships or financial.

To offer support, we commissioned a counselling hotline service run by the Hong Kong Family Welfare Society to help staff cope with these various stresses. In 2003 / 04 the hotline handled 66 cases, with more than 60% of cases related to supervisor and subordinate relationship problems, work pressure, job insecurity and other work-related problems. Family, health and financial problems accounted for around 40% of cases.

We also made a provision for face-to-face counselling and visits by experienced counsellors or clinical psychologists as required.

To help deal with staff stress, we also provided stress management training to our staff. We also actively promote a good balance of work life and organise social and recreational activities for our staff.

Last year we organized a number of social activities participated by over 7 100 members of staff. These included a Mid-Autumn Festival Dinner, a Putonghua Night, 45 classes on various subjects of interests like jazz dance, yoga, Tai Chi and sports competitions such as fishing, cross country running and ball games.



Verification Statement

Scope

Maunsell Environmental Management Consultants Ltd (MEMCL) was commissioned by the Hong Kong Housing Authority (HA) to verify the contents of the Environmental, Health and Safety Report 2003 / 04 (the EHS Report), which documents the yearly performance for the EHS aspects of its operations.

Approach

This Verification Statement represents our independent findings and opinion based on systematic verification procedures. During the verification process, MEMCL reviewed an advanced draft of the EHS Report and conducted interviews with the HA representatives to:

- Verify the adequacy of coverage of the EHS Report at addressing issues relevant to the HA's environmental, health and safety performance;
- Check the reliability of information collection and analysis mechanisms and data sources used for preparation of the EHS Report;
- Check and verify the accuracy and consistency of data and claims presented in the EHS Report; and
- Identify any relevant areas where the reporting process could be improved in future reports.

Findings and Opinions

Check on Completeness

The EHS Report is considered to be a well-structured and well-balanced document that provides broad and comprehensive content on recent initiatives, progress, performance and management of all the HA's operations and activities concerning environmental protection and health and safety enhancement measures. The content is given further clarity by effective graphics and layout. We note that this is the HA's first EHS report. This expansion in reporting to combine health and safety with environmental reporting is commended as a useful progression in engaging stakeholders on these matters. The commitments and strategies and support of top management on EHS issues in line with principles of sustainability, have reinforced the HA's position as an environmentally and socially responsible organization.

Check on Accuracy and Reliability

MEMCL is satisfied that the data and information presented in the report are consistent with the materials reviewed and thus provide an accurate account of the HA's performance on meeting its stated targets and explanation of initiatives undertaken in the reporting year. The data collection system, which collated information from a variety of sources within the Housing Department, and the methods of analysis and interpretation were also judged to be appropriate and reliable and therefore give support to the claims and information presented.

Recommendations for Future Reports

In moving towards enhanced sustainability in its operations, we recommend the HA to consider enhancing reports where possible, to provide content on social programmes provided in partnership with other Government departments or agencies that also aim to enhance the well-being of tenants, as appropriate. To consolidate gains towards sustainability reporting, we encourage the HA to consider the benefits of conforming to international practices such as the Global Reporting Initiative's Sustainability Reporting Guidelines in medium-term plans for future reporting.



Dr TJ CRAMP

Executive Director, Maunsell Environmental Management Limited

Annexes

A. Summary of Feedback

We greatly value your feedback and give serious consideration to all views received. We believe that listening to and addressing your feedback is crucial to the continual improvement of our reporting process.

Our previous Environmental Report for 2002 / 03 entitled "Meeting Environmental Challenges for a Sustainable Future" received a Certificate of Merit under the category of Best Environmental Reporting Award at the 2003 Hong Kong Eco-Business Award, and Commendation Award at the ACCA^[7] Environmental Reporting Awards. There is always room for further improvement. In this annex, we provide a summary of your feedback on last year's report and how we addressed your feedback.

We are pleased that the overall comments on last year's report were very positive. All respondents gave us an overall rating of either "Very Good" or "Good". Similarly, most of the respondents (90%) found our report very informative and useful. The remainder thought that the report was adequate. Overall, our readers have found sections on "Performance Review" and "Targets and Initiatives" to be most useful. About two-thirds of respondents also found the report to be clear and easy to understand.

Along with the positive comments, we also received some constructive suggestions for improvement. For example, readers told us that the layout of the web design could be further improved to facilitate the browsing of information on the web, and we have taken these comments on board for this report. This year we continue to publish our report on both CD-ROM and through the Internet, and we have enhanced the user-friendliness of the web browsing.

B1. Past Performance: Targets in 2003 / 04

■ Construction

■ Estate Management

■ Office

■ Community

CONSTRUCTION						
Targets in 2003 / 04	Policy Objective	Action Plan	Key Performance Indicator (KPI)		Target Met	Actual Performance
			KPI	Unit		
1. Abate 10% of the remaining 18% stock of asbestos-containing materials in Housing Authority (HA)-managed properties	Promote healthy living and a green environment	Implement planned asbestos abatement programme and asbestos removal works	3%	Measured as % removed of total remaining asbestos	***	Over 3%
2. Reduce water wastage in large diameter bored piling (LDBP) works	Minimize environmental impacts	Adopt water recycling system in the construction of LDBP for construction sites	40%	Cumulative % of sites adopting water recycling systems	***	Over 40% of construction sites

3. Provide green treatment to newly formed slopes	Promote healthy living and a green environment	Hydroseed soil slopes and soften hard surfaces through planting, seeding or colour treatment	5,700m ²	Measured as area of slope enhanced with green treatment	***	9,600m ²
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ESTATE MANAGEMENT

Targets in 2003 / 04	Policy Objective	Action Plan	Key Performance Indicator (KPI)		Target Met	Actual Performance
			KPI	Unit		
1. Upgrade the standard of existing landscape facilities in 18 selected public rental housing (PRH) estates	Promote healthy living and a green environment	Carry out Landscape Improvement Programme by Landscape Improvement Teams	110,000m ²	Measured as area greened	***	110,000m ² in 18 estates
2. Promote green environment at 24 Estate Management Advisory Committee (EMAC) estates	Promote healthy living and a green environment	Conduct green planting activities through EMACs	5,000m ²	Measured as area greened	***	6,000m ² in 24 estates
3. Improve the slope appearance in existing PRH estates	Promote healthy living and a green environment	Hydroseed soil slopes and soften hard surfaces through planting, seeding or colour treatment	10 slopes	Measured as number of slopes greened	***	10 slopes in 5 estates

4. Enhance greening in PRH estates	Promote healthy living and green environment	Allocate an open area in selected estates for the set up of thematic gardens	3 estates	Measured as number of estates	***	Thematic planting areas were completed in 3 estates: <ul style="list-style-type: none"> ●Bamboo Garden in Wang Tau Hom Estate ●Palm Garden in On Ting Estate ●Rhododendron Planting in Lai On Estate
5. Increase tenants' awareness and support of greening	Promote environmental awareness and participation among residents	Organize tree planting days in selected estates	3 estates	Measured as number of estates	***	5 estates
6. Increase domestic waste recovery rate for paper (Pa), aluminum cans (Ac), plastic bottles (Pl) and used clothes (Uc)	Minimize environmental impacts and promote environmental awareness and participation among residents	Continue publicity activities such as the Waste Recycling Credit Scheme for all rental estates	Recovery rates for: <ul style="list-style-type: none"> ● Pa 21% ● Ac 26% ● Pl 0.7% ● Uc 10% 	Calculated by weight (kg) of material recycled per combined total weight of material recycled and disposed	<ul style="list-style-type: none"> ● Pa * ● Ac * ● Pl *** ● Uc * 	Waste recovery rates are: <ul style="list-style-type: none"> ● Pa 16.44% ● Ac 22.40% ● Pl 1.44% ● Uc -7.91% <p>Low rates of the 3 items above considered due to material interception / diversion for resale</p>
7. Reduce domestic waste	Minimize the use of resources and address environmental concerns	Promote waste reduction through publicity campaigns	3%	Measured as % reduction in domestic waste produced (kg) per person per day	*	Same rate of waste disposal as 2002 / 03 at 0.82 kg per person per day despite various publicity campaigns

						were organized at the housing estates
8. Reduce noise nuisance from water pumps in PRH estates	Minimize environmental impacts	Replace 3,000 rpm water pumps with 1,500 rpm water pumps	46	Measured as number of pumps replaced each year	**	35 pumps replaced in 2003 / 04, with remaining 11 pumps to be replaced by June 2004. Delay considered due to programming changes
9. Reduce potable water consumption for installations under landlord in PRH estates	Minimize the use of resources	Use self-stopping water tap and reduce pipe bursting and leakage through re-plumbing programme	0.5%	Measured as % savings based on a comparison with the actual expenditure in previous year	*	Year-on-year increase of 27% in water consumption from 2002 / 03; largely influenced by increased water demand for estate cleaning after the outbreaks of SARS and Avian Influenza

OFFICE						
Targets in 2003 / 04	Policy Objective	Action Plan	Key Performance Indicator (KPI)		Target Met	Actual Performance
			KPI	Unit		
1. Reduce A3 and A4 paper consumption	Minimize the use of resources and promote	Implement various initiatives e.g. publicity, training,	11.9 reams	Measured as paper used (reams) per staff	*	13 reams per staff member due to one-

in all Housing Department (HD) offices except site offices	environmental awareness and participation among staff	competitions, recycling bins, and encourage use of electronic media		member per year		off communication events such as the divestment of commercial properties and corporate reorganization during the year
2. Extend the use of environmentally friendly paper in printing to all publicity materials (except sales and marketing publications)	Minimize the use of resources and address environmental concerns	Implement the use of environmentally friendly paper as a prerequisite in future printing jobs	100%	Measured as % of environmentally friendly paper used as compared with total printing quantity	***	100%
3. Collection of waste paper in all HD offices except site offices	Minimize the use of resources and promote staff awareness and participation	Implement various initiatives on collecting waste paper	2%	Measured as % year-on-year increase in paper collected	*	1.1% (-1,670 kg) decrease year-on-year after terminating newspaper and journal subscriptions (i.e. avoiding about 65,000 kg of paper)
4. Reduce energy consumption in the HA Headquarters	Minimize the use of resources and promote staff environmental awareness and participation	Implement administrative measures such as shorten the operating hours for air-conditioning, lighting, etc. and enhance staff awareness	1.5%	Measured as % year-on-year reduction in electricity consumption	***	8.2% decrease



COMMUNITY

Targets in 2003 / 04	Policy Objective	Action Plan	Key Performance Indicator (KPI)		Target Met	Actual Performance
			KPI	Unit		
1. Increase community awareness of environmental activities in PRH estates	Promote environmental awareness among residents	Organize publicity programmes in PRH estates	62%	Measured as % of households with awareness of the HA's environmental initiatives	**	Based on the Public Recurrent Survey 2004, 10-40% of households were aware of 4 selected environmental activities; and 60% of the households agreed that the HA supported environmental protection
2. Increase residents' use of recycling bins	Minimize the use of resources	Conduct publicity activities on waste reduction and increase placements of recycling bins in PRH estates	61%	Measured as % of households used waster recycling bins	***	Similarly, based on above survey, 67% households had used recycling bins

- *** Fully met
- ** Substantial progress
- * Fall short
- ◆ Deferred

B2. Past Performance: Initiatives in 2003 / 04

Construction

Estate Management

Allocation and Commercial

Office

Community

CONSTRUCTION					
Initiatives in 2003 / 04	Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
1. Minimize construction waste	Minimize environmental impacts	Research on wider use of "volumetric" precasting	2003 / 04	**	Presentation of research findings and industry consultation on the proposed specification were completed. Research anticipated to be completed by June 2004
2. Enhance collection of recyclable materials and minimize contamination of inert demolition materials	Minimize environmental impacts	Verify practical parameters of the selective demolition method applied to a trial project	2003 / 04	***	Trial scheme was completed and the method was found to be effective in waste reduction. Detailed technical report was under preparation
3. Assess life cycle costs and impact of existing design	Minimize the use of resources and achieve cost effectiveness	Complete a consultancy study on life cycle costing and review design and specification for all	2003 / 04	**	The first 2 stages of the 3-stage study were completed. The last stage was expected to be completed by mid 2004

		developments			
4. Reduce noise complaints registered by the Environmental Protection Department (EPD) in piling works and building works	Minimize environmental impacts	Study refining the hydraulic pile-jacking method to enable wider use of the method	2003 / 04	***	Study completed and confirmed the method was effective in noise reduction
5. Minimize noise nuisance generated from concreting works	Minimize environmental impacts	Complete a study on the feasibility of using self-compacting concrete for in-situ concreting works	2003 / 04	**	The study was in progress and expected to be completed by June 2005
6. Reduce toilet flushing water consumption	Minimize the use of resources	Launch a trial run in the Housing Authority (HA) Headquarters; and	2003 / 04	***	The installation of dual flushing fittings in female toilets was completed and performance monitoring and review was in progress
		Conduct research on water saving devices in the commercial centres and markets of rental estates	2003 / 04	***	The study was in progress and it was anticipated that it would be completed within the first quarter of 2005
7. Enhance energy efficiency	Minimize the use of resources	Carry out "micro-climate" studies and simulate series of environmental conditions	2003 / 04	***	Studies performed at sites in Tin Shui Wai, Tung Chung, Lam Tin, Choi Wan Road and Upper Ngau Tau Kok
		Revise energy management	2003 / 04	***	Adjustments were made to temperature and operating hours of A / C systems, and new illumination levels in lift lobbies, corridors and stairways in HA managed building

8. Reduce electricity consumption of landlord service installation in new domestic blocks	Minimize the use of resources and promote sustainable development	Revise and adopt relevant energy codes and establish Key Performance Indicators for new domestic building	2003	**	Instructions for implementing revised energy codes under preparation in March 2004. To certify new domestic blocks under the electrical and lighting energy code in July 2004
9. Reduce energy consumption in shopping centre	Minimize the use of resources and promote sustainable development	Study optimization of A / C, lighting and building designs, operation and maintenance Review and make recommendations on existing installations, and revise the new designs guide	2003	**	Recommendations will be incorporated into the relevant design guides for promulgation in June 2004
10. Improve landscaping in public rental housing (PRH) estates	Promote healthy living and green environment	Revisit technical guides to enhance greening measures in existing hard paved area Enhance greening measures with new initiatives and incorporate in the Design Guide	2003	**	Studies completed and new initiatives will be incorporated into the Design Guide by May 2004
11. Enhance environmental awareness in construction sites	Minimize environmental impacts	Include environmental performance in construction contracts	2003 / 04	***	Environmental performance was included in the Performance Assessment Scoring System; and Life Cycle Costing was adopted in procurement of lifts and escalators
12. Enhance occupational health safety at construction sites	Promote health and safety issues related to HA projects to enhance the health and safety of person involved	Introduce the Pay for Safety Scheme (PFSS) to construction contracts	2003 / 04	***	The PFSS was introduced into building, redecoration and re-plumbing contracts; and district term contracts
		Implement the Housing Authority Safety Audit Scheme (HASAS) for construction	2003 / 04	***	Over 40 piling, demolition, site formation and building contracts were independently audited and assessed against

		contractors			comprehensive safety standards under the HASAS
		Implement Safe Working Cycle (SWC)	2003 / 04	***	The implementation of SWC became a contractual requirement for all capital works projects from October 2003 onwards
		Extend and adjust the PFSS to include environmental and site hygiene items for all building, foundation, demolition and civil engineering contracts	2003 / 04	***	The modified Pay for Safety, Environment and Hygiene Scheme was adopted in three construction projects

ESTATE MANAGEMENT

Initiatives in 2003 / 04	Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
1. Promote recovery of waste	Minimize environmental impacts	<p>Waste: Launch the Recycling Scheme</p> <p>Plastic: Launch the Plastic Bags Recycling Scheme</p> <p>Spent mercury-containing lamps: Launch a recycling programme for mercury-containing lamps</p>	2003 / 04	***	<p>The scheme was launched in 18 rental estates</p> <p>The scheme was launched in 5 PRH estates and 5 Home Ownership Scheme (HOS) courts</p> <p>The scheme was launched in 42 estates, and more than 63,000 tubes were collected</p>

2. Enhance tenants awareness on waste reduction and recycling	Promote environmental awareness and participation among residents	Organize campaigns in HA estates	2003 / 04	***	147 estates participated in the Waste Recycling Campaign
3. Conduct feasibility study on energy saving products e.g. Luminosity Enhancement Jacket (LEJ)	Minimize the use of resources	Carry out feasibility study and on-site trials, if appropriate	2003 / 04	***	Trial on LEJ installation completed and results showed variable savings depending on site conditions and its application subject individual merits
4. Improve and upgrade existing horticulture provision	Promote healthy living and a green environment	Introduce new environmental specifications and requirements in the horticulture contracts	2003	***	Intensive training provided to assist horticulture contractors in complying with new specifications
5. Improve drainage facilities in PRH estates	Promote healthy living environment	Commission consultant to carry out design audit and to advise on drainage design for preparation of guidelines	2003 / 04	***	Re-entrant design for drainage facilities was reviewed to allow easy inspection of pipes and maintenance work Technical review of drainage systems was completed, and drainage improvement trial was made for 282,000 units "No-dig" technology was applied for underground drainage restore works
		Introduce the Drainage Ambassador Scheme	2003 / 04	***	831 housing blocks were inspected and drainage defects were rectified in some 83,000 units
6. Improve potable water quality in PRH estates	Promote healthy living environment	Replace galvanised steel potable water supply pipes with copper and ductile iron pipes	2003 / 04	***	The re-plumbing works were completed for 47 rental blocks in 2003

		Join the Fresh Water Plumbing Quality Maintenance Recognition Scheme administered by the Water Supplies Department	2003 / 04	***	99 housing blocks were certified under the scheme
7. Improve air quality in refuse rooms and refuse collection points (RCPs)	Promote healthy living environment	Install deodorization systems in refuse rooms and RCPs	2003	***	Installation of over 50 biotechnology equipment installations at RCPs and 150 packaged deodourizers in refuse rooms of public housing estates
8. Improve hygiene in PRH estates	Promote healthy living environment	Carry out anti-mosquito measures to prevent mosquito breeding	2003 / 04	***	Regular inspections and cleaning have been performed in all PRH estates and commercial properties, and at construction sites
		Implement schemes to improve estate hygiene	2003 / 04	***	Measures implemented include: <ul style="list-style-type: none"> • The Marking Scheme for Tenancy Enforcement • Stringent enforcement against spitting and littering • Combating illegal cooked food hawking in public housing • Enforcement against falling objects from height
9. Enhance the emergency preparedness and response in PRH estates	Promote health and safety issues related to HA operations to enhance the well-being of persons involved	Develop specific action plans for each potential emergency situation	2003	***	Action plans were established and the response times specified

ALLOCATION AND COMMERCIAL

Initiatives in 2003 / 04	Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
1. Identify potential environmental hazards in flatland factories with a view to drawing future policy initiatives	Minimize environmental impacts	Appoint specialist consultants to research and identify potential environmental hazardous processes in flatland factories; and recommend controls as appropriate	2004	***	Report expected to be completed by June 2004
2. Promote environmental awareness in HOS properties	Promote environmental awareness among stakeholders	Organize environmental award ceremonies, competitions and activities for HOS residents	2003 / 04	***	Prize presentation ceremonies (e.g. the Best Property Management Award) and 52 awareness activities, including competitions were held in HOS properties
3. Promote environmentally friendly work processes	Minimize the use of resources	Consider the feasibility of introducing electronic submission of application forms for assisted home schemes	2003 / 04	◆	Task was withdrawn as this was considered not cost-effective
4. Minimize the use of ozone-depleting refrigerants	Minimize environmental impacts	Ban the use of ozone-depleting refrigerants in central A / C systems and retrofit or replace all affected chillers with chlorofluorocarbon (CFC)-free refrigerant	2003	***	25 chillers were retrofitted or replaced with CFC-free refrigerants
5. Improve indoor quality of market in housing estates	Promote healthy living environment	Launch trial use of Gas Desiccant Dehumidification systems in wet markets to maintain humidity level and limit bacterial	2003 / 04	***	A trial scheme was launched in wet markets equipped with air-conditioning

		growth			
		Install ultraviolet (UV) radiation lighting in wet markets	2003 / 04	***	UV lighting was installed in wet markets to aid disinfection

OFFICE

Initiatives in 2003 / 04	Policy Objective	Action Plan	Schedule	Target Met	Actual Performance
1. Enhance energy efficiency for air-conditioning in the HA Headquarters	Minimize the use of resources	Replace existing control for the Air Handling Unit with variable speed drive	2004	**	Over 80% of works completed
2. Further promotion of paper consumption	Minimize the use of resources	Develop, install and maintain an e-filing system in the Quality Management Unit	2003 / 04	***	The e-filing system was launched
3. Promote the use of environmentally friendly products	Minimize the use of resources and environmental impacts	Purchase environmentally friendly products relevant to office operation as far as practical	2003 / 04	***	Recycled pencils and toner cartridges for office use
4. Enhance staff environmental awareness and knowledge on operation need	Promote environmental awareness and participation among staff	Solicit and analyse the staff training needs	Mar 2004	***	Training needs identified were consolidated for implementation
5. Enhance staff awareness and	Promote environmental awareness and participation among staff	Design a web-based programme on the use of	2003 / 04	***	A web-based programme on the

knowledge on environmental legislation and use of the Environmental Legislative Database (ELD)		the ELD			use of the ELD was produced on the Housing Department (HD) Intranet
6. Enhance staff awareness and knowledge of the Environmental Information System (EnvIS)	Promote environmental awareness and participation among staff	Launch a web-based programme on the use of the EnvIS	2003 / 04	***	A web-based programme on the use of the EnvIS was launched
7. Enhance staff awareness and knowledge on environmental issues	Promote environmental awareness and participation among staff	Organize seminars on environmental issues	2003 / 04	***	4 seminars were organized
		Organize promotional programmes to encourage energy conservation	2003 / 04	***	Energy saving tips were displayed at the HA Headquarter; and uploaded on the HD Intranet
		Arrange quarterly displays at Green Corner displays to promote divisional environmental initiatives	2003 / 04	***	4 displays were organized on ongoing environmental issues for information sharing between divisions
8. Maintain a green working environment	Promote a green environment	Maintain greenery at the HA Headquarters	2003 / 04	***	Potted plants are placed in various locations of the HA Headquarters

9. Improve indoor air quality (IAQ) in the office	Promote health and safety issues related to HA operations to enhance the well-being of persons involved	Conduct IAQ sampling test in the HA Headquarters Adopt smoke-free working environment policy	2003	***	IAQ sampling exercise was completed The HA Headquarters and other office buildings adopt a smoke-free environment
10. Enhance staff awareness on occupational health and safety issues	Promote health and safety issues related to HA operations to enhance the well-being of persons involved	Promote health and safety issues related to HA operations to enhance the well-being of persons involved	2003 / 04	***	Conducted 37 classes covering 18 health and safety training courses and seminars for over 1,000 staff members
11. Promote occupational health	Promote health and safety issues related to HA operations to enhance the well-being of persons involved	Promote health and safety issues related to HA operations to enhance the well-being of persons involved	2003 / 04	***	A hotline and face-to-face counseling services were provided. Social and recreational activities were organized and attended by over 7,000 staff members

COMMUNITY					
Initiatives in 2003 / 04	Policy Objective	Action Plan	Schedule	Target Met	Actual Performance

<p>1. Increase community awareness on environmental protection and to promote, in particular, greening in PRH estates</p>	<p>Promote environmental and public health awareness among residents</p>	<p>Launch campaigns to promote waste reduction and recycling, and environmental issues</p> <p>Launch joint programmes with green groups and EMACs, etc.</p>	<p>2003 / 04</p>	<p>***</p>	<p>Various promotional campaigns were held. The major ones were:</p> <ul style="list-style-type: none"> • The HA Flower Show at Lok Fu Shopping Centre • Estate Green Exchange Square on waste recycling • Anti-mosquito campaign for estate primary schools on prevention of Dengue Fever • Nomination of the Top Ten Favourite Trees in PRH Estates • The Green Property Management Award jointly organized with 3 local green groups <p>Participation in the Hong Kong Tree Planting Day in March 2004, with 400 PRH estates tenants from Fu Tung and Yat Tung Estates</p>
<p>2. Promote fire safety in the PRH estates</p>	<p>Provide information on health and safety criteria</p>	<p>Organize a series of relevant safety promotion activities</p>	<p>2003</p>	<p>***</p>	<p>The Estate Fire Safety Campaign on Home Fire Safety, the Children Estate Fire Safety Education Path and the Estates Fire Safety Elites Training Camp were launched</p>

- *** Fully met
- ** Substantial progress
- * Fall short
- ◆ Deferred

C. Future Targets and Initiatives

▣ Development and Construction

▣ Estate Management

▣ Corporate Services

▣ Allocation and Commercial

DEVELOPMENT AND CONSTRUCTION			
Targets	Action Plan	Schedule	Key Performance Indicator (KPI)
1. Abate 10% of the remaining stock of asbestos containing materials in existing properties managed by the Housing Authority (HA) through estate redevelopment programme	Implement asbestos abatement programme and asbestos removal works	2004 / 05 2005 / 06 2006 / 07 2007 / 08	2% removed 1% removed 1% removed 1% removed
2. Reduce water wastage in large diameter bore piling (LDBP) works	Adopt water recycling system in the construction of LDBP for construction sites	2004 / 05 2005 / 06 2006 / 07 2007 / 08	50% of sites 60% of sites 60% of sites 80% of sites
3. Provide green treatment to newly formed slopes	Hydroseed soil slopes; Soften hard surfaces through planting and / or colour treatment; and Improve Chunam surface to be with hydroseeding, stone pitching and toe planters	2004 / 05 2005 / 06 2006 / 07 2007 / 08	4,300m ² 7,500m ² 100m ² 3,000m ²

4. Reduce electricity consumption of landlord services installation in new domestic blocks	Study application of more energy efficient equipment; and review the lighting design and illumination standard in communal area in line with the private development	Ongoing	Review and make recommendations
5. Reduce energy consumption in shopping centres	Review and make recommendations on existing installations and new designs	2004 / 05	Promulgate new design guides
6. Minimize construction waste	Research wider use of "volumetric" precasting; and wider use of volumetric prefabrication in future contracts	2004 / 05	Complete the consultancy study
7. Improve landscaping and promote greening in housing estates	Enhance greening measures with new initiatives in master plan details: emergency vehicular access covered walkway / pot-planters / podium design, etc.	2004 / 05	Upgrade the Design Guide
8. Review and monitor the environmental awareness in public rental housing (PRH)	Use survey findings to develop programme on environmental awareness of PRH tenants	2004 / 05 2005 / 06 2006 / 07 2007 / 08	Conduct 1 survey; and review annually, as appropriate
9. Ensure asbestos-containing material in existing properties are properly managed	Implement asbestos surveys	2004 / 05	Surveys for 115 schools
10. Increase construction safety awareness with industry stakeholders	Organize safety enhancement training and territory-wide publicity campaigns	2004 / 05	Complete the associated training and campaign
11. Improve safety records at HA construction sites	Reduce accident rate (number of accidents per 1,000 workers)	2004 / 05	30 accidents per 1,000 workers at most

ESTATE MANAGEMENT

Targets	Action Plan	Schedule	Key Performance
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			Indicator (KPI)
1. Upgrade the existing landscape facilities in 18 selected PRH estates	Improve soft landscaping through Landscape Improvement Programme	2004 / 05	110,000m ²
		2005 / 06	110,000m ²
		2006 / 07	110,000m ²
		2007 / 08	110,000m ²
2. Promote green environment at 24 estates inherited by Estate Management Advisory Committee (EMAC) estates	Provide greening in PRH through EMACs	2004 / 05	5,000m ²
		2005 / 06	5,000m ²
		2006 / 07	5,000m ²
		2007 / 08	5,000m ²
3. Increase domestic waste recovery rate for paper (Pa), aluminum cans (Ac), plastic bottles (PI) and used clothes (Uc)	Continue publicity activities such as the Waste Recycling Credit Scheme for all PRH estates	Pa	
		2004 / 05	17%
		2005 / 06	17.5%
		2006 / 07	18%
		2007 / 08	18.5%
		Ac	
		2004 / 05	22.5%
		2005 / 06	22.6%
		2006 / 07	22.6%
		2007 / 08	22.6%
		PI	
		2004 / 05	1.5%
		2005 / 06	1.6%
2006 / 07	1.6%		
2007 / 08	1.6%		
Uc			
2004 / 05	1%		

		2005 / 06	1%
		2006 / 07	1%
		2007 / 08	1%
4. Reduce domestic waste	Promote waste reduction through various publicity campaigns (the Environmental Family Competition, EMAC newsletters and activities, and other joint activities with green groups)	2004 / 05	1% reduction
		2005 / 06	1% reduction
		2006 / 07	1% reduction
		2007 / 08	1% reduction
5. Reduce noise nuisance from water pumps in PRH estates	Replace 3,000 rpm water pumps by 1,500 rpm water pumps	2004 / 05	25 replacements
		2005 / 06	34 replacements
		2006 / 07	2 replacements
		2007 / 08	10 replacements
6. Reduce potable water consumption for installations under landlord in PRH estates	Use self-stopping water tap and reduce pipe bursting and leakage through re-plumbing	2004 / 05	0.5% reduction
		2005 / 06	0.5% reduction
		2006 / 07	0.5% reduction
		2007 / 08	0.5% reduction
7. Improve the slope appearance in existing PRH estates	Apply green treatment to hard surfaced slopes and improvement to existing vegetated slopes; and Improve Chunam surface with hydroseeding stone pitching and toe planters	2004 / 05	10 slopes
		2005 / 06	10 slopes
		2006 / 07	10 slopes
		2007 / 08	10 slopes
8. Enhance greening in PRH estates	Allocate open area in selected estates for setting up thematic gardens	2004 / 05	2 estates
		2005 / 06	2 estates
		2006 / 07	2 estates
		2007 / 08	2 estates
9. Increase tenants' awareness and support of greening	Organize tree planting days in selected estates	2004 / 05	3 estates
		2005 / 06	3 estates
		2006 / 07	3 estates
		2007 / 08	3 estates
10. Promote recovery of spent mercury-containing lamps	Launch the recycling scheme in 5 regions by phases	2004 / 05	2 regions
		2005 / 06	2 regions

		2006 / 07 2007 / 08	1 region -
11. Promote green management initiatives in PRH estates	Organize the Green Property Management Award with green groups	2004 / 05 2005 / 06 2006 / 07 2007 / 08	All estates All estates All estates All estates
12. Improve potable water quality in PRH estates	Replace galvanized steel water pipes	2004 / 05	Replacements in 30 blocks
	Obtain certification under the Fresh Water Plumbing Quality Maintenance Recognition Scheme	2004 / 05 2005 / 06 2006 / 07	350 blocks (subject to review) Completed once for all blocks
13. Improve health and hygiene	Replace cast iron soil and waste pipes inside domestic flats	2004 / 05	Replacements in 8 housing estates
14. Improve safety performance in maintenance works	Establish database to monitor site safety performance	2004	Complete the task as scheduled

CORPORATE SERVICES

Targets	Action Plan	Schedule	Key Performance Indicator (KPI)
1. Reduce A3 and A4 paper consumption in all offices except site offices	Develop and implement various initiatives	2004 / 05 2005 / 06 2006 / 07 2007 / 08	Compared with reams used in 2002 / 03 5% reduction 7.5% reduction 10% reduction 10.7% reduction

2 Collect waste paper in all Housing Department offices except site offices	Develop and implement various initiatives	2004 / 05 2005 / 06 2006 / 07 2007 / 08	Compared with previous year 2% increase in kg 2% increase in kg 2% increase in kg 2% increase in kg
3. Use environmentally friendly paper in printing to all publicity materials (except sales and marketing publication)	Implement the use of environmentally friendly paper as a prerequisite in future printing jobs	2004 / 05 2005 / 06 2006 / 07 2007 / 08	100% of paper used 100% of paper used 100% of paper used 100% of paper used
4. Reduce energy consumption in HA Headquarters	Monitor the operating hours of air-conditioning, lighting, etc; and enhance staff awareness on energy savings by promotional programmes	2004 / 05 2005 / 06 2006 / 07 2007 / 08	Compared with KWh in 2002 / 03 6% reduction 6% reduction 6% reduction 6% reduction
5. Enhance energy efficiency for air-conditioning in HA Headquarters	Replace existing control for the Air Handling Unit with variable speed drive	2004	Complete the task as scheduled
6. Enhance staff awareness and knowledge in operation need	Solicit and analyze training needs from each Division Environmental Committee	2004 / 05	Complete the task as scheduled
7. Enhance staff awareness and knowledge about environmental legislation and use of the Environmental Legislative Database	Organize seminar on environmental legislation for works staff	2004 / 05	1 seminar
8. Enhance staff awareness and knowledge about the Environmental Information System (EnvIS)	Organize enhanced training on the EnvIS for data input and system administrators	2004 / 05	at least 1 training session
9. Enhance staff awareness and knowledge about environmental	Organize general seminars on environmental issues	2004 / 05	3 seminars

issues	Arrange displays at the Green Corner to promote environmental initiatives of various divisions	Ongoing	4 to 5 displays a year
10. Increase community awareness of environmental protection and in particular to promote greening in PRH	<p>Launch campaigns to promote waste reduction and recycling;</p> <p>Relay green messages in EMAC newsletters;</p> <p>Distribute publicity materials such as posters, leaflets and souvenirs to educate residential tenants on environmental issues; and</p> <p>Launch joint programmes with green groups and the EMACs</p>	Ongoing	Complete the task as scheduled

ALLOCATION AND COMMERCIAL

Targets	Action Plan	Schedule	Key Performance Indicator (KPI)
1. Promote environmental care awareness in Home Ownership Scheme (HOS) properties	<p>Liaise with Property Management Agents (PMAs) to organize activities for HOS residents</p> <p>Refer environmental messages from the Environmental Protection Department to PMAs</p>	2004	Complete the task as scheduled
2. Identify potential environmental hazards in flatted factories with a view to drawing up future policy initiatives	Complete consultancy study and recommend controls of potential environmentally hazardous processes	2004	Complete the task as scheduled