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resources and achieve cost effectiveness. To promote environmental awareness and participation among staff, residents and contractors through education and publicity programmes. To review and seek continual improvement on the implementation of an environmental management system.



The Hong Kong Housing Authority (HA) has a vision to be the community's pride as a professional team striving for continuous improvement in the provision of public housing and related services. The Authority is committed to continually improving environmental standards and our Environmental Policy is made known to all our staff.

The Director of Housing is responsible for implementing the Environmental Policy

and is supported by the Housing Department Environmental Committee (HDEC).The Environmental Manager, management representatives from each Business Branch, as well as several environmental committees are accountable to the Director of Housing for ensuring that the HA's business practices are in line with the Environmental Policy.

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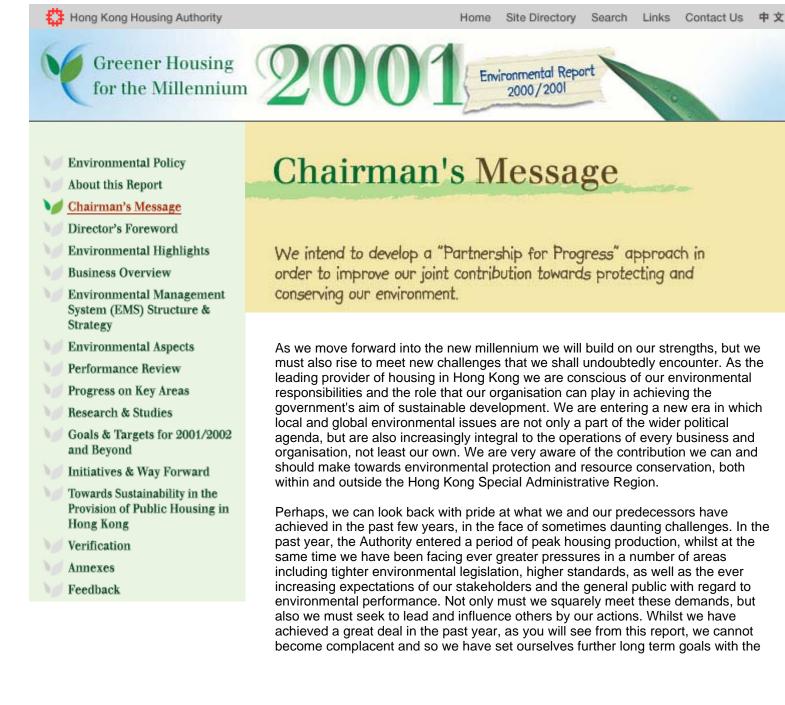
over the past year, in particular the extent to which we have succeeded in meeting the targets set out in the first report. We also show how we are providing greener housing for the new millennium. This report covers the period from 1st April 2000 to 31st March 2001.

### Feedback

We would like to take this opportunity to thank those who provided us with comments <u>Annex A</u> on our previous report. It is our aim to continuously improve the quality and relevance of our environmental reporting and therefore we would welcome your comments. A form is included at the back of this report for your use, or you can contact our Environmental Manager at the following address: Hong Kong Housing Authority Headquarters, 33 Fat Kwong Street, Homantin, Kowloon, fax: 2711 4111, e-mail: hkha@housingauthority.gov.hk

Additional copies of this report (in either Chinese or English) or the bilingual summary can be obtained from the above address. The report can also be found on our website at: www.housingauthority.gov.hk/eng/ha/publications.htm (English) or www.info.gov/hd/chi/ha/publications.htm (Chinese)

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intention of continually improving our environmental performance. We are committed to even greater effort in the months and years ahead.

We must also recognise our perhaps unique position in the extent of our influence within the community. We hope to develop and enhance community awareness of environmental issues and to provide the support and facilities to encourage wise resource usage and reduction of waste.



We aim to provide homes in an environmentally responsible manner. As well as developing and improving our environmental management system, we feel that one of our most important objectives for the year ahead is to make sure that our stakeholders are aware of how we intend to achieve our environmental policy objectives. We intend to develop a "Partnership for Progress" approach in order to improve our joint contribution towards protecting and conserving our environment. The Authority will provide full support to the staff of the Housing Department in meeting these objectives.

CHENG Hon-Kwan Chairman

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### **Director's Foreword**

Although we face a continued and increasingly rigorous challenge in meeting our stakeholders' expectations of our environmental performance, we are confident that we are making steady progress towards the achievement of our environmental objectives.

Our first environmental report, for the year 1999/2000, included a review of our environmental initiatives and achievements over the past few years, highlighted some areas where we would seek further improvements, and also set out our goals and targets for the year 2000/2001. If you have read our first report, we hope that you found it informative and useful. In line with the policy objectives of the Chief Executive, Mr. Tung Chee-hwa, we are committed to producing a report on our environmental performance on an annual basis. This Report is thus our second environmental report and we hope that it will inform all our various stakeholders and other interested readers of the measures we are carrying out, or plan to carry out, to control and minimise our environmental impacts.

With the publication of this second Report, we have taken the opportunity to review the feedback from our first Report and to make a few improvements. As well as improving the clarity of the Report, we have included an abundance of useful information in our "Key Performance Indicators" with which to monitor our environmental impacts. We hope you will agree that the openness and transparency of the Report has been enhanced.

The Housing Department has implemented a number of initiatives in the planning,



construction and management of our housing estates. Our initiatives range from waste recycling campaigns, to design and appraisal of noise mitigation measures in estates, and to studies into alternative building materials and methods with less environmental impact. We are taking our environmental responsibilities very seriously and are addressing a variety of issues, as you will find in this Report. In one key area in particular we have made substantial progress: we have already implemented many parts of our Environmental Management System (EMS). Our EMS will be applied to all our business units and operations and will become a central tool in tracking, assessing, reporting and, where necessary, adjusting our environmental performance.

Although we face a continued and increasingly rigorous challenge in meeting our stakeholders' expectations of our environmental performance, we are confident that we are making steady progress towards the achievement of our environmental objectives. After reading this report, we hope that you will agree.

Tony MILLER Director of Housing

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In the past year, we established an **Environmentally Responsible Procurement Policy**. This new policy requires us to consider the environmental implications of purchasing different products and services. These practices will bring about significant benefits to the environment because we will look into the environmental impacts of goods and services during their full life cycle. We are a major indirect buyer in the marketplace and this allows us to influence our suppliers, contractors and service providers to adopt environmentally responsible business processes and supplies.

### **Environmental Emergency Response Plans**

We have identified our risks and now have **Environmental Emergency Response Plans**. These allow us to respond to any environmental accident that might occur. There are proactive measures to minimise the risk of an environmental accident occurring. We will ask our contractors to provide emergency response plans as part of their environmental management plans. We will also provide action plans and training to front-line staff to make sure that Emergency Response Plans can be swiftly carried out.

**Environmental Information System** 



### (EnvIS)

We are moving ahead with the development of our **Environmental Information System** (EnvIS). It is being developed as an interactive central resource for registering our environmental commitments and tracking performance. Already, it is capable of aiding our environmental management in some areas.

### A Healthy Living Environment For Our Residents

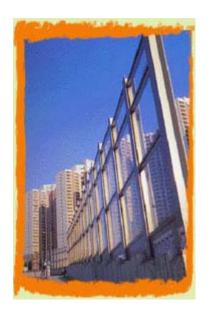
### **Radon Monitoring**

Our work to ensure that our residents have a healthy living environment continued last year with our work to **check radon** levels in housing estates. We conducted detailed tests on 100 flats in 25 estates. We found that radon levels in occupied flats remained at safe levels and posed no danger. In vacant flats, we found higher radon levels and therefore recommended good ventilation.



### **Traffic Noise Abatement Measures**

We have been conducting road traffic noise impact assessments for our new projects. In the past year we finished studying the effectiveness of different **traffic noise** abatement measures. We are using our findings to draw up new design guidelines for preventing excessive road traffic noise reaching our tenants.







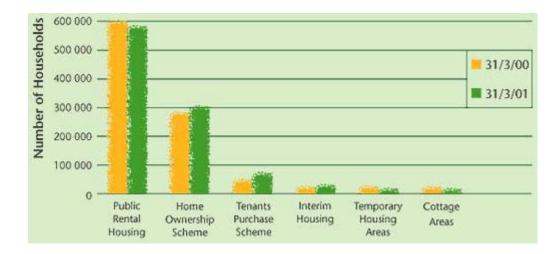
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The HA determines and implements public housing policies within the policy framework set by the Government Long Term Housing Strategy. Through our executive arm, the Housing Department (HD), we plan and build public housing for both rent and sale to almost half of the population of Hong Kong, and we also manage housing estates and commercial centres developed by us. As at 31st March 2001, 583 100 households (27.5% of Hong Kong's families) lived in public rental housing managed by us. A further 354 600 families (16.7%) lived in their own homes, which they bought through our various subsidised home ownership schemes.

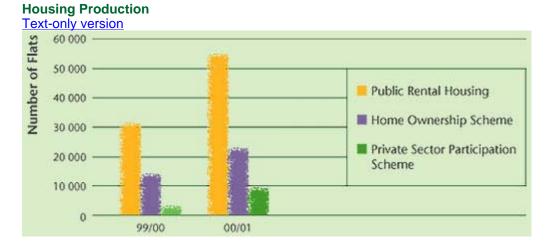
As at 31st March 2001, our housing stock included:

- 1 014 600 flats in public rental, Home Ownership Scheme, Tenants Purchase Scheme, Private Sector Participation Scheme, interim housing and Buy or Rent Option/Mortgage Subsidy Scheme estates
- Over 1.37 million m<sup>2</sup> of commercial premises, including flatted factories
- 90 000 car parks
- Recreational facilities such as tennis courts

### Households Living in HA's Various Housing Schemes Text-only version



A large number of families live in Housing Authority estates. More families are choosing to buy their flats from the Authority.



The past year has been the peak year for our housing production. During this time we produced about 89 000 flats.

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### **EMS Structure & Strategy**

We realise that in order to improve the environmental standards and performance of all our operations, we must establish a strategic and coordinated approach to environmental management across all business functions.

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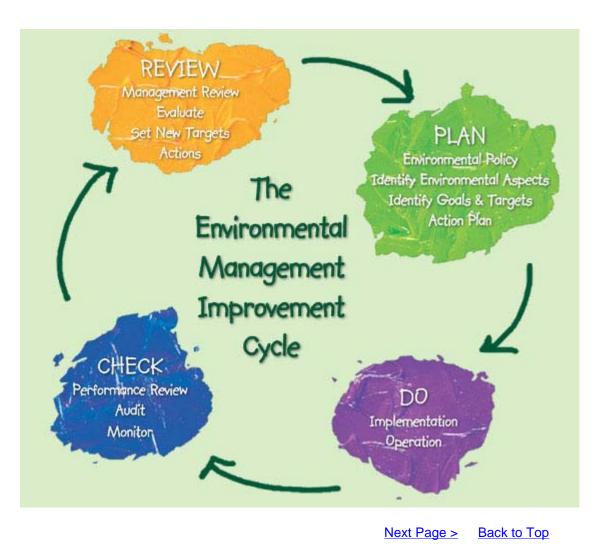
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The Authority has long been a local leader in conducting environmental assessments of its planned developments. This approach has undoubtedly reduced the potential for unwelcome impacts. Nevertheless, we understand that the environmental effects of our activities extend to all parts of the project cycle as well as to our own internal operations. We realise that, in order to improve the environmental standards and performance of all our operations, we must establish a strategic and coordinated approach to environmental management across all business functions.

We are putting in place an Environmental Management System (EMS) consistent with the ISO 14001 international standard. We are making good progress, having already developed our policy, objectives, immediate and long-term targets and environmental management programmes. We are about to roll out our corporate EMS Manuals, as well as a database of environmental legislation, an interactive environmental information system to track commitments and performance, emergency response plans and our environmental procurement policy.

### Plan-Do-Check-Review Cycle





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We must control and reduce the environmental impact of our business and our liabilities through the application of a strategic environmental management approach.

The Authority's activities potentially have a great influence on the environment. Most obviously, construction of new housing blocks or demolition and clearance of old buildings could cause unwelcome noise and dust and also result in waste materials needing disposal. Less obviously, our office based functions, such as finance & accounting, personnel and other corporate services, as well as planning & design functions, also consume resources such as energy and paper. Furthermore our estate management business involves waste collection, cleansing and building maintenance.

The environmental aspects of our main business functions are summarised in the following table:

Life-Cycle Stages of HA Business & Their Significant Environmental Aspects

	Ene	ergy, Resources a	nd Other Materia	l Inputs
	1	1	- V	J
	Planning & Design			
	Allocation & Marketing			
	Office Administration	<b>*</b>	<b>-</b>	<del>}</del>
Significant	Office	Construction	Management & Maintenance	Demolition
Environmental Aspects	1	$\downarrow$	1	$\checkmark$
Liquid-Effluent	<b>\$</b>	-	*	19
Air Emission		<b>S</b>	\$	<i>S</i>
Noise Emission	n in de lander of the second secon	1	<b>\$</b>	٢
Waste Management	\$	13	.3	٢
Materials Usage	۲		-	·····
Energy Efficiency	S.		\$	, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24
Hazardous Materials	<b>\$</b>	-		<i>\$</i>
Estate Greening		*	<b>\$</b>	

Our EMS, which is the main way in which we collate and analyse data on our environmental performance and control our potential impacts, was described in the previous section. The results of our efforts over the past year are described in the following section.

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Over the past year we have made good progress in both carrying out and setting up environmentally responsible practices across all

our operations.

We are fully aware that our public housing developments and other activities influence the quality of life of a large proportion of Hong Kong's population. We are an environmentally responsible organisation and our large size places us in a unique position to contribute significantly to protecting and bettering the environmental quality of Hong Kong.

Through our various policies we constantly strive to meet the changing needs of the community as we develop new and better estates and improve the living conditions in existing estates. As we travel down the path to better and better environmental achievements, we measure our progress against a set of challenging environmental performance targets that we now set ourselves each year. In this section of the report we review our environmental performance over the past year, and focus on the extent to which we have met our previously defined targets. By achieving these targets, we ensure that we meet, or are in a good position to meet, our environmental responsibilities to our tenants and the wider environment.

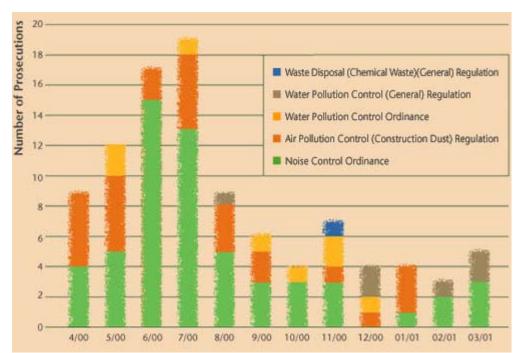
Detailed information on how well we met the key environmental targets and goals for 2000/2001 is presented in <u>Annex C</u>. These targets were set out in our previous environmental report. We have completely met 83% of the targets, and for a further 15% we have made substantial progress



and will be able to achieve the target soon. We fell short of our desired target on one item: undertaking a study on life-cycle costing. The complexity of the issues involved, and the lack of local expertise in this field has delayed commencement. It is now scheduled to commence in 2001. Therefore this target should be met in the following year and it is not expected to influence our ability to provide housing in an environmentally friendly manner.

We have put in place a mechanism to track our contractors' performance on compliance with environmental regulations.

Monthly Environmental Regulations Non-Compliance Convictions at HA Construction Sites in 2000/2001 Text-only version





We fully or mostly met 98% of the targets we set ourselves for 2000/2001. This means we have successfully strengthened our environmental performance in line with the principles set out in our Environmental Policy. In the rest of this chapter, we present information on our most significant environmental aspects and how we minimise their impact on the environment.

### **Effluent Discharges**

Effluent may contain a variety of polluting materials including high organic loads in sewage and soil in run-off from exposed construction sites. If these effluents were discharged into watercourses, they would harm aquatic plants and animals by depleting oxygen levels or by smothering them.

Our effluent discharges arise from three main sources:



Lung Tin Estate - Winning entry of the Green Estate Photo Competition.

- Sewage from housing estates & commercial facilities/markets.
- Sewage from HA offices.
- Construction site drainage and effluent discharges.

All sewage from permanent sites is collected and discharged into public sewers, whereas sewage from temporary sites such as construction sites may either be discharged to public sewers or collected and transported by licensed contractors to sewage treatment works. We take steps to eliminate accidental pollution from sewage effluent discharges. Also, as a result of previous observations and audits, we take care that materials, in particular debris and grease, do not enter drainage systems. We also take steps to reduce the impact of discharges from construction sites by invoking contract conditions that specify measures for contractors to implement on site.

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### Progress on Key Areas

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Over the last year, we have enhanced our position as an environmentally responsible provider of housing by making substantial progress in several key areas.

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As well as setting out a series of goals and targets, our first environmental report defined some key areas for further development:

- Develop the Environmental Management System (EMS)
- Foster community-wide environmental awareness
- Obtain commitments from other business partners
- Develop a model "Green Estate"
- Reducing waste from various sources (this was reported in the previous section)

### **Environmental Management System (EMS)**

We have made substantial progress with development of our EMS. Major achievements include:

- Compilation of database on environmental legislation
- Rolling out the Phase 1 of an electronic environmental information system (EnvIS)
- Inspection guides produced for 'front-line' inspection staff
- Seminars & training courses for professional and site supervisory staff
- Compilation of long-term targets and initiatives for the next four years
- Preparation of environmental emergency response plans
- Establishment of an Environmentally Responsible Procurement Policy
- Prepared corporate System and Procedure guidelines

### **Emergency Response Plans**

Our operations pose only minimal risk of accidents which may cause a significant adverse effect on the environment. Nevertheless, we have adopted a proactive and precautionary approach to ensure that risks are minimised as far as practicable. We have carried out risk assessments of our construction activities and related business operations, and have identified potential environmental risks. Preventive measures will be incorporated into contract documents and contractors will be required to submit emergency response plans as part of their environmental management plans. Action plans to deal with environmental accidents will be provided to front-line staff to raise their awareness and preparedness. Relevant training will also be provided.

The Environmental Manager has been appointed as the Event Controller to deal with environmental emergencies. Links with other departments will be set up to ensure effective communication, cooperation and coordination amongst departments in the event of a major accident which might cause significant impacts to the environment.

### **Environmentally Responsible Procurement**

We have reviewed our current procurement practices, have assessed the environmental impact and associated risks of some commonly used products, and have surveyed the organisational and activity-based environmental performance of some typical contractors and service providers.

We have established an Environmentally Responsible Procurement Policy that requires us to:

- Identify significant environmental impacts of materials and services in use.
- Purchase materials, goods and services to specifications that are compliant with relevant environmental legislation.
- Include environmental considerations in our purchasing decisions so that, if technically acceptable and economically viable, lower environmental impact goods and services are purchased.
- Assess the environmental commitment of suppliers, contractors and service providers 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 plans in their bids for work, and to evaluate the evidence of implementation as part of the supervision of works.
- Provide feedback and advice, and to facilitate training to key suppliers, contractors and service providers on environmental performance and improvement opportunities.
- Ensure that all our staff, as well as suppliers, contractors and service providers

are aware of, and act in accordance with, the Environmental Procurement Policy and contribute to HA environmental objectives.

 Establish systems, targets and action plans for effective environmental procurement and regular reporting on performance.

Action plans are being drawn up to ensure full implementation of the Policy. We are confident that this policy will produce significant environmental benefits through our purchasing power and our ability to influence others.

We will arrange a system audit to identify areas for further development.

Further actions planned for the next year include:

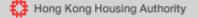
- Further implementation of EnvIS as an interactive tool for environmental data management
- Emergency communication system to be enhanced by incorporation of the environmental emergency response plans
- Environmental emergency action plans to be prepared for relevant staff; emergency event training to be provided to relevant staff



EMS Training Courses.

- Roll out the corporate EMS Manuals and develop Branch-level Manuals
- Undertake selected environmental audits (yearly intervals)
- Hold training courses for our environmental management staff on environmental legislation, EMS implementation and environmental auditing

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**Research & Studies** 

We commissioned a number of studies in the past year. In particular, we are putting our efforts into finding more effective ways of reducing waste and incorporating more environmentally friendly construction materials and methods.

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Landscaping in King Lam Estate, Tseung Kwan

### Reduction of Construction Waste

A team of local experts is investigating effective waste management practices in building and demolition works. It will also identify opportunities for reuse and recycling. The one year long project is scheduled to finish by the end of 2001.

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### Wider Use of Pulverised Fuel Ash (PFA)

In this study our consultants concluded that PFA (a waste product of coal-fired power stations) can be more widely used as a partial cement substitute, subject to some limits, in certain applications. Since its introduction, we have used an average of

48 000 tonnes of PFA each year. We intend to increase the amount of PFA that we use in construction, as a substitute for cement, as follows:

- Use up to 35% PFA in foundation works (up from the previous maximum allowable 25%)
- Use up to 25% PFA in certain superstructure elements where construction time is not critical (previously was 0%)

In 2000/ 2001 we saved 22 000 tonnes of cement (itself derived from the nonrenewable quarrying of limestone rock, as well as being very energy-intensive in its production) by substituting PFA. It is expected that wider use of PFA in the Authority's construction works can further save 30 000 tonnes of cement in the coming year.

### **Traffic Noise Mitigation Measures**

This study involved an appraisal of noise abatement measures and their effectiveness. A design guide will be produced based on the results of the study.

### **Radon in Public Housing**

We commissioned a detailed survey of 100 flats in 25 estates in 2000 as a follow up to previous surveys in 1994 and 1998. We found that radon levels in all occupied flats remained at safe levels. Higher levels of radon were detected in unoccupied vacant flats. This could be attributed to poor ventilation. For this reason, we recommended that our residents maintain good ventilation in their flats as a good way to maintain air circulation and prevent radon build up.

#### **Emergency Response Plans**

In this study, our consultants identified the potential environmental risks associated with our business operations and concluded that they are relatively low. Nevertheless, control and prevention measures were drawn up to minimise these risks. A number of comprehensive action plans and guidance on how they should be implemented in case of an environmental accident, were also provided. The Plans are tailored to different types of environmental accident and their severity, and will be provided to front-line staff. Relevant training will also be provided.

#### **Environmentally Responsible Procurement**

In order to act in an environmentally responsible manner and influence others to do the same, we commissioned a consultancy firm to study our procurement practice and investigate the environmental impact of some of the products and services we use. The consultants quantified and ranked the environmental risks of 25 generic products based on their environmental impact at different stages of their life-cycle. The consultants also interviewed ten groups of our contractors and service providers on their environmental management practices. From these findings, we now have an environmental procurement policy.

### **Environmental Awareness in the Community**

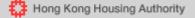
We commissioned The University of Hong Kong to conduct an opinion survey on our tenants' environmental awareness. Researchers interviewed 1 033 of our residents. In general, tenants knew that environmental protection was important but realised that their awareness of HA initiatives was weak. Tenants' environmental awareness was rated as barely satisfactory. Less than half of the residents knew the Waste Recycling Credit Scheme competition but more than three quarters agreed that it should continue. Nevertheless, about three quarters of respondents knew that there were recycle bins on their estates and more than half said that either themselves or their families used them. A fifth of residents said they always used the recycle bins. Tenants were asked the reasons for not using the recycle bins. Based on this information, we are investigating ways to increase the convenience and number of recycle bins. About two thirds of residents said they would participate in environmental campaigns and activities. Residents rated HA's efforts to provide environmentally friendly and green estates as fair.



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# Goals & Targets for 2001/2002 and Beyond

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We have set targets for the next four years. These build on the initiatives of previous years or are new measures identified as being appropriate to our business activities.

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In the section on 'Performance Review' we presented our targets set for 2000/2001 and evaluated our performance in relation to these targets. In this section we present our targets for the next four years. These build on the initiatives of previous years or are new measures identified as being appropriate to our business activities. Earlier in this report we listed the potential significant impacts of our activities (the 'Environmental Aspects' of our business). For key impact areas we have assigned measurable targets, because it is only by measuring our impacts that we are able to manage and control them effectively. For each measure we have also indicated the relevant policy objective (from our Environmental Policy) that it addresses. For each target we provide a brief action plan stating what kinds of measures will be implemented to achieve the stated target. Accompanying this is a "Key Performance Indicator" (KPI) with a specific target to achieve for each coming year. Our targets for 2001/ 2002 and beyond are listed below:

### Targets and Action Plan for 2001/2002 and Beyond

Target	Environmental Policy Objectives	Action Plan	Key Performance Indicator	2001/2	2002/3	2004/5	
Construct	ion					-	

Abate a further 5% of the remaining asbestos containing materials (ACMs) in existing HA managed properties	Promote healthy living and green environment	Implement planned asbestos abatement programme e.g. estate redevelopment programme & asbestos removal works	% of total remaining asbestos removed	3%	2%	-	-
Reduce electricity consumption of landlord services installation in new domestic blocks	Minimise the use of resources and promote sustainable development by promoting energy efficiency and waste reduction	■Adopt Energy Codes	% of electricity saving in new designs compared to existing designs for landlord services installations in domestic blocks	3%	6%	12%	12%
Reduce water wastage in large diameter bored piling (LDBP) works	Minimise environmental impacts	Adopt water recycling system in the construction of LDBP	% of sites adopting water recycling systems	20%	30%	40%	50%
Green treatment to newly formed slopes	■ Promote healthy living and green environment	<ul> <li>Soil slopes to be hydroseeded</li> <li>Hard surface to be softened by planting of creepers or colour treatment, or with tree planting in pits</li> </ul>	Total area of green slope 'greened' each year (sq.m)	190 000	14 000	5 700	-
Estate Manag Reduce noise nuisance from water pumps in PRH estates	ement ■ Minimise environmental impacts	■ Replace 3 000 rpm water pumps with 1 500 rpm pumps	No. of pumps to be replaced	82	32	71	38
Reduce potable water comsumption for installations under landlord control in PRH estates	Minimise the use of resources by reducing wastage	■ Use self stopping water tap and reduce pipe bursting & leakage through replumbing programme	% of saving (compared with previous year)	0.5%	0.5%	0.5%	0.5%
Upgrade the standard of the existing landscape facilitles in 18 selected PRH estates	Promote healthy living and green environment	■ Landscape Improvement Programme through Landscape Improvement Teams	No. of plants planted	450 000	450 000	500 000	500 000

Promote green environment at 24 PRH estates	Promote healthy living and green environment	■Green planting through Estate Management Advisory Committees	No. of plants planted	100 000	100 000	102 000	102 000
Improvement to the slope appearance in existing PRH estates	Promote healthy living and green environment	<ul> <li>Green treatment to hard surfaced slopes and improvement to existing vegetated slopes</li> <li>Chunam surface to be improved with hydroseeding, stone pitching and toe planters</li> </ul>	No. of slopes to be visually enhanced	50	70	50	50
Increase domestic waste recovery rate	Minimise the use of resources by reducing waste	Continute publicity activities such as Waste Recycling	% waste recovery rate				
2	Ũ	Credit Scheme	Paper:	20%	25%	30%	35%
		Expand scheme on Enhancement of Waste Recovery by placing waste	Aluminium cans:	25%	30%	35%	40%
		recycling bins on each floor of the	Plastic:	1%	2%	3%	4%
		block and at open	Used clothes:		10%	10%	15%
		space by phases in 3 years starting from 2001/02 Investigate & trial collection of other types of recyclable materials	Walkie-talkie/ mobile phone batteries:		1%	3%	5%
Reduction of domestic waste	Minimise the use of waste resources by reducing and address environmental concerns	Promote waste reduction through various publicity campaigns (Environmental Family Cometition EMAC newsletters and other joint activities with green groups)	% reduction in domestic waste per person per day	1%	2%	3%	4%
Office Reduce A3 and	- Minimise the use	Various initiatives*	Reams of	12.3	12.1	11.9	11.7
A4 paper consumption in all HD offices except site offices	<ul> <li>Minimise the use of resources and promote awareness and participation among staff</li> </ul>	<ul> <li>various initiatives inc. publicity, training, competitions, provision of recycling bins, and encouragement for use of electronic</li> </ul>	paper consumed per staff member per year	12.0	12.1	11.9	

		media					
Collection of waste paper in all HD offices except site offices	<ul> <li>Minimise the use of resources by reducing waste and promote awareness and participation among staff</li> </ul>	∎ Various initiatives*	% saving compared to previous year	5%	2%	2%	2%
Community Increase community environmental awareness in PRH estates	Promote environmental awareness among residents	Publicity and competitions. Awareness to be measured by opinion survey conducted in PRH estates	% of residents aware of HA environmental initiatives	48%	49%	50%	55%
Increase in community participation in environmental activities in PRH estates	Promote awareness and participation among residents	Publicity, competitions, activities. Results to be measured by opinion survey conducted in PRH estates	% of residents who have participated in environmental activities	62%	63%	64%	65%
Increase in use of recycling bins in PRH estates	Minimise the use of resources by focusing on waste reduction	<ul> <li>Publibity, competitions, increased number of bins.</li> <li>Results to be measured by opinion survey conducted in PRH estates</li> </ul>	% of residents who had used waste bins at least once	57%	59%	61%	63%

- \* Various initiatives have been implemented or are planned to reduce paper consumption in all HD offices, including the following:
  - A paper saving competition under the HA Environmental Awards Scheme, with wide publicity through poster, display board, e-mail message and web page
  - An exhibition to further promote paper saving and waste paper collection
  - Encourage wider use of electronic media in daily office practice (e.g. booking of conference rooms and provision of library services through Intranet)
  - Recycle bins will be supplied to all HA offices to encourage waste paper collection
  - Tips for paper saving and the video on green housekeeping practice will be regularly recirculated/presented to staff as a general reminder

- Level of paper consumption and waste paper collection will be closely monitored
- Education and publicity programmes to promote the concept of paperless office and conservation through recycling of used paper
- Staff suggestion awards on green housekeeping will be considered
- •

Effectiveness of the green initiatives on paper saving and waste paper collection will be regularly reviewed and revised in the light of the departmental performance as against the set targets



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## Initiatives & Way Forward

We are taking a far-sighted and systematic approach for strengthening our environmental performance across all our operations.

We are continuously and actively working to improve our environmental performance so that we can reduce our impact on the environment. Our ultimate objective is to provide sustainable public housing. However, we appreciate that this process is a journey and not a destination and so continual improvements are sought and new initiatives are implemented. Some of these initiatives do not have quantified targets because some initiatives are difficult to quantify, or are not yet sufficiently precisely defined to be measurable as Key Performance Indicators (KPI). In addition, we intend to set targets for some initiatives in the near future.

### **Our Initiatives**

We are taking a far-sighted and systematic approach for strengthening our environmental performance across all our operations and activities over the coming years. This is reflected in the wide range of environmental initiatives that we have planned. Each of our initiatives is guided by the underlying goals laid out in our Environmental Policy. For this reason, in the next table, we indicate the Environmental Policy objective to be addressed by the initiative, along side information on our target, action plan and timeframe for meeting the target. Our initiatives for the coming years are summarised below.

Through these planned initiatives, we will focus our efforts in several key areas.

### We will enhance the living environment of the community by

- investigating the indoor air quality in commercial and shopping centres
- reducing noise nuisance from our demolition works

- increasing our residents' protection against traffic noise
- minimising the noise generated by building installations
- improving and controlling the quality of potable water
- promoting environmentally friendly design and construction

#### To reduce our use of energy and resources, we will

- incorporate energy saving measures into the design of new domestic blocks
- replace electronic ballast in car parks and HA Headquarters
- explore further ways to enhance environmental design of residential buildings
- reduce water wastage at building, piling and demolition sites
- adopt water saving fittings
- reduce water loss due to underground pipe leakage
- promote environmentally friendly work processes in our offices

# We will reduce waste production and the environmental impact of our operations by

- reducing construction and demolition waste
- assessing the environmental costs and impacts of our building designs
- increasing recycling and recovery rates
- adopting environmentally-friendly building materials
- reducing our use of timber from non-sustainable sources

## We will strengthen environmental management and our control over

#### contractors by

- increasing staff training and expertise
- requiring contractors to submit environmental management plans

## We will get the community and our staff more involved in environmental protection by

- enhancing environmental awareness through environmental competitions and campaigns
- promoting environmentally conscious living in the home
- enhancing the environmental awareness of our staff

Our initiatives are set out in the following table.

## **Environmental Improvement Initiatives**

Target Environmental Action Plan Schedule	the second statement of the second statement	and the state of the state of the back of the state of th	A REAL PROPERTY OF A REA	And with Lot of the second
	Target	Environmental Policy Objectives	Action Plan	Schedule

Construction Specify CFC & HCFC free thermal insulation materials to roofs in new development projects	<ul> <li>To comply with environmental legislation, reduce use of known ozone-depleting chemicals</li> </ul>	<ul> <li>Research &amp; identify sufficient supply in the market</li> <li>Review specification</li> <li>Implement in new building tenders</li> <li>Develop specific targets</li> </ul>	2001 - 2002 2001 - 2002 2001 - 2002 2001 - 2002
Improve indoor air quality (IAQ) of new commercial centres with reference to the IAQ Guidance Notes	<ul> <li>Promote healthy living and green environment</li> <li>Address environmental concerns</li> </ul>	<ul> <li>Study IAQ performance in existing commercial centres</li> <li>Review design and specification with a view to establishing design guidelines for new commercial centres to meet IAQ Level 2 objectives</li> </ul>	2001 - 2002 2002
Reduce energy consumption in new domestic blocks	<ul> <li>Incorporate environmental initiatives in design and estate management activities</li> <li>Promote sustainable development</li> </ul>	<ul> <li>Implement Energy Codes in design of standard domestic blocks</li> <li>Develop a tender evaluation framework to take into account running energy cost for building services installations</li> <li>Study, trial and adopt the use of electronic ballast in new development projects</li> </ul>	2001 - 2002 2001 - 2002

Reduce the no. of formal noise complaints registered by EPD in demolition works	<ul> <li>Minimise environmental impacts</li> </ul>	<ul> <li>Establish database of complaints / prosecutions</li> <li>Reduce no. of formal complains and / or prosecutions registered by either EPD or Police by exploring more extensive use of hydraulic concrete crusher to replace the percussive type concrete breaker</li> </ul>	2001 - 2002
Reduce the no. of formal noise complaints registered by EPD in piling works and building works	<ul> <li>Minimise environmental impacts</li> </ul>	<ul> <li>Research on concreting technologies / review working programme</li> <li>Specification, review and implementation</li> <li>Development of specific targets</li> </ul>	2002 2002 2002 - 2003
Improve building design for better protection from traffic noise	<ul> <li>Address environmental concerns</li> </ul>	<ul> <li>Develop design guide on mitigation measures against traffic noise</li> </ul>	2001
Minimise noise generation in new building designs	<ul> <li>Address environmental concerns</li> </ul>	<ul> <li>Implementation of pump room noise control enhancement measures</li> <li>Trial on two projects using smaller and night- duty water pumps and investigation of the noise reduction effects</li> </ul>	
	•	•	

Reduce water wastage in building, pilling and demolition works	Minimise use of resources •Address environmental concerns	Review effectiveness of waste management plans implemented since 8/00 on reduction of water wastage Implement water recycling plants / facilities in specified sites Develop specific targets	2001 2002 2002
Specify water saving fittings	<ul> <li>Develop procurement policies to minimise use of resources and achieve cost effectiveness</li> <li>Reduce resource usage</li> </ul>	<ul> <li>Research on new products (e.g. dual flush w.c. cisterns)</li> <li>Review specification &amp; implementation</li> <li>Develop specific targets</li> </ul>	2001 - 2002 2002 2002
Reduce construction and demolition waste	<ul> <li>Incorporate environmental initiatives in planning, design and construction activities</li> <li>Minimise environmental impacts</li> </ul>	<ul> <li>Complete research on waste management in construction sites</li> <li>Develop and implement specification to reduce construction waste</li> <li>Develop specific targets</li> </ul>	2001 2002 2002
Provide purchasers choice of fitting-out	<ul> <li>Incorporate environmental initiatives in design and construction activities</li> <li>Minimise use of resources</li> </ul>	<ul> <li>Undertake three pilot projects</li> <li>Review at several stages i.e. tender, flat selection and flat intake</li> </ul>	2001 - 2002 2002 - 2004
Reduce the use of	Develope	Research and	2001 - 2002

non-sustainable timber in new buildings	procurement polices to minimise use of resources Promote sustainable development	consultation	
Assess life cycle costs and impacts of existing designs	<ul> <li>Incorporate environmental initiatives in planning, design construction, demolition and management activities</li> <li>Minimise the use of resources and reduce environmental impacts</li> </ul>	<ul> <li>Comission a consultancy study on life cycle costing</li> <li>Review design &amp; specifications</li> </ul>	2001 2002 - 2003
Require contractors to submit an environmental management plan where necessary	<ul> <li>Minimise the use of resources and reduce environmental impacts</li> </ul>	<ul> <li>Research and consultation</li> <li>Review contract conditions and specifications, tendering system, auditing with PASS</li> </ul>	2001 - 2002 2001 - 2002
Explore further ways to enhance environmental design of residential buildings	<ul> <li>Address environmental concerns</li> </ul>	<ul> <li>Map out our implementation plan for HK BEAM assessment</li> <li>Identify non- standard developments for further pilot assessment</li> <li>Research study on micro-climate assessment techniques</li> </ul>	2001 2001

Estate Management

Replacement of electronic ballast	<ul> <li>Incorporate environmental initiatives in estate management</li> </ul>	<ul> <li>Pilot project in several car parks and HQ building</li> </ul>	2001 - 2002
Installation of Desiccant Dehumidification System	<ul> <li>Incorporate environmental initiatives in estate management</li> </ul>	<ul> <li>Pilot project in Hin Keng Market</li> </ul>	2001 - 2002
100% noise measurement and follow-up abatement works for new projects	<ul> <li>Address environmental concerns, reduce noise nuisance</li> </ul>	Implement in works programme	2001
Control on quality of potable water in PRH Estates	Promote healthy living and green environment	<ul> <li>Conduct water quality verification tests as a basis for establishing the cleansing cycle</li> <li>Review the current cleansing procedures and establish a biological testing frequency</li> </ul>	2001 2001 - 2002
Reduce water loss due to underground pipe leakage	<ul> <li>Incorporate environmental initiatives in estate management</li> </ul>	<ul> <li>Prepare tender for fault detection at several estates</li> </ul>	2001 - 2002
Reduce the no. of complains received by HD on water quality / water wastage / water pollution in PRH estates	Address environmental concerns	<ul> <li>Collect specific data on quarterly basis</li> <li>Develop specific targets</li> </ul>	2001 - 2002
Investigate air quality performance and formulate measures to improve air quality	<ul> <li>Address environmental concerns</li> </ul>	<ul> <li>Collect data from 2         <ul> <li>4 existing shopping centres</li> </ul> </li> <li>Analyse data collected</li> <li>Identify causes of</li> </ul>	2001 2001 2001

in HA's existing shopping centres	shortcomings and formulate measures 2001 - 2002 Recommend improvement solutions
Reduce the use of non-sustainable timber in maintenance of existing estates	<ul> <li>Research on 2001 - 2002 reducing use of non-sustainable timber for toilet doors, formwork &amp; joinery items</li> <li>Specification 2001 - 2002 review 2001 - 2002</li> <li>Implementation in maintenance works</li> </ul>
Encourage more environmentally friendly application of materials & technologies	<ul> <li>Review on 2001</li> <li>technical performance &amp; wider use of:         <ol> <li>silane of waterproofing agents to toliet / balcony floors in domestic units;</li> <li>spray-applied polyurethane coating over existing roof (overcoat reroofing);</li> <li>Rehabilitation of underground services utilising trenchless technology</li> </ol> </li> </ul>
Encourage the use of recycling bins and promote waste recovery and Promote awareness and participation among staff,	Launch the Waste 2001 Recycling Credit Scheme (Phase 4) at all public rental

reduction	residents and constractors	estates •Weigh all waste collected in recycling bins for comparision	
Facilitate waste recovery by encouraging separation of recyclable waste	<ul> <li>Address environmental concerns</li> </ul>	<ul> <li>Place a set of 3 recycle bins at lift lobby on each floor in 2 trial estates</li> </ul>	2001 - 2002
Promote public awareness of waste recovery and increase waste recovery rate	<ul> <li>Promote awareness and participation among residents</li> </ul>	<ul> <li>Launch Green</li> <li>Estate Exchange</li> <li>Square Scheme in</li> <li>22 estates.</li> <li>Encourage tenants</li> <li>to exchange</li> <li>recyclable waste</li> <li>for souvenirs.</li> </ul>	2001
Improve awareness of environmental protection	<ul> <li>Promote awareness and participation among residents</li> </ul>	<ul> <li>Select 20         <ul> <li>households from participants joining the Green Family</li> <li>Competition. Offer overseas visit to</li> <li>Japan for</li> <li>experience sharing to three winning</li> <li>families</li> </ul> </li> </ul>	2001
Educate tenants to use fewer plastic bags for shoppping	<ul> <li>Promote awareness and participation among residents</li> </ul>	<ul> <li>Support ECC to promote using fewer plastic bags for shopping in wet markets</li> </ul>	2001 - 2002
Encourage wide participation by tenants and staff in green management initiatives	<ul> <li>Promote awareness and participation among residents and staff</li> </ul>	<ul> <li>Have 50 estates participate in the Green Property Management Award (Public Housing) to be held by Environmental</li> </ul>	2001 - 2002

		Campaign Committee (ECC), Chinese Chamber of Commerce, Hong Kong General Chamber of Commerce and HK Productivity Council	
Promote recovery of plastic bottles	<ul> <li>Promote         <ul> <li>awareness and             participation             among residents</li> </ul> </li> <li>Facilitate         contractors with         collection</li> </ul>	<ul> <li>Support ECC's Regional Plastic Recyclable Collection Scheme to encourage recovery of plastic bottles</li> </ul>	2001
Increase tenants' environmental awareness and support for a green environment	<ul> <li>Promote awareness and participation among residents</li> </ul>	<ul> <li>Support ECC to invite tenants / EMAC members to be Green Property Management Ambassadors to disseminate green message</li> </ul>	2001 - 2002
Home Ownership Promote environmental care awareness in HOS estates	<ul> <li>Promote awareness among stakeholders</li> </ul>	<ul> <li>To organise the following award schemes for PMAs of HOS estates:         <ol> <li>Best PMAs award</li> <li>Environmentally Friendly Award for the Waste Reduction Scheme and the Collection of Recyclable</li> </ol> </li> </ul>	2001 - 2002

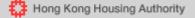
		Materials Competition	
Promote environmentally friendly design in Home Ownership Scheme (HOS) / Private Sector Participation Scheme (PSPS) developments	Address environmental concerns	<ul> <li>Incorporate appropriate clauses into the Conditions of Sale of PSPS sites and revisit the Weighted Scoring System for PSPS tender selection in order to implement the "Green and Innovative Buildings Initiatives"</li> </ul>	2001 - 2002
To develop environmentally friendly HOS / PSPS estates	<ul> <li>Incorporate environmental initiatives in estate management</li> </ul>	<ul> <li>To Implement guidelines on tree planting in HOS development sites</li> <li>To improve hygiene and cleanliness in estates</li> </ul>	on-going on-going
Promote environmentally friendly work processes	Reduce resource usage	<ul> <li>To put HOS sales brochures on-line during the application periods and achieve a saving of some 76 800 000 pages of paper a year</li> </ul>	2001 - 2002 ,
Office Promote green management in offices	Promote awareness among staff	<ul> <li>To organise green management workshops and seminars for 40% of office managers</li> </ul>	2001 - 2002
Enhance community	Promote awareness and	Launch competitions on	2001 - 2002

awareness in environmental protection and promote water & energy saving in PRH estates		<ul> <li>water &amp; energy saving</li> <li>Relay green message in EMAC newsletter</li> <li>Distribute publicity materials such as posters, leaflets and souvenirs to educate residential tenants on environmental issues</li> <li>Launch joint programmes or seminars with EPD, WSD, HK Gas or China Light &amp; Power on water &amp; energy saving subjects</li> </ul>	on-going on-going 2001
Arouse staff's awareness and concern about the environment and encourage active participation in resolving environmental problems	awareness and participation among staff	<ul> <li>Organise seminars on environmental issues</li> <li>Launch environmental awareness training video</li> <li>Devise quiz game to test staff's knowledge after watching training video</li> <li>Devise idea competition to collect from staff environmental initiatives related to business or office</li> <li>Incorporate environmental objectives and</li> </ul>	2001 2001 2001

		organisational set- up in induction programmes for new recruits	
Facilitate staff to acquire knowledge on how to protect and improve the environment	<ul> <li>Address         <ul> <li>environmental</li> <li>concerns and</li> <li>incorporate</li> <li>environmental</li> <li>initiatives</li> </ul> </li> </ul>	<ul> <li>Organise courses / seminars on sustainable development</li> </ul>	/ 2001 - 2002
Enhance knowledge on tasks and actions required for compliance with environmental legislation	<ul> <li>Strictly comply with and fully implement measures for complying with all relevant environmental legislation and regulations</li> </ul>		2001
Equip staff with knowledge on tasks and actions required for successful implementation of EMS	<ul> <li>Review and seek continual improvement on the implementation of an environmental management system</li> </ul>	<ul> <li>Organise training course on EMS implementation</li> <li>Organise training course on EMS internal audit</li> </ul>	2001 2001

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# Towards Sustainability in the Provision of Housing in Hong Kong

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By having in place measures to control our impacts, we are already significantly reducing our environmental footprint. Nevertheless, our ultimate aim must be to become a more "sustainable housing provider".

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## Sustainable Housing Provider

When we developed our Environmental Management System, we identified all the major environmental aspects arising from our work activities. Our Environmental Policy and the targets and goals identified in this report are focused on controlling our impacts under both normal and emergency conditions. Through all these measures, we are significantly reducing our environmental footprint. Nevertheless, our ultimate aim must be to become a more "sustainable housing provider".

We believe that achieving true sustainability in the provision of housing is a longterm objective. In the meantime, we believe that every effort made is valuable. As a major player in the field, we can contribute substantially to the overall goal of more sustainable development.

From the environmental point of view, we are making every effort to ensure that we do not compromise the needs of our future generations. This is demonstrated throughout this report by the many measures we have in place for protecting the environment; conserving natural resources; and minimising the production of waste.

#### **Sustainable Development**

Sustainable development is "development that meets the needs of the present generation without sacrificing the ability of future generations to meet theirs".

Sustainable development strikes a balance between environmental protection, social progress and economic growth. Through the prudent use of resources, the quality of life for society is protected and enhanced.

The Housing Authority will work towards abiding by the principles of sustainable development.

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The HKHA made good progress on the development of the EMS and defined long-term targets and initiatives accompanied by "Key Performance Indicators" to ensure effective management and control over the environmental performance of the HKHA's activities.

## **Purpose of the Verification**

The Hong Kong Housing Authority (HKHA) appointed Environmental Management Limited as an Independent Verifier to check the accuracy of the information and data provided in the HKHA Environmental Report 2000/2001 (the Report). The roles of the Independent Verifier were to carry out independent checking of the Report and to provide recommendations for future reports and continual improvement of the environmental performance of the HKHA.

## Approach to Verification

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

## **Opinion on the Report**

This Report presented comprehensive information on the environmental performance of the HKHA over the past year. The preparation of this Report was found to have taken account of comments received on the first annual report. A summary of comments was also included in the Report indicating that the suggestions and feedback from readers were considered by the HKHA in a serious way.

The objectives and targets presented in the Report were in line with the theme of the Report "Greener Housing for the Millennium". The reporting structure was organised in a systematic manner with the environmental highlights placed at the beginning of the Report and detailed elaboration of the key items in the subsequent sections. The Report clearly presented the major environmental aspects of the HKHA's business. Photos and figures were suitably inserted in the text to provide illustrative examples to the readers enhancing their understanding of the Report.

The key environmental initiatives and targets set for the past year were properly evaluated and presented in this second issue. The HKHA made good progress on the development of the EMS and defined long-term targets and initiatives accompanied by "Key Performance Indicators" to ensure effective management and control over the environmental performance of the HKHA's activities.

In our opinion, the information and data presented in the Report are consistent with the materials, which were reviewed during the verification process. The Report provides a clear account of performance with respect to HKHA's business and reveals the commitment of the HKHA to improve the environmental performance and standards in its services. The environmental principles outlined in the Environmental Policy Statement have shown to be successfully incorporated and implemented in the HKHA's operation. The Report also clearly indicates that the HKHA has taken a proactive attitude to influence others through the establishment of an Environmentally Responsible Procurement Policy.

An increase in environmental awareness and involvement from each of the staff members can contribute to the successful implementation of environmental protection work and minimisation of environmental impacts arising from the HKHA's activities.

#### **Recommendations for Future Reports**

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

- Maintaining the logical and systematic approach in preparing the reports
- Avoiding repeating the same materials in the reports
- Increasing stakeholder involvement during preparation of future reports

- Indicating the sources of information and data to support the presented materials in the reports
- Maintaining the readers' interest in the reports
- Providing a linkage between the HKHA environmental performance and its contribution to sustainable development

To ensure that HKHA meets stakeholders' expectations on environmental improvement work, we encourage HKHA to continue in gathering and reviewing the feedback from stakeholders and incorporating constructive suggestions in the formulation of future environmental objectives. Suggestions from the stakeholders taken up by the HKHA should be identified in future reports.

#### Other Recommendations

Exchange of experience and knowledge with other departments should improve the efficiency of implementing an EMS in the HKHA. We encourage HKHA to continue to keep up with the good progress so as to attain the full implementation of its EMS.

The continual improvement of the environmental performance of the HKHA hinges on the commitment from all levels of staff. An increase in environmental awareness and involvement from each of the staff members can contribute to the successful implementation of environmental protection work and minimisation of environmental impacts arising from the HKHA's activities. A proactive approach should therefore be undertaken to promote the Environmental Information System within HKHA. This, along with the recommendations for future reports, will enhance the HKHA's ability to systematically address its environmental performance and reporting initiatives leading to the achievement of the ultimate objective of providing sustainable public housing.



**Environmental Management Limited** 

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Annexes

Our 1999/2000 Report won a Merit Award in the "Hongkong Eco-business Award" sponsored by the Environmental Campaign Committee.

## (A) Summary of Comments on the 1999/2000 Report

#### 1999/2000 Report won a "Merit Award"

Our first Environmental Report was met with widespread approval and the feedback was very positive. It received praise for the effectiveness of the overall presentation and the clarity and informative nature of the content. We entered the Report in the 'Hong Kong Eco-business Awards' sponsored by the Environmental Campaign Committee. The Report was judged by an independent awards panel. We were very pleased to win a "Merit" award. We are, however, aware of a number of areas needing improvement (in particular, the need for more data and graphs) and we have tried to address these in this Report. Of course, we shall aim to continually improve our Report each year with the acquisition of more data to show trends in our year-on-year performance. We look forward to hearing how we have succeeded in making this year's Report more useful, and we shall try to incorporate your suggestions where appropriate.

#### **Positive Comments from Respondents**

On the whole, comments about the report itself were positive. Respondents were satisfied that the report was clear, informative and understandable. We were told that the most useful parts of the report were the facts and figures as well as information about our future environmental targets.

As we had hoped, we also received comments on how we can improve the report. In particular, we were reminded not to use language that is too technical. We were also

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C. Achievement of Targets and Goals for 2000/2001

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given advice on how to better present the report such as putting more information into bullet points. A request was also made that we provide more information about the financial implications of our achievements. As far as possible, each of the comments, has been taken on board in the current report.

As requested, this year we have provided a summary of the report in addition to the full version. This summary leaflet highlights our most important achievements and actions for the future. We have not made the environment report available in a CD-ROM format as requested by one member of the public. This is because an electronic version can be viewed at our internet homepage.

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## (B) Environmental Management Hierarchy

#### **Specialist Environmental Committees**

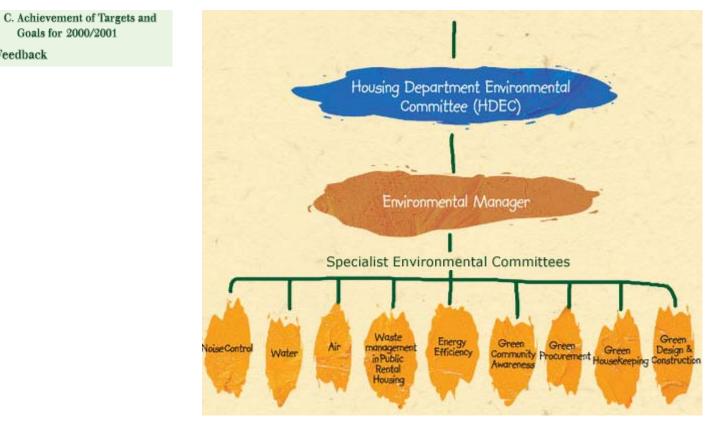
Each of the nine specialist environmental committees has a set of common specific responsibilities. Common responsibilities include identifying and developing controls for HA's environmental aspects and then making recommendations, in collaboration with the Environmental Manager, to the HDEC. Each committee also establishes targets and objectives in their specialist areas, considers technological advances to help mitigate environmental aspects as well as advises on training needs and ways to promote environmental awareness.

In general, specific responsibilities involve finding ways to increase resource use efficiency, reduce wastage and minimise environmental impacts. Each committee therefore assesses ongoing environmental performance and evaluates the effectiveness of existing controls. As a result, it is the responsibility of each committee to review designs, establish monitoring procedures and explore and evaluate measures which will further mitigate environmental aspects and enhance environmental quality. Differing slightly from the other committees in terms of its specific responsibilities is the Green Community Awareness Committee. This committee's specific responsibilities are to generate, increase participation in and publicise campaigns to educate and promote messages on environmental protection.

## **Environmental Management Hierarchy**

Housing Authority Strategic Planning Committee Feedback

Goals for 2000/2001





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## (C)Achievement of Targets and Goals for 2000/2001

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Key Environmental Initiatives	Performance Target	Time Target	Actual Performance	Target Met
Implementation Appoint an Environmental Manager	of EMS Institute overall coordination of environmental initiatives and EMS implementation	April 2000	<ul> <li>Environmental Manager appointed and fulfilling roles as coordinator and supervisor</li> </ul>	~~~
Provide EMS awareness training and other specialist training	<ul> <li>Develop an environmental training action plan in support of the EMS</li> </ul>	April 2000 (start)	<ul> <li>Training action plan has been developed and is being implemented</li> </ul>	999
Develop an Environmental Emergency Plan	-	November 2000	<ul> <li>Plans         prepared     </li> <li>Staff training         and links to         other         departments         are being set         up     </li> </ul>	999
Develop an Environmental Information System (EIS)	-	January 2001	<ul> <li>First phase of Environmental Information System (EnvIS) rolled out in Jan</li> </ul>	999 

#### C. Achievement of Targets and Goals for 2000/2001

#### Feedback

Develop a corporate EMS Manual	-	March 2001	2001 Phase II is being developed Draft EMS Manuals prepared	999
Conduct regular audits on EMS	<ul> <li>Conduct environmental audit every 6 months</li> </ul>	September 2001	■To be arranged	Future Target
Home Ownership Promote environmental friendly design in Home Ownership Scheme (HOS) / Private Sector Participation Scheme (PSPS) developments	<ul> <li>Business</li> <li>Incorporate guidelines on tree planting in HOS development sites</li> <li>Incorporate environmental protection clause(s) into the Condition of Sale of PSPS sites, requiring the developer to comply with environmental requirements</li> </ul>	March 2001	<ul> <li>Guidelines incorporated into External Works Design Manual in Mar 2000</li> <li>A general clause has been incorporated into the tender document</li> </ul>	999 999
Promote green management in offices	<ul> <li>Organise green management workshops and seminars for 25% of office managers</li> <li>Liaise with Owners</li> </ul>	March 2001	<ul> <li>25% of office managers attended the workshops and seminars</li> <li>Environmental Improvement Scheme (1.7.2000 -</li> </ul>	999 999

	Corporations and Property Management Agents for their contributions		30.9.2000) has been completed Selection of the Most Environmental -ly Friendly HOS Estate and the Most Environmental -ly Friendly Property Management Agency for 1999/2000 has been completed as scheduled.	
Reduce waste arising from the decoration of new flats by providing different levels of fitting-out	Provide two standards of fitting-out for purchasers' selection	2003	<ul> <li>The first pilot projects will include 4 970 flats in three HOS courts tentatively for sale in 2002/2003. Detailed arrangements are being worked out.</li> </ul>	999
Rental Housing I Develop and implement action plans on the Environmental Friendliness Programme,	Business Noise abatement completed within average 90 days upon notice from EPD	March 2001	100% of the performance goal has been achieved	999
including noise, waste pollution, water pollution,			<ul> <li>A set of 3 recycle bins have been</li> </ul>	999

provided to domestic waste etc. handling every domestic programme and provide rental block since Oct 1999 recycle bins to each domestic Trial scheme rental block (placing bins on each floor) was conducted in 2 Estates. Large scale trial planned on estate-wide basis Waste Recycling Credit Scheme Phases II & III completed Full loaded refuse bin weighing exercise completed Green Estate Exchange Square Scheme (Mar 2001 - May 2001); 22 estates participated Nominations received for Environmental Family Competition (Dec 2000 -Àug 2001); Jointly organised with Green Power 

Develop and implement strategies on planting tree and shrubs in estates in consultation with EMAC	Develop the strategies Plant 230 000 plants / trees in 24 estates	September 2000 March 2001	Strategies developed A total of 397 500 trees / shrubs were planted in 34 estates	999 999
Upgrade existing landscaping under the Landscape Improvement Programme	<ul> <li>Complete landscape improvement projects at 18 estates (approximately 330 000m<sup>2</sup>)</li> </ul>	March 2001	<ul> <li>Landscape upgrading work</li> <li>completed for</li> <li>12 estates</li> <li>which covered</li> <li>approximately</li> <li>2/3 of the</li> <li>targeted</li> <li>greening area</li> </ul>	<b>9</b> 9
Enhance the environmental friendliness of tenants and their appreciation of the landscaping of their estates	<ul> <li>Produce and supply seasonal flowers for display in housing estates</li> </ul>	March 2001	<ul> <li>The departmental nursery at Yam O has produced and supplied a total quantity of 69 800 seasonal flowers for planting / display in various housing estates</li> <li>Green Estate Photo Competition was organised from Jun to Sept 2000 to enhance tenants'</li> </ul>	<b>999</b>

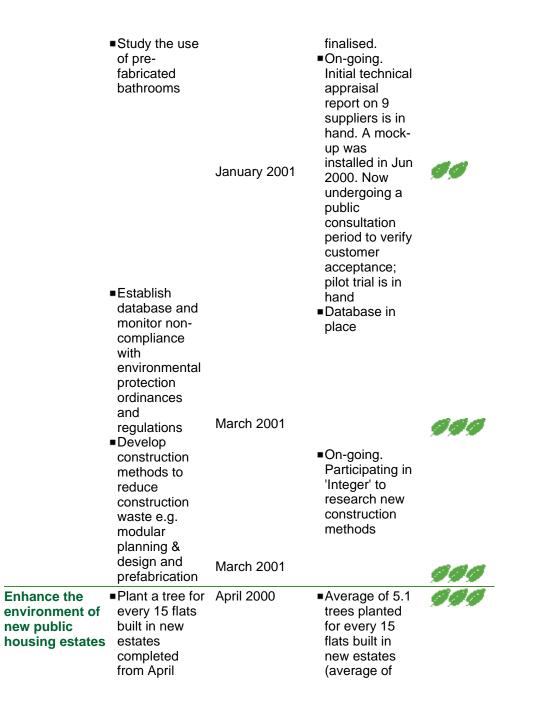
			appreciation of landscaping in their estates.	
Promote waste recovery / reduction in estates	<ul> <li>Launch waste recycling promotion / educational programme in all estates</li> <li>Provide all rental blocks</li> </ul>	March 2001	<ul> <li>All public rental housing estates (total 171 estates as at 31.3.2001) joined the Waste Recycling Campaign for Housing Estates Phase IV (Jun 2000 - Mar 2001) organised by Environmental Campaign Committee</li> <li>All rental blocks provided with</li> </ul>	
	with collection bins for recyclable waste		collection bins	
Consider programmes that will enable the public housing sector	<ul> <li>Annual waste reduction by 0.5%</li> </ul>	March 2001	■Reduced by 1% 1999: 1.03kg / person / day	Ø
to achieve waste reduction targets			2000: 1.02kg / person / day	



<b>Building Busine</b>	ss			
Implement environmental management measures in construction projects	<ul> <li>Specify requirements for contractors to submit waste management plan</li> </ul>	June 2000	<ul> <li>Notice of intent issued in Jun 2000, which took effect from Aug / Sept 2000</li> </ul>	999
	• Launch a pilot project for using hydraulic concrete crushers in demolition works	September 2000	<ul> <li>Pilot project Valley Road Demolition started work in Sept 2000</li> </ul>	999
	<ul> <li>Launch pilot projects on purchasers' choice to reduce fixtures and fittings removed by purchasers</li> </ul>	October 2000	<ul> <li>First pilot project commenced in Oct 2000</li> </ul>	<b>I</b> I
	<ul> <li>Introduce checklist on site environmental measures to enhance awareness of site staff and contractors</li> </ul>	October 2000	<ul> <li>Checklist for civil works in place since Sept 2000; in addition, a comprehensive Inspection Guide is being</li> </ul>	999

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contractors



<ul> <li>2000 onwards</li> <li>Evaluate effectiveness of noise mitigation measures against traffic noise</li> <li>Study and implement Energy Codes in standard blocks</li> </ul>	June 2000	<ul> <li>1.7 if slopes are excluded)</li> <li>Phase1 findings issued in Jun 2000; traffic noise design guide has been drafted.</li> <li>New H1 and New HAX5 blocks certified in compliance with Lighting Code;</li> </ul>	999
<ul> <li>Evaluate the results of the two pilot projects against HK- BEAM and explore further areas of study to enhance environmental design</li> </ul>	September 2000 March 2001	submission for compliance with the Electrical Code in hand Provisional good rating obtained in the two pilot projects; information paper issued in July 2000 on evaluation and further improvement areas; way forward under active study	,9,9 ,9,9,9
<ul> <li>Review effectiveness of noise reduction measures in pump room design, propose</li> </ul>		<ul> <li>Information paper for pump room noise control enhancement measures issued in Mar 2001; two pilot projects using</li> </ul>	999

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	design improvements and launch a pilot project for trial	March 2001	smaller and night-duty water pumps selected	
environment of new public housing estates	<ul> <li>Develop a tender evaluation framework to take into account running energy costs for building services installations</li> </ul>	March 2001	<ul> <li>Information paper to be submitted in Oct 2001</li> </ul>	Ø.Ø
	Review the two pilot projects with non-standard buildings in respect of compliance to Energy Codes, with a view to registering in the Energy Efficiency Scheme and establishing design guidelines	March 2001	<ul> <li>One Shopping Centre registered under Energy Efficiency Scheme for Buildings in compliance with Energy Codes for electrical, A/C, and lighting. A second Shopping Centre registered for lighting and A/C.</li> </ul>	999
	<ul> <li>Review design and specification to meet Indoor Air Quality Guidance Notes and establish</li> </ul>	March 2001	A/C. Preliminary design guidelines drafted, but awaiting finalisation of IAQ guideline by EPD	999

design guidelines Specify water saving fittings	March 2001	<ul> <li>Self-closing water taps specified in Commercial Centre Design Guide; 7.5 litre water cisterns specified; consulting suppliers on availability of valve-type dual flush W.C. cisterns on basis of latest WSD</li> </ul>	999
<ul> <li>Specify environmental friendly and CFC free thermal insulation materials in new and improvement projects</li> </ul>	March 2001	circular • Draft Specification clauses in hand. Sourcing sufficient suppliers for both CFC and HCFC- free materials for roof insulation to ensure competitiveness ; implementation in new tenders expected in Dec 2001	9,0
<ul> <li>Specify requirements on verification of materials from sustainable</li> </ul>		<ul> <li>Draft specification clauses in hand; consulting to check readiness of</li> </ul>	

sources timber from farmed, renewable sources for use in doors, frames and street furniture, etc. • Conduct study in life-cycle costing with a view to reviewing design and specification

the industry; Forest Stewardship Council accreditation on plantation timber under study Draft Brief for the Study prepared but taking longer than expected due to its complexity and extent of expertise required; commencement expected in Dec 2001

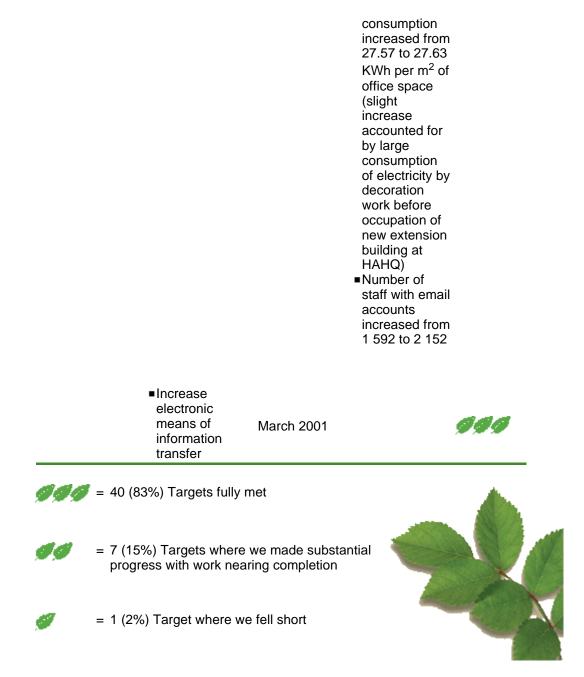
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		March 2001		ø
Improve hygiene and cleanliness in new estates by installing the Automated Refuse Collection System in new	<ul> <li>Installation in all new housing projects scheduled for completion after 1.1.2001 as far as practicable</li> </ul>	January 2001	<ul> <li>On going, achievable. 6 completed projects with ARCS serving 10 500 flats</li> </ul>	9,9,9

March 2001

Commercial Bus Implement environmental strategy contained in the consultancy study carried out in 1999	<ul> <li>Check and take remedial action where necessary to prevent debris and grease entering drainage</li> </ul>	March 2001	■Action taken; On-going	999
	<ul> <li>Inspect all pump rooms, air handling and machine rooms for excessive noise and take remedial measures as appropriate</li> </ul>		<ul> <li>All inspected. Noise abatement works carried out at Wong Tai Sin &amp; Lek Yuen Shopping Centres</li> </ul>	999
	<ul> <li>Check and take action to ensure chemical wastes produced are declared and properly handled</li> </ul>		<ul> <li>Action taken; asbestos waste properly handled by registered asbestos supervisor, no non compliance reports have been received</li> </ul>	999
Corporate Servic Enhance staff awareness and involvement in environmental	■Launch promotional programmes / competitions	September 2000 (start)	■Green Housekeeping Campaign (Dec 2000 -	999

	<ul> <li>•Update the green corner of the Authority's Intranet for dissemination of green messages</li> <li>•Organise 6 seminars to promote awareness of environmental</li> </ul>	September 2000	<ul> <li>with an In-house Paper Saving Competition; posters, and icon displayed since Sept 2000</li> <li>Video shows on environment projects arranged during lunch hours</li> <li>Green corner was updated to include benefits of green offices practices</li> <li>6 seminars conducted; 593 staff</li> </ul>	999 999
	issues		attended	
Control paper consumption	<ul> <li>12.94 reams of paper per staff per year</li> </ul>	March 2001	■12.75 reams	999
Finance & Accou Promote environmentally friendly work processes	<ul> <li>Inting</li> <li>Reduce paper and electricity usage</li> </ul>	March 2001	<ul> <li>Offices consumed 181 452 reams of paper; beating the year's target on paper use by 1.5%</li> <li>Office electricity</li> </ul>	999





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Thank you for taking the time to read our report. The Hong Kong Housing Authority very much values your views and comments on the information covered in this report, as well as other points that may not have been covered. Your feedback will help us to identify areas for improvement and to understand the values and views of our many stakeholders. Please spend a few minutes to fill out the attached Feedback Form and return it to us at the following address:

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